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Documents announced with VT numbers only in the Summer 1971 issue (VT 013 926) of "Abstracts of Research and Related Materials in Vocational and Technical Education" (ARM) are included in this microfiche set. Microfiche availability for these documents is shown on the ARM resume as MF AVAILABLE IN VT-ERIC SET. The microfiche set is arranged in the following sequence: (1) a Vocational Technical (VT) number index to documents in the microfiche collection, (2) the author index, the vocational and supporting services index, and the subject index from ARM, and (3) the full text of documents listed in the VT number index. The texts are filmed continuously in VT number sequence. (CD)

ED0 54390

Microfiche Collection of Clearinghouse Documents Reported in Abstracts of Research and Related Materials in Vocational and Technical Education

(ARM)

Compiled and Indexed by The ERIC Clearinghouse
on Vocational and Technical Education

Summer 1971

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VT014102

INTRODUCTION

This collection of microfiche consists of the documents which are announced with VT numbers only in the Summer 1971 issue of Abstracts of Research and Related Materials in Vocational and Technical Education (ARM). Microfiche availability is shown in the resume as MF AVAILABLE IN VT-ERIC SET. The documents are grouped in VT number sequence and filmed continuously as a microfiche set. These documents are not available on microfiche as individual items, but are obtainable only through purchase of this set, or from agencies who have this set and have the capability of reproducing microfiche. The microfiche set includes the following sections:

1. Vocational Technical (VT) Number Index to Microfiche Collection of Clearinghouse Documents Reported in ARM, Summer 1971.

2. Selected indexes from ARM, Summer 1971.

   a. Subject and Identifier Index.
   b. Personal and Institutional Author Index.
   c. Vocational and Supporting Services Index.

   The documents identified in the indexes with an ERIC Document (ED) number are usually available as separate documents from the ERIC Document Reproduction Service (EDRS). Information about EDRS Service can be found in ARM or Research in Education (RIE).[1] Items not available through EDRS will include a source of availability. The page numbers shown in these indexes refer to the location of the abstracts in ARM, Summer 1971.

3. The full text of documents listed in the Vocational Technical (VT) Number Index to Microfiche Collection of Clearinghouse Documents Reported in ARM, Summer 1971.

[1] Research in Education is published 12 times a year. The first issue was no. 11, November 1966. Subscription: Domestic $21.00 a year; foreign $5.25 additional. Single copy: Domestic $1.75; Send a check or money order (no stamps) to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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ABSTRACT - The findings pertaining to vocational guidance and counseling from the complete report "A Study of Vocational Industrial and Technical Education with Special Reference to the State of Utah" are presented in this document. A condensation of that complete study with the same title is available as VT 010 995, also in this issue. (CD)

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PROGRAMS OF GUIDANCE AND COUNSELING AS THEY RELATE TO YOUNG PEOPLE AND THEIR PREPARATION FOR WORK

By

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FOREWORD

There is evidence on every hand that one of the important needs in present day and future education is good guidance and counseling. Although some guidance and counseling programs have been in operation for many years, only recently have they blossomed forth into the significant place in education which they now occupy. The rapid growth has brought about numerous problems, many of which are yet unsolved. Among these important unsolved problems are the following: What are the real duties and responsibilities of counselors? Is vocational guidance receiving its proper emphasis? How well informed about vocations are the counselors and how well informed should they be? How do students acquire occupational information? How can counselors best assist students in making realistic assessment of their own potentialities and in choosing their life's work in harmony with their capabilities and interests? These, and other equally important problems, are worthy of serious study and consideration.

In July 1963 a major research project was undertaken to seek answers to a number of significant problems associated with vocational industrial and technical education. Special emphasis was given to the relationship of these problems to the situation in Utah, but they were also considered on a national basis. Problems related to guidance and counseling were included in the major study because of their importance to all phases of vocational and technical education. The complete report of the research project is entitled, A Study of Vocational Industrial and Technical Education With Special Reference to the State of Utah, and this present report is taken from it and consists largely of Chapter VIII which deals with guidance and counseling.

The research project was conducted under a University Research Grant at Utah State University as a project of the Department of Industrial and Technical Education and the Engineering Experiment Station. At the beginning of the grant period, July 1963, under University policy, the investigator had been granted a six-month sabbatical leave. In response to the urgency felt for this study, he devoted his leave to visiting and examining a number of vocational and technical schools and programs throughout the country; actually visiting schools of various kinds in thirty states. None of the expense of travel, meals, or lodging outside of Utah was borne by the state. Personal visits were also made to every school district superintendent in Utah. The findings of the study are based in part on the visits made to schools and superintendents and also on extensive review of the literature in the field, a number of special

surveys, and other studies made by him or under his direction.

Through the cooperative efforts of the Engineering Experiment Station, Utah State University, Logan, Utah, and the Pupil Personnel and Guidance Services of the Utah State Department of Public Instruction, Salt Lake City, Utah, this publication is made available.

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PROGRAMS OF GUIDANCE AND COUNSELING AS THEY RELATE TO YOUNG PEOPLE AND THEIR PREPARATION FOR WORK

Introduction

Everyone finds it necessary to make decisions and with every individual the decisions are many and varied. But one of the most important and far-reaching of all the decisions anyone makes is that of choosing an occupation. The significance of such a decision has long been recognized as is evidenced by Cicero's statement made in 106 B. C.: "We must decide what manner of men we wish to be and what calling in life we would follow; and this is the most difficult problem in the world."

The importance of an individual's job cannot be overlooked by society because it is one's job which very largely determines the life he will live. Jobs are very significant in determining the economic status and financial security of most people and the economic factor is so fundamental that one's occupation, at least indirectly, determines where he lives, his social standing in the community, his friends and associates, his educational opportunities, his recreational pursuits, and pretty largely his contributions to mankind. Regardless of what one chooses as his life's work he cannot help being strongly influenced by the work he does and by those around him who are similarly engaged.

Occupations are also important to society and if economic and social progress are to be made it is essential that workers do their work well, that they improve their skills and knowledge, and that they pass on to the rising generation those things they have found to be good. Therefore, a nation must keep its workers occupationally competent and help the individual workers to select and prepare for occupations in which they are interested and can be competent. Here in the United States high value has always been placed upon helping young people develop their capacities to the fullest. Fortunately there is much talent among the youth of this great country, but it cannot be assumed that the seeds of talent have all fallen upon fertile soil. The efforts of all, and especially those engaged in education, must be pooled in an effort to identify the talents of youth and foster their growth.

Experience has shown that school programs of guidance and counseling are of considerable value in searching out the talents of

youth and in stimulating the young people to develop their potential capacities. Although the vocational guidance movement in America had its beginning early in this century, until recently guidance programs have been severely limited in most schools, and there have been insufficient numbers of counselors to do the work expected of them. Within recent years, however, many improvements have been made and prospects for the future look bright.

In spite of the recognized importance of guidance and counseling and in spite of the increased number of counselors there is considerable criticism of the entire program. The program of guidance and counseling should help young people to stay in school, it should help them to make a wise selection of their lifes' work, and it should help them to obtain training for the occupations of their choice. In addition, it should help them in solving their personal problems when needs arise. These purposes apparently have not been accomplished to the extent desired, hence, the criticisms have arisen. The importance of guidance and the lack of accomplishment of its purposes are expressed effectively in the following quotation:

> The present inadequacy of guidance activities is illustrated by the fact that close to half of the states receiving Federal funds for their programs spend less than 1 per cent of that money on occupational guidance and counseling. The problem begins in college-oriented high school guidance departments, which too often are staffed by people who have neither the knowledge to help students select an occupation nor the inclination to direct them toward the appropriate vocational or technical education opportunities. It continues once the student arrives in the vocational or technical school; although no other segment of education has recognized the importance of vocational guidance to the extent that these schools have, lack of funds, of reliable testing materials, and of appropriately trained vocational guidance counselors limits what the vocational and technical school is able to do.[1]

Another quotation which indicates a limitation of vocational guidance and counseling is the following:

> In this country freedom of opportunity is an article of national faith. The vast majority of Americans believe that every American youngster should be free to enter any

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[1] Venn, Grant; Man Education and Work, American Council on Education Washington, D. C. 1964, p. 36

occupation for which he can qualify. When discriminatory practices restrict freedom of opportunity, they arouse nation-wide controversy.

Yet freedom of opportunity is restricted by a condition far more widespread and far less obvious than discrimination--the general ignorance among youngsters, and almost equally among their elders, of the myriad types of trained personnel required by our complex society. Ignorance of available vocational opportunities can as effectively prevent access to them as restrictions rooted in racial, ethnic, or religious discrimination.[2]

In the report of the Panel of Consultants on Vocational Education there is much written about the need for good guidance and the problems that are being faced. The following is typical:

There is considerable evidence that the guidance efforts of a multitude of governmental agencies, private foundations and organizations, labor, business and industry, agriculture, and home economics are expanding, as indicated by increased services, research, and publications. In fact, the very abundance and enormity of the amount of excellent occupational information and vocational guidance materials can swamp the conscientious teacher, counselor, or librarian who seeks to consolidate a complete, up-to-date file of information. Occupational materials from the military have been excellent in quality and widespread in distribution. Vocational materials and numerous services of the Department of Labor, including the assistance of State employment agencies, have contributed immensely to the guidance services of school and local communities. Numerous other Federal and State agencies have made outstanding contributions. Notwithstanding all the materials and services and the great abundance of occupational information, it is a sad commentary that the perisitent lack of effective guidance remains to plague the efforts and understanding of youth, adults, and senior citizens.[3]

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[2] National Manpower Council, A Policy for Skilled Manpower, Columbia University Press; New York, N. Y., 1954, p. 266

[3] Report of the Panel of Consultants on Vocational Education, Education for a Changing World of Work, United States Department of Health Education, and Welfare, 1963, p. 186

The following quotation also stresses the importance of good guidance and counseling and in addition, it emphasizes the need for counselors to have knowledge and understanding of the world of work.

TO PROVIDE COMPETENT GUIDANCE, COUNSELORS MUST BE WORK-EXPERIENCED AND OCCUPATION-MINDED

Every vocational high school principal complains, often bitterly, about the junior high, and sometimes, senior high school counselors "who send me the indifferent, the reluctant, the unintelligent, the delinquent pupils who they know cannot succeed in academic high schools, and must therefore fit into, or at least, can loaf in vocational school. Those counselors know little about the boys and nothing about occupations." Of course, the counselors know plenty about the boys, but they certainly know little and care less about occupations. On the other hand, neither do the principals care at all about what happens to these same boys that they reject.

Recommendation: Again, we repeat what we have already said under various headings, the Superintendent and the Board of Education must provide adequate education to all pupils, efficiently and democratically. We have cited approaches to the situation in various cities. None of them is perfect, but they are honest attempts. In any case, the shuttling of undesired pupils back and forth between vocational and academic schools, the passing of the buck, is an educational disgrace. Moreover, the Superintendent is also responsible for choosing competent counselors in the first place, and indoctrinating or retreading them in the second place. Moreover, the state departments of education must set up qualification for counselors that will assure their knowledge of occupations and their application of that knowledge to their counseling activities. And furthermore, and perhaps most important of all is the obligation of teachers' colleges to turn out counselors who have adequate knowledge of business and industry and agriculture. These colleges may be heeding the cry for more liberal arts, but they should get down to the fundamentals of practical arts, of the ways in which people work so that they may live.[4]

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[4] Keller, Franklin J., et al, Vocationally Talented Pupils, A Report of the Division of Field Studies and Research, Graduate School of Education, Rutgers-The State University, New Brunswick, N.J., 1962, C&R p. 13

Quotations similar to these could be continued almost endlessly, but it is doubtful if much more would be gained by including them. It is probably enough to say that high quality guidance and counseling are sorely needed in the schools of today with special emphasis given to vocational guidance. In order to bring this about many improvements need to be made in the guidance and counseling programs of today's schools.

Recognizing the need for good guidance and counseling and realizing that improvements must be made, it was decided early in the planning of this entire study that an investigation of current practices should be made and that recommendations for improvement should be included. Therefore, this part of the study was planned for a three way investigation. The first of these was to obtain information from the schools as visits were made around the country. In some cases the information was obtained from the directors of the schools and in other cases it was obtained directly from those engaged in the counseling and guidance program of the school. The second phase was to obtain information from the school district superintendents in Utah as they were interviewed. In some cases guidance personnel were invited in during this part of the interview.

The third phase was a questionnaire study conducted with the counselors in the public schools of Utah. The manner in which the study was conducted was explained earlier in this report in Chapter II,* "Design of the Study". The information gathered in all three phases of the study will be included in the report which follows.

Duties and Responsibilities of Counselors

Because of the criticisms that had been made about the guidance program, and particularly because of a criticism that had been heard to the effect that counselors had too many things to do besides counseling, it was decided to ask the counselors to report the duties and responsibilities which were assigned to them or which they took upon themselves as a result of their position as counselor. After the counselor had listed these duties and responsibilities he was then asked to make a second list of duties and responsibilities which he thought he should have as a counselor. The first list to follow consists of those items which the counselors presently have as their duties and responsibilities. The information furnished by the counselors was not organized into any particular pattern, therefore, in order to give more meaning to the items listed they have been organized into certain categories. Also, after each item is a number which shows how many counselors listed this particular item. The list is quite long, but it was considered best to include all of the different items listed so that as complete a picture as possible might be presented. The items

*From original report.

are given in the language of the counselors as they wrote them on the information form. Hence, they are not consistent in form or grammar; the only change made in them was to organize them into separate categories.

Table 1.* Duties and Responsibilities Which Counselors Reported They Had

Duties and Responsibilities	Number Reporting the Item
Pertaining to the Guidance Program as a Whole	
Individual face to face counseling	31
Counsel all failures	4
Conferences with students on request	3
Counsel gifted, maladjusted and handicapped students in making adjustments	1
Counsel students for self appraisal	1
Recommendations for remedial programs and special classes	1
General Counseling	27
Assume responsibility for actual consultations and recording and listening to counseling tapes--my own, largely,--for analysis.	1
Conferences with students, parents, teachers and principals	26
Home visits	2
Attendance in a group therapy class and in a year-long conjoint family therapy class	1
In second semester after LTED, and GATB or FACT data is processed I set up individual student, parent, counselor conferences for each 9th grader and meet with 33% or 200 students. Other counselors meet with 67%	1
Interpret role to school staff	1
Parent contacts in regard to student	1
Teacher contacts in regard to student	1
Group Counseling	
All pupil personnel services in 3 schools, 7th to 12th	1

*Table 35 from original report

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Counselor to 400 sophomores, see each twice a year, many more than that	1
Counselor to 400 students--vocational, educational and personal counseling	1
Know students as individuals, understand needs, guide them to sources of help	1
Meet all students early in the year. At least once and many of them several times	1
Orientation of 6th graders of "feeder schools"	1
Orient students to functions of counseling and guidance	1
Supervise the occupational information classes for all 9th graders	1
Supervise and participate in vocational group guidance class for five weeks	1
Guidance counselor and guidance committees	14
Occupational information	12
Develop a guidance program and set up committees	3
Sponsor enlightenment programs through film, resource people, assemblies, inter com.	2
Arranging for vocational guidance speakers	1
Checking and organizing of occupational file, keeping it up to date	1
Initiating and keeping current plan sheets for all high school students	1
Prepare guidance materials for home room advisors	1
Publish guidance news letter to keep staff informed of on-going program	1
Organizing and planning home room guidance program	1
Career Days	6
Schedule career days	2
Hunt information on careers	1
Planning and conducting career conferences, parent's nights, course units on occupations and other group guidance activities	1

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Assistance to Teachers	
Assist teachers in ordering films, getting resource speakers, etc.	1
Assist teachers with pupil adjustment	1
Assignment to special committees in school district and school to assist in school policy making pertaining to pupil personnel	1
Stimulate teachers to use projects, like themes on "What I would like to be".	1
Pertaining to Administration	
Student Council Advisor	12
Keeping cumulative records posted and current	21
Advisor to girls associations, boys associations	12
Chairman of graduation committee	7
Processing of applications to post-educational institutions	7
School wide administration	7
Class advisor	5
Club Sponsor	5
Process Drop-outs	5
Chaperone at all school functions	5
Aid in extra curricular school programs	5
Graduation check for students	4
Process transcripts and transfers	4
Publicity	4
Adult night high school	3
Act as Vice Principal when principal is away	2
Audio-visual director	2
Awards Committee	2
Chairman of Civil Defense, Fire safety Committee	2
Clerical for Principal	2
Bus duty	2
Lockers	2
Represent administrators when other groups are in buildings	2
Assemblies	1
Book inventories	1

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Chairman Homecoming and Assemblies	1
Chairman of school calendar, student body functions, and assemblies	1
Coordinated and gave announcements	1
In charge of teacher welfare	1
Help solve administrative problems	1
Honor roll	1
Membership on school athletic council	1
Message center co-ordinator	1
Organize summer school classes	1
Operate photo-copy machine and make up all transcripts	1
Office Handyman	1
Participation in curriculum planning	1
Pre-view assemblies	1
Retentions and promotions	1
Safety Committee	1
Supervised federal surveys and fire drills	1
Supervision and training of student office staff	1
Advisor for various school activities	1
Advisor to foreign students	1
Pertaining to Attendance	
Attendance check	26
Issue and check on home excuses	5
Attendance counselor	2
Call homes of absentees	2
Chairman, guidance committee on extensive absenteeism	2
Coordinator of attendance	2
Admit students who are late to class	1
Attendance--sluffing, illness	1
Attendance responsibilities for 400 students including Contact with home excuses street passes sluffing court referrals	1
Checking on sluffing of my own counselees	1
Chronic tardiness and absentees	1

Table 1. Continued

Duties and Reponsibilities	Number Reporting the Item
Counseling activities coordinated with attendance office and pupil personnel	1
Counseling in regards to attendance and how it affects grades	1
I am charged with all enrollment and attendance reports to the District Office	1
Truancy--refer on to Asst. Principal	1
Writing letters to parents advising them of their children's attendance and tardiness twice a month if they have been absent more than three times or late.	1
Pertaining to Educational Counseling	
Educational counseling	12
Aiding students in making decisions about furthering their education	4
Academic adjustment	2
Curriculum selection for student	2
Individual program planning with student and parent for Senior High School	2
Reviewing with students their grades and school progress, especially the failing or near failing ones	2
Computation and reporting of achievement level expectations on all students	1
Counsel students having difficulty academically	1
Discussing tentative occupational objectives with both college bound and terminal students with aid of S. R. A. files available	1
Educational planning and class adjustments	1
Gathering and mailing to parents at mid-quarter reports of unsatisfactory progress	1
Keep students informed of post-high school study requirements	1
Post High School educational planning	1
To try and aid the ones that are trying to quit and drop out along the way not to leave but to stay and finish. Checking with the parents to encourage them to get their students to say in school	1

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Pertaining to Personal Counseling	
Personal counseling	19
Counseling of students with emotional problems	4
Counseling students with social problems	4
Interview students with problems (plus rehabilitation of students with severe problems)	1
My role has been to arrange meeting and interviews for the girls on such things as (1) proper dress for school, (2) use of make-up, (3) menstruation, (4) cleanliness, (5) vulgar or obscene language	1
Psychological counseling	1
Special girl problems of senior and junior girls as I am the only woman counselor	1
Pertaining to Vocational Counseling	
Vocational counseling	26
Occupational information	2
Speaking to classes regarding vocational choices	2
Dispense vocational information	1
Interview each student concerning test results (vocational guidance)	1
Pertaining to Discipline	
Discipline	14
Counsel students with discipline problems	3
Discipline (suspensions, etc.)	1
Discipline of students indirectly as a result of students being sent in by teachers	1
Follow up counsel on discipline to the problems of students sent me by the principal	1
Help with general discipline	1
Truant officer	1

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Pertaining to Health Problems	
Assist with monthly mental health clinic	1
First aid help with illness--make case referrals	1
Control and care of clinic and students who are ill	1
Health examinations	1
Health problems	1
Interview every sick student to either be checked out or put in the clinic	1
Mental health clinic staff contact	1
Responsible for health when nurse not here	1
Taking care of ill students except on Tuesday when the nurse is here	1
Pertaining to Placement	
Placement, students on job	4
Work Permits	3
Placement	2
Assist girls in obtaining jobs with Telephone Co.	1
Employment questionnaires	1
Issue work permits and work with employment security on placements	1
Pertaining to Procurement of Guidance Materials	
Ordering occupational material and maintaining and updating occupational files	1
Procurement of other guidance materials, tests, office supplies, etc.	1
Pertaining to Registration	
Registration of students	66
Make program adjustment or changes	6
Register and interview 10th grade students	1
Register and interview 7th grade students	1
Curriculum counseling and registration	1
Enrollment	1
Maintained and reported enrollment summaries	1

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Register students during a scheduled interview with student and parents, for the next school year	1
Three year plan for High School registration	1
Typing registration cards	1
Re-registration	1
Pertaining to Research	
Research	5
Conduct a follow up study annually	4
Conduct a research project of some sort each year	2
Keep current follow-up file for all students for four years beyond High School	1
Research project	1
Research in pupil abilities, placement, functioning	1
Research to try and improve student behavior and performance	1
Pertaining to Scheduling	
Schedule Students in classes	8
Programming within school year and future years	2
Help prepare master schedule and program students into classes	1
Making master teaching program	1
Schedule Adjustments	1
Scheduling of classes and planning courses to be offered for coming year	1
Pertaining to Scholarships	
Applications for college scholarships	4
Scholarships	4
Maintenance and dispensing of scholarship information and materials	2
Promote scholarship program and prepare college entrance materials	2

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Assisting students to make out uniform applications for admission to college	1
Making out a term honor roll for scholarship	1
Scholarships and a myriad of other tasks as well	1
Scholarship coordinator	1
To guide students in acquiring scholarships	1
Winning scholarships and/or entrance to college	1
Pertaining to Teaching	
Substitute teacher	5
Visiting teacher (getting one out to those students who are ill)	4
Teaching a class in occupations (to 9th graders)	3
Teaching	2
I teach a seventh grade English class--home room	1
I teach five hours a day and act as counselor one hour	1
Counselor in charge of visiting teaching program	1
Teach an eighth grade language arts, slow learners class	1
Teach one group of guidance class in ninth grade	1
Teach in afternoons	1
Teaching two classes	1
Teach a six weeks vocational guidance course to all ninth grade students	1
Teaching vocational orientation to ninth graders	1
Teacher consultant	1
Send assignments home to absent students	1
Vocational classes	1
Taking ill teachers place until substitute arrives	1
With all this and more I teach one half day in Social Sciences	1
Pertaining to Testing	
Administer tests	43
Administer and interpret group tests	14
Individual testing	16
Standardized tests	5
Assist with testing	4

Table 1 Continued

Duties and Responsibilities	Number Reporting the Item
District test program for high schools	4
Identifying and testing gifted and remedial students	2
Administer and interpret county eighth and ninth grade tests	1
Administer school district testing program	1
Aptitude and achievement tests	1
Both group and individual, grades nine through 12	1
Giving special departmental tests for special classes	1
Occupational interest inventory	1
Personality tests	1
Pre and post testing of math students, and individual conferences with them	1
Set up conferences for special tests with students on request of teachers or administrators and occasionally on request of parents who cleared through my principal	1
Supervise organization of hearing and speech tests	
W-B and S-Binet tests	1
Interpret tests	21
Interpret tests to students and faculty	7
Interpret tests to students and parents	3
Analysis of tests and appraisal	1
Compile information, prepare profiles and interpret for teachers	1
Coordinate the district testing program and present results to Supt. and School Board	1
Scoring tests	8
Recording test scores	1
Scoring tests	1
Psychometrist	1
Refer all students for special tests to district psychologist	1
Pertaining to Items of a Miscellaneous Nature	
Orientation	22
Lunch room worker--supervisor	8

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Military service coordinator and selective service registrar	2
American Field Service coordinator	1
Art sponsor, year book	1
Assist with supervision of clinic	1
Boys State, Girls State, Alcohol and Tobacco Youth Groups	1
Canvassing of school area during lunch hours and classes	1
Cheerleaders	1
Compiling and publishing a booklet for conversion of new students and sophomores to high school traditions, policies, counseling procedures, and academic offerings	1
Coordinated and gave the announcements	1
Collecting and classifying useful information	1
Current professional reading	1
Detective work	1
Dispense safety pins and band-aids	1
Faculty socials	1
Group orientation to school requirements, policies, etc.	1
Help count lunch ticket money on Monday	1
Home study programs	1
Honor roll	1
In charge of faculty Pop machine	1
Inspection--boys and girls facilities	1
Lunch room cashier	1
Member of the "Special Drive" Committee	1
Official hostess of school--greeting visitors, seeing that tables are set up	1
Patrol cafeteria	1
Photographs for the school	1
PTA Liason officer	1
PTA Activies	1
Professional Activities, local, state, national	1
Public relations	1
Phone calls at all hours of the night from irate parents	1
Record checking	1
Referrals committee	1

Table 1. Continued

Duties and Responsibilities	Number Reporting the Item
Regularly handle such projects as Junior Science Programs	1
School hostess--PTA etc.	1
Selling new books to students who have lost their first ones	1
Special retentions problems	1
Sponsored activities, recording, correspondence	1
Sponsor Girls State selection and their work within the school as follow up to their summer training	1
Supervise cafeteria conduct and routines and collect lunch tickets	1
Supervise insurance and return of books for entire faculty	1
Supervised federal surveys and fire drills	1
Student milk records	1
Student sponsors for new students	1
Ticket seller	1
To take charge of School Insurance, selling of policies, making claims and paying off the claims	1
Various contests by civic groups are founded through my office	1
When a death occurs in the family of any student or faculty member, I make a call on the family concerned	1

The duties and responsibilities which the counselors think they should have are now given. These are classified under the same general categories as were those which the counselors listed as their present duties and responsibilities. Again, they are in the language of the counselors, and are not consistent in form or grammar.

Table 2.* Duties and Responsibilities Counselors Think They Should Have

Duties and Responsibilities	Number Reporting the Item
Pertaining to the Guidance Program as a Whole	
Help develop the over-all guidance program	2
Individual and group counseling	26
Parent - teacher - student conferences	17
General counseling program	12
Individual interviewing and counseling	12
Interview (Most important -- more time for individual conferences) students who are failing or desire to change courses and counsel	6
Planning and conducting career days, parents nights, and other group activities	6
Contacts with special agencies for students welfare--nurses, guidance clinic, psychologists, juvenile court, social workers, etc,	4
Home visits	3
Visiting teacher program	3
Work in programing	3
Assist teachers with pupil education and personal problems	2
Orient students to functions of counseling and guidance	2
Coordination of orientation class	1
Counselor in charge of reading department and screening for remedial reading students	1
Military service coordinator and selective service registrar	1
Organize and conduct one male and one female group therapy class	1
Organizing and planning group counseling program--and executing it	1
Providing source material and interpretation to teachers and administrators	1
Public involvement - serve in trained capacity in so far as time and home responsibility permits	1

*Table 36 from original report

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Work closely with psychological services	1
Pertaining to Administration	
Girls association sponsor	4
Help with revising curriculum, curriculum planning	3
Student council advisor	2
Acceptance of assignments at school functions, sports, social events, etc.	1
Advisor to foreign students -- because of my interest	1
Advisor to organizations	1
Aid in extra-curricular school programs	1
Boys association sponsor	1
Conferring with administrators, teachers, and parents on all kinds of problems	1
Ex-office advisor for all girls clubs	1
Follow up studies of graduates and drop outs	1
Graduation	1
Handling a variety of administrative duties, not unlike those of a vice-principal and including considerable clerical work	1
Help organize adult educational programs	1
I am of the opinion that my title should be changed to assistant or vice-principal with pay compensations to the assignments made. Counselors in my district are paid the same as teachers for the time put in. This is another problem that should be considered for another time.	1
In charge of maintenance of records and recording of information	1
Keeping accumulative recorded posted and current	2
Maintain cumulative folders	1
Maintain records	1
Membership on school athletic council	1
Official hostess of school, greeting visitors, seeing that tables are set up for luncheons for visitors, and PTA hospitality representative in school	1

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Organization sponsor. We need to identify ourselves with students in order for them to know us and seek our counsel.	1
Oversee student records for graduation requirements and transcripts in and out	1
Process drop-outs -- more time for this	1
Records of all students	1
Referral agent to various specialized services	1
Report drop outs students to State Dept. of Ed.	1
Retentions and promotions	1
Send for transcripts of new students	1
Student council advisor	1
Work on social committee	1
Chaperone at all school functions	1
Compiling a book on school traditions, academic offerings, counseling services, etc.	1
Pertaining to Attendance	
Attendance check	6
Attendance -- aid attendance counselor	1
Attendance chairman, guidance committee on extensive absenteeism	1
Attendance coordinator	1
Contact home of absent students	1
Counsel with poor attenders	1
Issue home excuses	1
Member school attendance committee	1
Truancy	1
Pertaining to Educational Counseling	
Educational counseling	6
College information, ACT registration, etc.	2
Post High School educational planning	2
Checking on eligibility of student to graduate from High School or Junior High School	1
Curriculum planning	1
Individual program planning with student and parent for Senior High School	1

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Interview and plan with each ninth grader using available information. Set regular visiting schedule with them. Meet them and parents by appointment to plan their High School program of study.	1
Keep students informed of post high school study requirements	
Reviewing with students their grades and school progress -- especially the failing or near failing	1
Pertaining to Personal Counseling	
Personal counseling - Personal problems	10
Talking with students about problems of emotional and social adjustment	6
Anecdotal records - personal, not school records	4
Personality adjustment	3
Referrals made to nurse, social workers, other agencies	2
Aiding individual students with problems	1
Counsel students on a variety of problems	1
Counseling the gifted, mal-adjusted and handicapped student to make adjustments	1
Define 2-3 days a week for individual consultation	1
Schedule conferences with students on their request	1
Problems of parent, child, teacher-pupil, boy-girl, friend-friend	1
Psychological clinic referral and follow up	1
Psychotherapy	1
Screening of students for therapy	1
Short personal record keeping that a student need not cover the same ground each interview.	1
Special girl problems of senior and junior girls as I am the only woman counselor	1
Special pupil differences	1
We should prepare our students to enter the adult community as ready as we can make	

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
them. We should do this by listening to them, talking to them, and understanding them.	1
Know students as individuals, understanding their needs, guide them to sources of help and help them when possible	1
Pertaining to Vocational Counseling	
Vocational counseling - occupational information	45
Advisor to the teacher of the class on Occupations	3
Checking and organizing occupational file and keeping it up to date	3
Director of guidance. publicity	3
Prepare guidance materials for home room advisors--films etc.	3
Coordinate Utah Trade Tech. Inst. information and register	1
Counseling students with educational and vocational problems	1
Develop a guidance program conferring with students, parents and teachers	1
Discussing tentative occupational objectives with both college-bound and terminal students with aid of S. R. A. files available	1
Dispense vocational information	1
Distribute vocational guidance materials for home room programs and help to make these programs meaningful	1
Supervise the Occupational Information classes for all ninth graders	1
Interview each student regarding test results (vocational guidance)	1
Maintain adequate vocational and educational information and provide for special experience in these areas	1
Occupational file	1
Occupational information to students and teachers	1
Planning for guidance classes	1
Referrals to guidance clinic	1

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Student employment and work permits	1
Supervise and participate in vocational group guidance class for five weeks	1
Vocational discussion classes with students	1
Arranging for vocational guidance speakers	1
Pertaining to Discipline	
Counsel discipline problem students to help eliminate cause of discipline problems	2
Causation factors of discipline problem and other behavior problems	1
Discipline for classroom infractions when counselor can be useful - not routine duty	1
Discipline twelth grade girls	1
Follow-up counseling on discipline to their problems met by the principal	1
Handling problems of discipline, sometimes as an administrator	1
Non-punitive discipline	1
Pertaining to Health Problems	
Assist with monthly mental health clinic	2
First Aid	1
Mileage for transporting ill students	1
Student health, welfare, student aid	1
Pertaining to Placement	
Placement	1
Give assistance to students for employment placement	1
Pertaining to Registration	
Register students	28
Orientation of new students and incoming classes	12
Make program adjustments or changes	5
Curriculum selection for students	4
Register students for next years program	4

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Do counseling and registration on an individual basis	2
Counsel students in planning present and future programs	1
Placement in classes in terms of educational and vocational training	1
Registration activities such as giving information about academic offerings, checking registrations, counting number of classes, and students, filling out registration cards for students.	1
Registration changes and follow up on failing students	1
Registration chairman	1
Transfers	1
Three year plan for high school registration	1
Responsible for all new student registration	1
Pertaining to Research	
Research	5
Conduct research project each year	1
Research and follow up	1
Research ideas for betterment of student teacher relations, to encourage students to do their best	1
Research project	1
Researcher to try and improve student behavior and performance	1
Set aside special or at least more time to research for help in curriculum building and special problems	1
Pertaining to Scheduling	
Scheduling	3
Scheduling students and schedule adjustor	3
Schedule planning	2
Guidance for scheduling	1
Consultant for scheduling of classes grouping	1
Schedule adjustments	1

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Do counseling and registration on an individual basis	2
Counsel students in planning present and future programs	1
Placement in classes in terms of educational and vocational training	1
Registration activities such as giving information about academic offerings, checking registrations, counting number of classes, and students, filling out registration cards for students.	1
Registration changes and follow up on failing students	1
Registration chairman	1
Transfers	1
Three year plan for high school registration	1
Responsible for all new student registration	1
Pertaining to Research	
Research	5
Conduct research project each year	1
Research and follow up	1
Research ideas for betterment of student teacher relations, to encourage students to do their best	1
Research project	1
Researcher to try and improve student behavior and performance	1
Set aside special or at least more time to research for help in curriculum building and special problems	1
Pertaining to Scheduling	
Scheduling	3
Scheduling students and schedule adjustor	3
Schedule planning	2
Guidance for scheduling	1
Consultant for scheduling of classes grouping	1
Schedule adjustments	1

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Schedules, class changes, attendance, etc.	1
Set up a schedule	1
Pertaining to Scholarships	
Assisting students to make applications for scholarships	13
Assist students to make out applications for admission to colleges	10
Chairman of scholarship committee for our school	4
Helping students to choose and apply to colleges	4
Scholarship coordinator and graduation	2
Making out term honor roll for scholarship	1
Promote scholarship programs and prepare college entrance materials	1
Pertaining to Teaching	
Substitute teaching once in a while	1
Teach an orientation to occupations class	1
Teach six weeks vocational guidance course to all ninth grade students	1
Pertaining to Testing	
Placement of gifted and slow learners and handicapped students	9
Remedial reading, special classes, etc.	1
Recording of tests scores	5
Administer tests	1
Testing	21
Administer and interpret group tests	20
Individual testing	14
Administer testing program	11
Individual testing and counseling with follow up conferences	5
Administer ACT, CEEB, NMOT tests	2
Administer, interpret and score psychological tests	2
Administer achievement tests	1
Administer standard tests	1

Table 2. Continued

Duties and Responsibilities	Number Reporting the Item
Administration and interpretation of school testing programs within district	1
Give aptitude and achievement tests and research necessary to measure progress toward specific objectives of the school program	1
Give D A T test interviews	1
Give personality and Occupational Interest interview to ninth grade	1
Individual student, parent counselor conferences with each ninth grader after data from ITED, GATB, or FACT is processed	1
Organize and give SRA, Col. MM, GATB tests	1
Special testing, (departmental) for special classes	1
Individual testing and counseling	1
More individual testing -- after adequate training	1
Interpret tests	1
Test interpretation	9
Interview each student concerning test results	3
Analysis of tests and appraisal (help students to appraise themselves)	1
Compute test summaries	1
Test intrepretation to students and parents	1
Pertaining to Miscellaneous	
Hall duty	1
Lunch room duty	1
P. T. A.	1
Speaking to classes	1

What the Superintendents Think

In the interviews with the school superintendents, the question was asked, "What do you consider to be the chief function of the counselors?" This proved to be an interesting question and many of the answers given were in terms of what counselors should not be doing rather than what the actual duties and responsibilities should be. The following are typical of some of the negative answers given:

Whatever it is, they don't do it.

This has not been clearly defined as yet.

This has really never been properly defined. This is one of our big problems.

This has not been well defined, and in our district we are now in process of trying to get some rules to guide us.

Working with students and not scheduling classes.

Answers of the kind just given indicate clearly that school administrators believe that the duties and responsibilities of counselors are not yet well defined. This was very evident in the discussions that took place during the interviews as many of the superintendents indicated that this was an important area in which more work needed to be done. Of course, in all fairness it must be made clear that there are many good counseling programs and that attempts have been made to define the work of counselors and to work out satisfactory guidance and counseling programs.

In the interviews it was difficult to think in terms of really specific answers in regard to the duties and responsibilities of counselors. However, many of the superintendents gave answers about what counselors should be doing that should be given consideration. The answers given by the superintendents are as follows:

Counseling students including vocational guidance.

Helping students in educational programs and in choosing a vocation.

Helping students with personal problems.

Helping students in planning their future.

Understanding students more in order to give them better help in planning for the future.

Organizing and administering a testing program.

Testing and counseling with students.

Helping students evaluate themselves in terms of their academic and vocational potential.

Working with parents in an honest appraisal of where the student is going.

Working with teachers to assist them in their part of guidance and counseling.

Giving and interpreting tests.

Helping students in vocational choices and gearing the educational program to the choices made.

Helping students to adjust to school.

Assisting students in assessing their own capabilities and potential and to help them in planning their educational and vocational programs accordingly.

Counselors should be free of administrative duties and should not be disciplinary agents.

Giving orientation to a school which a student may attend after finishing the one in which presently enrolled.

Attention is called to the fact that in no case did the superintendents list administrative duties as part of counselors' assignments. The only mention made of administrative duties is the one statement to the effect that counselors should be free of administrative duties. This is certainly in contract to the responses of the counselors wherein many administrative duties were listed.

Responsibility for Guidance and Counseling

Information was obtained from counselors about who was in charge of planning and organizing the total guidance and counseling program in the schools. The data received are shown in Table 3*. Comment is not necessary regarding this table because it is self explanatory. The total number of responses given in this table is greater than the number of questionnaires returned by counselors because a number of respondents checked in more than one place. This would indicate a dual responsibility in some instances.

Occupational Information

Many writers in the field of vocational guidance stress the importance of students having a good understanding of occupations. Of

*Table 37 from original report

Table 3.* Responsibility for Planning and Organizing the Guidance Program

Individual Responsible	Number of Responses
Director of Pupil Personnel	110
Counselor	56
Assistant Superintendent	37
Individual School Administrator	30
Superintendent	25
Director of Secondary Education	3
Curriculum Coordinator	3
School Psychologist	1
District Psychologist	1
District Counselors' Committee	1

course, it is not an easy task to give students enough information about occupations so that they will understand well enough to choose one wisely as their life's work. With the vast array of different kinds of occupations existing in America this is easy to understand, but it is just as easy to understand that if a young person does not know something about the various occupations available he does not have much of a foundation on which to base his choice. In an attempt to impart occupational information to students a number of different ways and means have been tried in the schools. Counselors were asked to report on which ones of these were used in each of the individual schools where counselors were employed. These are shown in Table 4**. The counselors were also asked to rate these ways and means according to their importance in giving occupational information. They were asked to rate one of them as first choice, one as second choice, and so on through five choices. These ratings, together with an average

*Table 37 from original report

**Table 38 from original report

Table 4.* Procedures Used in Helping Students to Obtain Occupational Informational Information and the Relative Importance of these Items as Given by Counselors.

Methods used to impart occupational information	Number using the method	Rated importance of the method: Number rating each item					Average rating
		1st	2nd	3rd	4th	5th	
Individual conferences with a counselor	137	61	38	21	4	0	4.26
Occupational information libraries	134	10	13	29	27	26	2.56
State Department of Education films	91	2	9	16	18	23	2.25
Conferences with counselor, student and parent(s)	84	14	20	15	16	7	3.25
Group guidance techniques	76	1	4	15	15	11	2.33
Career days	74	16	11	16	13	15	3.00
Visits to business and industry	59	5	14	14	22	14	2.62
A class in occupational information	55	22	21	11	13	10	3.54
Unit on occupations in a regular class	14						
Miscellaneous	16						

*Table 38 from original report

rating, are also given in Table 4*. The average rating was obtained by giving a first choice item the weight of 5, a second choice item the weight of 4, a third choice item the weight of 3, a fourth choice item the weight of 2, and a fifth choice item the weight of 1. By multiplying the number of ratings by its weight for each of the choices, by summing these totals, and then by dividing by the total number of ratings, the average rating was obtained. Thus in this system, the higher the average rating the more important it is considered by the counselors for imparting occupational information to students.

An examination of the table shows that the individual conference with a counselor was the most frequently used procedure for imparting occupational information to the students. This also received the highest rating in terms of being the most valuable means of imparting occupational information. The use of occupational information libraries was second high among the procedures being used, but this did not receive a very high rating by the counselors as far as its value was concerned in imparting occupational information. The procedure which received the second place rating as being most valuable in imparting occupational information was a class in occupational information, however, this was not being used very extensively -- in fact, less than half of the counselors responding reported this as being used.

Attention is called to the fact that the counselors consider the individual conferences with students to be the most valuable means of imparting occupational information, but it is difficult to understand their thinking in this regard because of the very limited time available for doing this. Most counselors have at least 300 to 400 students for whom they are responsible and if the counselor's full time were devoted to this task there would still be not to exceed 4 hours per student per year that could be spent. This is calculated on the basis of school being in session 6 hours per day, 5 days per week, and 36 weeks per year. This would make a total of 1080 hours available and with only 300 students it would mean just 3.6 hours per year per student. Then, in terms of what the counselors report as their duties and responsibilities, there certainly would not be nearly this amount of time available. Of course, other means are also used to impart occupational information, but the information given by the counselors responding to the questionnaire would seem to confirm the expressed beliefs that students are not receiving enough information about occupations from which they might choose their life's work.

Counselor's Part in Helping Students to Obtain Occupational Information

The counselors were asked what part they played in helping students to obtain occupational information. The responses to the question show

*Table 38 from original report

that many counselors assume responsibility in this matter and play an important role in imparting occupational information. By referring back to the list of duties and responsibilities which the counselors think they should have, it will be seen that they think they should have responsibilities for organizing and maintaining an occupational file, giving occupational information to students as they counsel with them individually or in groups, furnishing occupational information to students and teachers, and supervising or teaching occupational information classes. All of these items were listed in connection with the part played by the counselor in imparting occupational information, and in addition, the following were given:

Obtain for students, or help them to obtain, information on any occupation about which they may ask or in which they are interested.

Explain the offerings of colleges, universities, technical schools, or vocational schools.

Organize career days.

Prepare displays, posters, etc.

Encourage and stimulate students to think about occupations and their life's work.

Give occupational information in connection with the interpretation of test results.

Arrange for guest speakers and field trips.

Act as a clearing house for information that is available to teachers and students.

Collect occupational information from many sources and make it available.

Serve in a guiding role to help the student analyze himself.

Arrange for films of vocational guidance nature.

Counsel with students and parents.

Make an effort to know first-hand as much about jobs and the labor market as possible.

Prepare group guidance programs.

Present the film prepared by the Utah State Department of Education.

Lecture in classes about occupations, when requested by the teacher.

Initiate conferences on occupational information.

Supervise the whole program of guidance and counseling.

Help students understand their own capabilities.

It must not be assumed that all counselors do all of the things listed above and many of them report that they do very little by way of imparting occupational information in any manner. Some of them say that they do not have time or that this is not their responsibility. However, there is sufficient evidence to show that many counselors recognize the importance of this in the total program of guidance and counseling and are trying to do something about it.

Superintendents, too, were asked how students in their district obtained occupational information and their answers conform very closely to those reported by the counselors. Many superintendents made mention of the films prepared and sent out by the State Department of Education entitled "The World of Work" and "You and Your Job". They seemed to think they were very good films and that students responded to them very well. Parents were invited to see the films, but in most cases their response was very disappointing. Superintendents offered no special solution to the problem of getting more cooperation from parents, although they would have appreciated having a good one. One other comment from superintendents is worth mentioning and that is that many students did not have time during the school day to make adequate use of the excellent literature available in the occupation's library or in the counselor's office.

Assistance in Obtaining Guidance Material

The counselors were asked whether or not the school administration assisted them in obtaining guidance literature for the students in their school. The answers are reported in Table 5*. This table shows that 83.6 per cent of the counselors responding said that their administrators helped them. Some of the others stated that it was not necessary for the administrators to assist them because they were given freedom in obtaining the guidance literature which they thought was essential. Also, by referring back to Table 4** it can be seen that most schools maintain

*Table 39 from original report

**Table 38 from original report

Table 5*. The Number of School Counselors Who Report That Their Administrators Assist in Obtaining Guidance Literature for the Students in Their School

Responses of "Yes"		Responses of "No"	
Number	Per cent	Number	Per cent
122	83.6	24	16.4

occupational information libraries. Some counselors said that the help given them was to pay for the material where purchase was necessary and others said that administrators first had to approve the materials before they were ordered.

Effectiveness of Counselor's in Helping Students to Select a Vocation

As visits were made in the various states and as interviews with school superintendents in Utah were conducted, one of the criticisms frequently mentioned in the discussions was that counselors were not very effective in helping students in selecting a vocation. The questionnaires to the counselors were sent after most of the interviews had been completed and in light of the criticism which had been made, it was decided to obtain the opinions of the counselors themselves as to whether or not they thought they were effective in helping students to select a vocation. The responses of the counselors and the expressions of the superintendents on this matter are given in Table 6*. This table

Table 6*. Beliefs of Counselors and Superintendents Regarding the Effectiveness of Counselors in Helping Students to Select a Vocation.

	Effective		Not Effective		Partly Effective		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	112	76.2	15	10.2	14	9.5	6	4.1
Superintendents	5	12.5	21	52.5	14	35.0		

*Table 40 from original report

shows great differences in the thinking of the two groups, Where 76.2 per cent of the counselors think they were effective, only 12.5 per cent of the superintendents hold this belief. The table also shows that 10.2 per cent of the counselors believed that they were not effective, but 52.2 per cent of the superintendents had that belief.

Mention should be made of the fact that the information for this table was obtained from the two groups in very different ways. From the superintendents it was obtained by personal interview and the counselors answered "yes" or "no" to a question in a questionnaire. Nearly ten per cent of the counselors wrote that they were partly effective and in talking with the superintendents the expression was frequently made by them that they thought the counselors were not nearly as effective as they could be. Such a response from the superintendents was recorded as a response of "not effective".

A number of junior high school counselors indicated that they were not very effective in helping students to select a vocation because they believed that junior high school students were too young to make this decision and that in their counseling work they did not really attempt to encourage students to make a choice. This would be in contrast to the belief of some writers that it would be very desirable for students to start making the choice of a vocation at an earlier age than most of them do--even in the elementary school. It is the belief of these writers that even though students may change their minds frequently and have a variety of selections, it is still desirable to have them make the choice because through this process they give more thought to life's work and are able to select more wisely than those who do not do much thinking about it.

This point is confirmed by Keller. In discussing the procedures that helped to discover, uncover, or reveal vocational aptitudes and in pointing out the importance of good guidance in this process, he makes the following statement:

> This process goes on from the lowest to the highest grades, even way down in the elementary school, as we shall proceed to show. This guidance with reference to occupation must concern the whole school system in an entire community. Otherwise, how will children in elementary or junior high school know what senior high school they wish to enter, unless well before graduation they have learned much about occupations and about their own interests and desires.[5]

---

5 Keller, Op. Cit., p. II-1

Of course, Keller is assuming that students will have a choice of senior high schools to attend and this would not be true for many students who live in communities where there is only one high school. However, good guidance should assist these students in deciding what to take in the high school they attend. This assumes that there will be more than one kind of program available in the high school and when there is not more than one, real problems develop because it is usually college preparatory and this may or may not fit the needs of the majority of students in the school. Keller goes on to discuss good practices in vocational guidance and repeatedly he points out the necessity of starting the program very early in the school life of each individual.

Coming back to the problem of the effectiveness of counselors, some of them indicated that their main emphasis was to help the students in forming wholesome or positive attitudes towards vocations rather than to encourage them to make a choice of an occupation. They also indicated that many of the younger students, particularly the seventh and eighth graders do not show much interest in this matter and as a result they believe that not very much can be done. The belief was also expressed that they are effective in a number of instances, but certainly not in all cases and not in as many as they would like.

Additional comments made by the superintendents show that some of them think that counselors do not have enough time to devote to giving help to students in selecting a vocation. Some of them thought that the parents and other persons had more effect than the counselors and that a good teacher could be of tremendous help. They also believed that there was not enough follow up in this regard. Of course, a number of the superintendents thought that the counselors were quite effective in this matter, but stated that they believed the counselors could be even more effective than they are. Another idea was expressed to the effect that most counselors do not know enough about vocations to give students the help they need in selecting an occupation. This could be an important matter and leads to another question asked of the counselors regarding whether or not they felt within themselves that they were well enough informed about the world of work to give adequate vocational guidance. This was also discussed with the superintendents. The results are shown in Table 7*.

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*Table 41 from original report

Table 7*. Beliefs of Counselors and Superintendents Regarding the Adequacy of Counselors' Information about Occupations

	Adequate		Not Adequate		Partly Adequate		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	80	54.4	55	37.4	12	8.2		
Superintendents	3	7.5	25	62.5	11	27.5	1	2.5

Counselor's Information about the World of Work

The table shows a striking contrast between the beliefs of the counselors who responded and the superintendents. This is shown by the fact that 54.4 per cent of the counselors believed that they were well enough informed about the world of work to give adequate vocational guidance, but only 7.5 per cent of the superintendents held the same belief.

Some of the counselors explained why they believed they were well enough informed and the reasons given are quite convincing. For example, one counselor said that he had spent 16 years with the E. I. Dupont Company, United States Steel; The Naval Supply Depot, and the Boeing Company. Another one said that he had taken recent training with the United States Employment Service and that he knew the sources from which he could get the necessary information about occupations. Most of the counselors who wrote statements on the questionnaire indicated that they felt they could do better if they had more information. One of them wrote the question, "How can anyone be well-informed about the mass of vocations we have?" Another one said that because the world of work is changing so rapidly he wondered if anyone could feel well enough informed. An interesting attitude was shown by one counselor when he wrote that this was not his primary function, and that he was prepared to handle what he wanted to do.

In spite of the fact that a little more than one half of the counselors responding believed that they had enough information about the world of work to give adequate vocational guidance, they also believed that they could be more effective if they had a greater understanding of occupations. This is shown by the responses to a question dealing with this matter.

*Table 41 from original report

The responses are shown in Table 8* and it can be seen from the table that 89.9 per cent of the counselors responding believed they could be more effective if they had a better understanding of occupations.

It could be argued that the counselors responding were not consistent in their responses because on the one hand most of them report that they are prepared to do adequate vocational counseling, yet on the other hand they admit that they could be more effective if they had additional information. Rather than to consider this as an

Table 8*. Beliefs of Counselors Regarding Their Being More Effective in Giving Vocational Guidance if They had a Greater Understanding of Occupations

	Not sure		Response of "Yes"		Response of "No"		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	1	.7	132	89.9	10	6.8	4	2.7

inconsistency in their thinking, another point of view would be to accept the idea that human beings in any kind of work can always improve what they do if they have additional knowledge, understanding, and preparation. Comments made by the counselors would lead one to believe that the latter idea would be preferred. Comments such as the following would confirm this: "Effectiveness increases with understanding," "Learning always helps, especially in new fields", and "Anyone gains skills with additional knowledge and I read in this area as much as possible and attend workshops, conferences, etc."

A comment to the effect that counselors seem to know about their students, but not about occupations also indicates the need for additional knowledge about occupations.

The superintendents interviewed expressed themselves as believing that counselors needed more occupational information in order to give adequate vocational guidance. Table 6** showed that the superintendents thought the counselors were not very effective in helping students to select a vocation and, in most cases, they continued by saying that this was an area that needed improvement or that counselors needed more help in this regard.

*Table 42 from original report
**Table 40 from original report

In one county where the population is very small, the only counselor was a woman and the superintendent said that she could help the girls but could do little for the boys. Some of the superintendents indicated that efforts were being made to give the counselors some additional information and in some cases work experience. Some superintendents stated that it was difficult for counselors to obtain all of the information that they could use to advantage because they are pretty busy as it is and that it is not an easy matter to get the information needed.

One of the real problems pointed out by superintendents was that most of the counselors are academically trained persons. The usual pattern followed by most people who become counselors is to take an academic program through high school and then in college to take a teacher training program--frequently in an academic subject or as a coach. These people then go out to teach in their field of specialization and have little opportunity to become acquainted with the world of work. As a result, when they counsel their students they emphasize the college education and especially in the academic disciplines. They seem to feel their greatest adequacy along these lines and in cases where they have not had work experience outside of the education field it is understandable that they would stress academic work. It is probably true also that without work experience they would not fully realize the importance of other kinds of occupations, nor would they realize the vast majority of jobs outside of those closely associated with academic fields. Superintendents pointed out further that too many of the counselors have learned something about testing, some psychology, and a little bit about vocations from a course in Occupational Information, but have little else to offer.

Teaching Experience and Counseling

In the interviews with superintendents, real concern was expressed about an idea which some of them said was being promulgated concerning counselors. It was that counselors should not be experienced teachers. The superintendents thought the best counselors were those with considerable teaching experience who had received adequate training in counseling and guidance along with good amounts of experience. Because of this, it was decided to ask the counselors what they thought about this. The results are shown in Table 9*. Of the 147 counselors responding, ten of them, or 6.8 per cent, said that counselors should not have experience as teachers, and 134, or 91.2 per cent said they should have experience. This large percentage favoring teaching experience before becoming counselors clearly shows the thinking of the present counselors who responded to the question. Superintendents

*Table 43 from original report

Table 9*. Belief of Counselors Regarding Whether or not Counselors Should Have Experience as Teachers Before Becoming Counselors

Responses of "Yes"		Responses of "No"		Responses of "Uncertain"	
No.	Percent	No.	Percent	No.	Percent
134	91.2	10	6.8	3	2.0

were not asked this question directly, but their general attitude is reflected in the first part of this paragraph and most of them expressed themselves strongly concerning the matter.

Some of the reasons given by counselors for believing that teaching experience should come before counseling are as follows:

> A great deal of our work involves teachers so we must be familiar with their problems also. There is no better way to gain this understanding than by teaching.
>
> Teaching experience helps to establish status with the teacher.
>
> Counselors should have teaching experience on the level in which they do counseling.
>
> A counselor definitely should have teaching experience, and if the counseling is done in the public school system, the experience should be at the public school scene.

Other comments about the situation were to the effect that two or three years experience should be had on the level where the counseling is done; teaching experience helps, but so do other types of experience and it is difficult to tell which is the most important; and it is known that most troubles with students can be recognized even in the first grade and with experience you know more about what you are looking at. On the negative side some of the comments were as follows:

> I am undecided. There are points in favor of not having taught.

*Table 43 from original report

No, it can be helpful, but is not necessary.

Having been employed in the world of work is just as important.

Not necessary. Teachers may not have as broad a background as others.

Teaching experience is all right, but one year should be enough.

Participation of Class Room Teachers in Guidance and Counseling

Another problem closely associated with the one just discussed is whether or not the classroom teachers should participate in the guidance and counseling program. As far as the beliefs of superintendents were concerned on this matter, it can be summed up in one brief statement which is that teachers should be a very fundamental part of the total guidance and counseling program and that for many of the aspects of the program they can do some things better than anyone else. The responses of the counselors are shown in Table 10*. An examination of this table shows very clearly that nearly all of the counselors responding believed that classroom teachers should participate in the guidance and counseling program. Out of 147 counselors responding there were only 2 who said that classroom teachers should not participate and 3 were uncertain. This is one aspect of the guidance and counseling program in which there is close agreement between the counselors and the school superintendents.

Table 10*. Responses of Counselors on Whether or not Classroom Teachers should Participate in the Guidance and Counseling Program

	Responses of "Yes"		Responses of "No"		Question	
	No.	Percent	No.	Percent	No.	Percent
Counselors	142	96.5	2	1.4	3	2.1

Some of the comments made by the counselors are pertinent and consideration should be given to them. These comments are as follows:

*Table 44 from original report

There is a need for counseling in some types of classroom situations.

Yes, the good teachers are the best counselors. What does a young upstart know without experience?

Yes, certainly, as far as they are able, but without special training here they can do little except to advise in their own fields of study.

Yes, I have helped teachers to be effective and believe that most of them are doing a great deal to give students insight into vocational requirements.

Yes, the success of a guidance program is dependent upon them.

Any that have special abilities or knowledge should be used as source people.

Yes, it revolves around the teachers.

Yes, as directed by the principal and his staff.

Yes, in directed programs instituted by the guidance department.

Yes, to the degree that they are aware of the total program.

Counseling on Problems of Personal Adjustment

In the discussion with the superintendents, two closely related problems were brought out which seem to be pertinent at this point. A good many of the superintendents expressed the idea that counselors spent too much time dealing with students' personal problems and that because of this there was not enough time spent in giving real vocational guidance. Some superintendents had considerable to say, especially on the first problem, and seemed to believe that counselors were inclined to delve into personal and family problems that were not really their concern. They also said that in some cases the personal problems were beyond the ability of the counselors to handle and the students with these problems should have been referred to psychiatrists or someone selected by the family to handle these cases. This study did not reveal just how serious this practice might be, but it is probably worthy of consideration. Because of what the superintendents said, it was decided to ask the counselors about these two problems. The responses of the counselors as to whether or not their individual counseling is concerned primarily with personality adjustment problems

Table 11*. Responses of Counselors as to Whether or not Their Individual Counseling is Concerned Primarily with Personality Adjustment Problems

	Responses of "Yes"		Responses of "No"		No Answer	
	No.	Percent	No.	Percent	No.	Percent
Counselors	49	33.3	93	63.3	5	3.4

are shown in Table 11*. This table shows that one third of the counselors responding answered that most of their counseling was concerned with personality adjustment problems. There were 3.4 percent of the counselors who did not answer the question, but this still leaves nearly two thirds of them who answered that this was not their primary concern in counseling. Of course, if as many as one third of the counselors are involved in this type of activity, it is not difficult to understand why superintendents should be concerned about this matter. Some of the counselors wrote comments about the question and some of the more pertinent ones are as follows:

> The administration in this school feels that truants, poor scholarship, and delinquency are the concern of the counselor.
>
> Most of my counseling deals with personality and school behavior problems.
>
> I deal mostly with character problems.
>
> I would guess that about 30 per cent (One out of three students) of my time is spent on this.
>
> About one third of the time on personality and two thirds on vocational information and other adjustment problems.
>
> Yes, but my steadily increasing load of testing and working in vocational areas makes time for individual counseling very limited. Referals from teachers and occasional student or parent requests are the only ones for which I can generally schedule time.
>
> Yes, if they concern themselves with emotional, mental problems. No, if they regard disciplining procedures.

*Table 45 from original report

The responses from the counselors, as shown in Table 11*, and these comments certainly indicate that counselors do spend a significant part of their time in dealing with personality adjustment problems. Just how much time should be spent on these problems is difficult to answer, and in this study no attempt was made to find an answer. Also there is the possibility that there is no definite answer to this question because the circumstances will vary in different schools and in different groups. Probably one of the important things to consider is that counselors should use good judgment in handling problems of this kind and when the problems are of such a nature that the counselors are not prepared to handle them, they should be referred to persons who are trained to give adequate service.

Regarding the other problem, that of placing greater emphasis on vocational guidance, the responses of the counselors are shown in Table 12**. This table shows that 85 percent of the counselors believe that more emphasis should be placed on vocational guidance. This would be in harmony with the beliefs of the superintendents.

Table 12**. Beliefs of Counselors Regarding the Placing of Greater Emphasis on Vocational Guidance

	Responses of "Yes"		Responses of "No"		Responses Mixed		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	125	85.0	15	10.2	4	2.7	3	2.1

One reason why this question seems to be important is that when one looks at the distribution of the labor force in this country he finds that a much greater percentage of workers make their living in industrial and technical pursuits than do so in professional and other fields requiring a college education. As was mentioned earlier in this report, counselors have been accused of emphasizing the academic pursuits and have probably encouraged a larger percentage of students to go to college than should go. In as much as there are many different kinds of jobs in the industrial and technical areas, superintendents are interested in having counselors give more emphasis to this phase of vocational guidance so that students will have a better understanding of industrial

*Table 45 from original report
**Table 46 from original report

and technical education and the many excellent work opportunities in industry. Superintendents seem to believe that a better balance should be brought about than now exists.

Some of the counselors believe that this balance already exists in their own district and this would be shown by such comments as, "No, I like the balance we have achieved between vocational and personal counseling in our School District" and, "No, I think our program is adequate". Most of the counselors who made comments, however, stated that more emphasis should be given to vocational guidance. The following are typical comments:

> Yes, to those students who could best qualify for those areas of work.
>
> We should promote the belief in the dignity of honest work besides or in place of college.
>
> I do, for as more education and training is constantly required we need to give closer attention to students' programs and progress and keep them informed on current trends and directions.
>
> Yes, especially those students who do not or cannot make it to college.
>
> Yes, if this is your aim in education to promote a broader understanding of industrial and technical education.
>
> Only if commensurate class experiences are made available.

Students' Understanding of the Work of the Counselor

Opinions have been expressed that students do not clearly understand the work and purpose of the counselors and that neither do they make effective use of counseling services. These things may be true because counseling services are relatively new in the majority of secondary schools and there has not been sufficient time for the students to become thoroughly familiar with the part the counselors might play in their school program and in their lives. Another reason this might be true is that in too many instances counselors were and are still being used as disciplinary agents. This has caused students to believe that if any one of them visits a counselor a stigma is placed upon that individual. Naturally, if this were true, students would tend to stay away rather than to visit counselors freely. There seems to be no question that such situations have existed, although many things

are being done at the present time to overcome the detrimental effects that have resulted.

Another condition which has made it difficult for counselors to be effective is the feeling teachers frequently have held toward the counselors. In other words, teachers have felt that counselors are not an essential part of the school, that they have a "pretty soft job", and that they (the teachers) can do a better job of counseling than the counselors do. As a result, teachers have frequently discouraged the students from seeing the counselors and once this attitude develops it seems to be contagious among the students. Considerable effort has been expended toward overcoming this situation and indications are that improvement is being made.

In spite of these problems many counselors have been striving to develop good programs and to improve their image in the eyes of students, teachers, and the public, however, there is much yet to be done. This is shown in the responses of counselors and superintendents to the question "In your opinion, do the students in your school understand the work and purposes of the counselors?" The responses of the two groups are shown in Table 13*. It will be noted that a larger percentage of the counselors believe that students understand their work than is

Table 13*. Opinions of Counselors and Superintendents Regarding Students' Understanding of the Work and Purpose of Counselors

	Responses of "Yes"		Responses of "No"		Responses of "Uncertain"		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	87	59.2	45	30.6	15	10.2		
Superintendents	13	32.5	19	47.5	7	17.5	1	2.5

true of the superintendents. Both groups have indicated that they believe the situation is must better now than it was just a few years ago and that the situation is improving rapidly. One or two comments may be pertinent.

*Table 47 from original report

From the counselors:

Yes, more and more all the time.

It is difficult to answer with a flat yes or no. I think most students do; some probably do not.

No, not adequately.

No, many do, but probably not the majority.

This year there is more understanding among the students of the purposes of the counselor than there was before.

Yes, I found they did not in a survey ten years ago so I have worked on it.

Not fully. If counseling began in elementary school, high school students would make better use of counseling.

From the superintendents:

Not too clearly. The counselor is tied too closely with the principal. Some students fear the counselor.

Fair, but could be better.

Some do, but not all by any means.

Not very well. Counseling is fairly new and the situation will probably get better.

Not very well. How could they when the educational fraternity itself is all confused as to the real purpose of counseling?

No, in a youth conference where there were 125 students present, not one of them understood the work of the counselor.

No, there is need to develop a student handbook which will assist the students by giving the work and purpose of the counselor.

Effective Use of Counseling Services

The responses of the counselors and superintendents to the question, "Do you think the students in your school make effective use

of your counseling services?" are shown in Table 14*. It will be noted in this table that the beliefs of the counselors and superintendents are much closer together than was true on the question of understanding the work of the counselors. As with the other question, both groups believe that considerable progress is being made and that as students come to a better understanding of the counselors' function they are making more effective use of the counseling services and will continue to do so. The comments written in by the counselors and made orally by the superintendents confirm this point of view.

Table 14*. Beliefs of Counselors and Superintendents Regarding Effective Use of Counselors' Services by Students

	Response of "Yes"		Response of "No"		Response of "Partly"		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	75	51.0	49	33.3	23	15.7		
Superintendents	16	40.0	15	37.5	7	17.5	2	5.0

Counseling Students on Test Indicated Aptitudes, Interests, and Abilities

Since the development of intelligence tests, special aptitude tests, and personality and interest inventories, it has been common practice for counselors to administer a number of these tests in order to help students in appraising their own capabilities and interests so that they will have a better understanding of what they might do. Much has been written about this matter and the question has often been raised as to whether or not adequate use is made of the test results. Counselors were asked the question, "Are the students counseled individually regarding their test-indicated aptitudes, interests, and abilities?". The responses of the counselors to this question, as shown in Table 15** would certainly give a strong affirmative answer to the question as 96.6 per cent of those responding answered "yes". Of course, it was not possible in this study to ascertain the effectiveness of the counseling, but at least most counselors say they are discussing test results with the students.

*Table 48 from original report
**Table 49 from original report

Table 15*. Number of Counselors Reporting That Students Are Counseled Individually Regarding Their Test-Indicated Aptitudes, Interests, and Abilities

	Responses of "Yes"		Responses of "No"		No Answer	
	No.	Percent	No.	Percent	No.	Percent
Counselors	142	96.2	4	2.7	1	.7

Involving Parents in the Guidance Program

As guidance problems were discussed with school personnel in various states and with school superintendents in Utah it was frequently mentioned that many of the problems faced by educators came from parents and that by no means did all of them come from the students. Some of the discussions dealt with problems related to vocational guidance and the role played by life's work. Because of the effect which most parents have on their children in these and other matters the suggestion was made that parents should be involved more in the counseling and guidance program. Further evidence that this belief might be important is found in the recommendation of the Utah State Department of Public Instruction that parents see the guidance films "The World of Work" and "You and Your Job" which were prepared by the Vocational Division of the State Department of Education. It was stated earlier that in many of the school districts of the state the response of the parents was not very good, but the fact that they were invited gives support to the belief that parents should be involved in the counseling program. As a result, the ideas expressed by the superintendents were recorded and in the questionnaire sent to the counselors there was a question asked which permitted the counselors to state what they thought about this idea. The responses of the counselors are shown in Table 16**. The answers given by the superintendents did not lend themselves to quantitative treatment, hence are not included in the table, but are discussed later.

The table shows that 79.5 per cent of the counselors believed that parents should be more involved than they are, 13 per cent expressed a negative point of view, 5.5 per cent had mixed beliefs, and 3 did not answer. Some of the counselors expressed the idea that it would be

*Table 49 from original report
**Table 50 from original report

Table 16*. Beliefs of Counselors Regarding More Involvement of Parents In the Counseling Program

	More Involvement		No more Involvement		Mixed		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	117	79.5	19	13.0	8	5.5	3	2.0

well to involve parents if they would do something about it afterwards. Others thought that there were certain kinds of problems in which the parents did not need to be involved and it was better for the counselor and other school personnel to handle them without bothering the parents. On problems regarding vocational guidance, a majority of the counselors believed that it would be desirable to have the parents involved, especially if the parents would assist their children in a beneficial way.

Most of the school superintendents believed that parents should be involved in many phases of the school program including counseling and guidance. In most schools, parents were already involved to quite an extent, although efforts were being made to involve them to an even greater extent. In many cases superintendents talked about the things they were doing and this showed that in many districts parents are quite highly involved. For example, in one district no student is allowed to register until there has been a meeting (usually one hour in length) with parents, students, and counselors. Several superintendents suggested having counselors visit the homes of the students, but they recognized the difficulty of doing this because of the large numbers involved and limitations of time.

A very few of the superintendents believed the parents are now involved as much as they should be. In fact, one superintendent made the statement, "We in education need to have enough training to do the job we need to do on our own, as a medical doctor does." Another problem mentioned by superintendents was that too many parents are just not interested either in the school or in their children and that involving them accomplishes no useful purpose. Unfortunately, there seems to be a considerable amount of this feeling and such a situation can cause many problems for the counselors as well as for school administrators.

*Table 50 from original report

Following are some of the comments and suggestions made by superintendents on this matter:

> It is difficult to involve parents, but we do need more of it. Parents should be kept informed about school acivities, etc. and should support what is being done for their children. They should even ask for more to be done.
>
> Parents are already involved to some extent. They can be called in with the students when results of tests are reported.
>
> Visits to homes would be helpful. Counselors could work with parents in an honest appraisal of where the student is going.
>
> Bring the parents in to visit with the counselors.
>
> Parents should be involved as much as possible. Use all the means available.
>
> It is not easy to involve parents. Many parents do not want to be involved. Those that want to be usually are.
>
> At least once in the senior year parents are called in with the student for a conference with a counselor. Most parents are now about as much as they want to be.
>
> Maybe parents should not be too involved. There are certain things that school people are trained to do and they should do them. (Like doctors and lawyers do their work without bringing in the public.)
>
> Parents need to be involved more generally. There are two kinds: those that involve themselves and those that do not want to be involved. We do not have a good answer for the latter.

Counselors who answered that parents should be involved more in counseling were asked to make suggestions on how to bring about more involvement of the parents. As would be expected, many counselors made similar suggestions, but by summarizing and combining the various items, the following list gives the suggestions offered:

1. Educate the parents to a greater extent than at present regarding work and purposes of counseling and guidance.

   This may be done in a variety of ways:

a. Hold small group meetings in the evening
b. Group counseling sessions for an entire family together
c. Part of the PTA program to be devoted to extending and acquainting parents with the counseling program
d. Career days that include parents
e. Public meetings where the counseling program is explained thoroughly
f. Information mailed to parents

2. Late afternoon or evening counseling with parents and students. Where this type of thing might be done, counselors should be given compensatory time off or be given additional compensation.

3. Lighten the existing load on counselors so that more time is available to work with parents in the counseling program.

4. A fixed schedule of appointments for each student and the parents to meet with the counselors. The time suggested for this is one-half hour per visit.

5. Group counseling with parents.

6. Provide a better public relations program.

7. Provide summer counseling program.

8. Career days for parents could be arranged where occupational information similar to that given to students is offered.

9. A parent vocational education night.

10. Provide more time for counselors to make home visits.

11. Invite parents in more often than has been the case.

12. Provide broader education in group and family therapy techniques. Close cooperation should be maintained with mental health groups, psychological services, detention homes, and church leaders.

13. Bring parents and students together more in registration matters. Parents should know what their children are taking and should know when changes are made in their registration.

14. Educate parents to the importance of a wise and early vocational selection.

15. Have departments send out more information to the parents so that they will be better informed on what the school offers.

16. Organize group sessions in the evenings on a systematic basis wherein group dynamics are used.

It must be realized that some of the suggestions given would be difficult to put into effect and even if they were some of them would likely be much more effective than others. Some of them might not work at all and the degree of success of any of them would vary from place to place, depending upon the effort put forth in planning, organizing, and operating the program, the type of community, and the kinds of parents involved. The fact that in many families both parents work would add to the difficulties involved and then there would still be those parents who do not care one way or another. One counselor said that it was very difficult to get parents to come who really should-- one mother was too busy divorcing her ninth husband.

Certification of Counselors

When superintendents were asked what recommendations they had for improving counseling and guidance,among other things which will be discussed later, some of them said that the certification requirements for counselors needed to be improved. In this regard there were two major points made by the superintendents. One was that counselors should first have experience as a teacher and that a certain amount of teaching should be part of the requirement for a counselor's certificate. The other point was that counselor's should have some kind of experience or training which would help them in gaining a better understanding of the world of work. Because of what the superintendents had said it was decided to give counselors an opportunity to express themselves on this matter of certification. Their responses are shown in Table 17 and an examination of the table shows that most of them believed the present requirements to be satisfactory.

*Table 51 from the original report

Table 17* Beliefs of Counselors Regarding Whether or not the Present Requirements for a Utah Counselor's Certificate are Satisfactory

	Responses of "Yes"		Responses of "No"		Responses of "Uncertain"		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Counselors	120	81.7	21	14.3	3	2.0	3	2.0

Some of the counselors commented that the certification requirements were satisfactory providing the counselors would still keep alert and up to date through their own efforts. One or two suggested that there might be some requirement for them to spend some time in first hand experiences in the world of work other than counseling. Several of them suggested doing away with the provisional certificate because they felt that it was no longer needed. One commented to the effect that the present requirements were good especially in getting the counseling started on such a large scale and as rapidly as it has been necessary to do it, and that as more specific needs in counseling are discovered the certification requirements could be revised to include these needs.

If a counselor answered that the present certification requirements were not satisfactory, a request was made to indicate the changes or additions recommended. The recommendations of the counselors may be summarized as follows:

1. Orient the counselor training program to the kind of training needed for elementary, junior high school, and early senior high school counseling and guidance rather than to late senior high school and college counseling as appears to be done in many programs.

2. Offer a greater variety of courses as requirements for the certificate and not limit them to psychology courses. As an example more sociology could be included,

3. Require teaching experience of at least two years on the level where the counseling is to be done.

*Table 51 from the original report

4. Include training in group dynamics and group counseling.

5. Require more testing experience in group and individual testing including projective tests, situational tests and the like.

6. Require a master's degree.

7. Provide for more work in personality, learning theory, psychiatry, psychotherapy, greater depth in psyshology.

8. Require more training in vocational education and vocational guidance.

9. Require more actual experience in counseling under supervision and include in this experience something for counselors comparable to student teaching for teachers. Some counselors believe that experience on the job is a greater asset than theory from the classroom.

Some of these recommendations are more directly associated with the counselor training program than they are with certification. However, a close relationship exists between the two and the recommendations could apply to certification requirements though indirectly.

It would probably be neither possible or desirable to try to incorporate all of the above recommendations into the training program or the certification requirements because some of them may be in conflict with others. Also, some of them may be entirely unrealistic or even undesirable. For example, recommendation number seven would not be in harmony with the thinking of a large segment of the school superintendents as many of them think the counselors already spend too much time on personal and family problems and consider themselves to be "junior psychiatrists." Superintendents see many dangers in this and seem to believe there are many other aspects of guidance and counseling that are more important and should receive the major emphasis.

The recommendations themselves seem to suggest that perhaps there is need for more than one kind of counselor in many schools especially the larger ones. One counselor might specialize in personal problems and the psychology of personality, another in vocational guidance, and so on. Another possibility might be to have more specialization in terms of level, such as elementary school counselors, junior high school counselors, etc. More will be said along these lines when general recommendations for improving guidance and counseling

are presented and discussed.

A very few counselors recommended that there be no teaching experience in certification requirements. No further comment will be made here as this item has already been discussed. Also, some thought certification requirements would be improved if the provisional certificate were eliminated. This has also been discussed.

Full Time or Part Time Counseling

Because of the high value placed upon teaching experience by the superintendents, it was decided to ask the counselors if they thought that counseling should be a full time position or if it would be better for them to teach part time. Their responses to this are shown in Table 18.* It can readily be seen from the table that a large majority of the counselors, about 87 percent, of them, believe that counseling should be a full time position. Two percent of them had mixed feelings on the matter and about 11 percent said it would be better to have part time teaching.

Table 18* Beliefs of Counselors as to Whether or not it is Better for Counselors to Teach Part Time or to Spend Time in Counseling.

	Part time teaching		Full time counseling		Mixed	
	No.	Percent	No.	Percent	No.	Percent
Counselors	16	10.9	128	87.1	3	2.0

Regardless of which way the counselors answered, they were asked to give their reasons for their answer. The ones given may be summarized as follows:
Reasons for favoring part-time teaching.

> Part-time teaching keeps the counselor in direct contact with the problems peculiar to that role and thus maintains those contacts with school realities. In the second place, a counselor's class may be used as a laboratory for testing ideas which he may wish to pass on to other teachers.
>
> When one does full time counseling, it is easy for him to lose his perspective of the student as he exists in his complete environment, and thus he may fail to see the problem that may arise in teacher-student relationship. In order to maintain the proper perspective

*Table 52 from original report

it may be necessary for the counselor to teach part-time either as part of the day or every fourth or fifth year.

Teaching one or two classes a day helps the counselor to retain his humility.

Part-time teaching helps to preserve the proper relationship with other teachers.

If the counselor does not do some teaching he tends to lose the personal touch with the students and goes along too much in the theory. As a result the counselor sees the students' problem with the eyes of an adult and this may not be the best way to do the job.

Reasons for favoring full-time counseling.

Counselors must be available when problems occur and teaching part-time does not allow for this.

Preparing for teaching assignments often consumes time that should be devoted to counseling. Teaching part-time tends to spread the counselor too thin. In general, counseling loads are so large that a counselor is much less effective if it is necessary to spend time teaching and preparing to teach.

Teaching part-time breaks down rapport. Students will not get confidential if they see any kind of disciplinarian action, and in teaching, it is necessary to be a disciplinarian and to exercise authority.

A counselor is usually more efficient if he can devote full time to his counseling. It is difficult to maintain two images in the eyes of the students- that of counseling and teaching. This is especially true for those students who are in the counselor's classes.

Unless it is a very small school, counseling is a full time job and if it is to be done adequately there is not time to do teaching in addition to the counseling.

The attitude of complete acceptance by the student which a counselor must maintain does not seem to be as effective when the counselor finds it necessary to teach the same students that he counsels.

Counseling and teaching brings about divided attention; one or the other suffers. When an emergency case comes up in counseling

then the class is left with no teacher. Also, the counselor may feel unduly rushed because of pressure to return to class and the counseling is not done well.

When an individual does both counseling and teaching, he becomes two different people to the individual student.

For continuity, availability, and concentration of effort full time counseling is essential.

A counselor can do a better job if he can be at it full time, the counselor should be available to the students, teachers and parents all the time. Going to teach a class breaks in and interrupts many projects and assignments in counseling.

The responsibilities of teachers and counselors differ markedly. Too much changing of roles is required when a person moves from one to the other, especially when as a teacher he is held to a rigid grading system. Experience as both part-time and full-time counselor seems to create the feeling that full-time counseling is preferred.

There is not time nor energy for both. True counseling is exhausting and takes total concentration.

Follow Up of School Graduates

Since the establishment of vocational education programs it has been considered highly desirable to conduct follow-up studies of the graduates of the various programs to find out what they do and how well their program has prepared them for the work they do. This is an assignment usually given to counselors. Concerning this the report of the Panel of Consultants gives the following:

> Counselors should be expected to follow up all students as they leave school and enter employment to determine how their schooling was of assistance. This information should be used to keep the school appriased of apparent weaknesses in the instructional program which become evident.[6]

Although the same kind of emphasis has not been given to follow-up of high school graduates there are many reasons to believe that benefits could accrue from such studies. Some high schools have seen

6 Report of the Panel of Consultants on Vocational Education, Op. Cit. p. 241.

the values and have done some follow-up work with their graduates. In the present study each school superintendent was asked about the follow-up programs in his district and in the questionnaire to counselors there was an item asking them to describe briefly any follow-up program they had in their school.

In the interviews with the superintendents it was learned that twelve of them had no planned follow-up programs in their districts, although there was a little informal activity. Eleven more superintendents said there was not much of a program and that what they had was not organized formally. Four superintendents said they did a little follow-up work, five said they had fair programs, and four reported good programs. Answers were not obtained from four superintendents.

The ideas concerning the value of a follow-up program with high school graduates were quite mixed. Some superintendents could see little value in it for their particular districts, other thought that it was too expensive and time consuming for the values received, and others thought that it could have considerable value although they stated that at present they did not have the money nor the staff to do much about it. Still others said they would like to have a good program, but other things were more important and should take precedence. Those having good programs were enthusiastic about them and said that much helpful information was obtained. In general, districts who have follow-up programs do not attempt to follow-up their graduates beyond about five years. A few districts are planning programs for the future because they think there is value in them. Any follow-up programs that are conducted are usually made by the individual high schools and not by the school district office. For this reason superintendents have not been highly involved in these studies and do not have detailed information concerning them. Much more has been done in learning about students' success or failure in college than on any other aspect of graduates' activities. Even in this, the emphasis is on following those who are successful in college.

Responses from the counselors show that very little is being done in follow-up programs in most of the high schools of Utah. Of 147 counselors responding only 94 answered the item asking for information on this topic. Thirteen of them were junior high school counselors who said they had no program, thirty-six of the high school counselors reported no program, seventeen said they did a little bit of follow-up work or not much, twelve stated they had fairly good programs, and eleven reported what seemed to be good programs. In addition, five counselors gave answers that were essentially meaningless as far as the study was concerned. Although the counselors were asked to describe their follow-up programs briefly, very little was given, however, a few statements from the counselors may help to give some idea of what

is being done. The statements are as follows:

We have sent forms this spring to two different classes of graduates.

No adequate program exists at our school. A very small step has been taken this year in the computation of grade point averages for all of our graduates who are in college.

In many cases we telephone their home to find out if they have followed the plans they made before graduating in high school. If they have not followed them we try to find out why.

We have done some research in this area by letters and by telephone. The information we obtained helps us in evaluating our counseling services and in planning for the future.

We have prepared a questionnaire form and we are beginning a survey study this year.

We have just completed a study using students of 1952, 1957, and 1962.

Our follow-up program is used to provide information for curriculum changes. We encourage our drop outs to return.

We do not have an organized follow-up program. I believe it is important, but limitations of time prevent a proper program.

We make follow-up studies to find out where graduates have gone and what they are doing.

Post cards are sent to parents to find what former students are doing. We find most of them are following the program which was set up for them in their senior year in high school.

We are attempting some follow-up now. One is in the field of scholarship winners to find out which ones are successful in college.

A follow-up letter was sent to all graduates of one class. A series of questions was submitted that could be answered by yes or no. A self-addressed envelope with postage was included. The response was almost nil. From the response obtained, I question if it is worth the effort.

We have followed our students each year since 1957. This gives us a good idea of what students are doing as citizens. We also make note of the successes and failures.

Our follow-up work is limited because of the time element. We try to keep track of our graduates for four years and then include a general statement on their permanent record of what they are doing. This information is usually provided by parents and friends.

We know where they are and what they are doing for two years after leaving our school.

Senior students are asked to fill in questionnaires as to whom to contact the following year. These contacts are then made. We average about 99% success on our annual follow-up.

Ratio of Students to Counselors

In recent years there has been considerable discussion about the number of students for whom a counselor should be responsible. In order to find out what current practices were, inquiry was made in many of the schools visited around the country and this was also discussed with the school district superintendents in Utah. The information obtained from the superintendents is shown in Table 19. It was stated in the interviews that for proper accreditation the school should not have more

Table 19* Ratio of Counselors to Students in Utah School Districts

	Number
One counselor to less than 200 students	1
One counselor to 200 to 300 students	8
One counselor to 300 to 400 students	21
One counselor to more than 400 students	7
No counselor in district (Counseling done by teachers and principals)	3

than 400 students per counselor. A study of the table shows that most schools meet this requirement and many of them have even a better ratio. A few superintendents said that they were able to stay within the 1 to 400 ratio in senior high schools, but that it may be not as good in junior high schools. Also, some of them said that the one to 400 ratio

*Table 53 in the original study

was really too high and that a counselor should not have more than about 300 students if he were to do his job adequately.

Guidance and Counseling in Schools Outside of Utah

The inquiries made in the schools around the country showed that the ratios were about the same as those reported for the schools in Utah. The highest ratio found was 500 students to one counselor. In another school, which claimed to have an excellent guidance and counseling program, there were seven counselors in the school with about 100 students per counselor. These two schools show the extreme ratios.

Some of the questions asked of superintendents and also included in the questionnaire sent to counselors, were also asked of administrators in the schools visited outside of Utah. In general, the findings were very similar to those already reported, but a comment or two about some of the responses received might be appropriate. For example, when asked whether or not they thought the students understood the work and purposes of the counselor, the answer was nearly always "yes" as far as the situation was concerned in their own school. However, it was not unusual at all for them to say that because of the type of work their counselors did and the fact that the students were already in a school offering occupationally oriented training, their own program of counseling seemed to be better and more fully understood than would be true of the situation in most general high schools. This may or may not be true, but the statement was frequently made. A similar situation existed in regard to the effectiveness of the counselors in helping students to select a vocation. It would be easy to believe that students already in a vocational training program of some kind would make effective use of the counselors within the school, but that students in regular high schools might not use the counseling services nearly as frequently or effectively.

In most of the schools visited which had counseling programs it was reported that a majority of their counselors were individuals with a strong background in industrial or business experience and who had been successful teachers. In addition to being good teachers they had shown interest and aptitude in counseling and had moved into such work. When this situation prevailed, the school directors believed their counseling programs to be very effective, but they also believed that many of their students coming from high schools had not received adequate counseling. They were convinced that the high school counselors should have a much better understanding of occupations and the world of work.

A few other items given by the school directors for improving counseling are as follows:

Counselors should be more realistic and abandon the non-directive approach.

Provide better communication between students, counselors, and teachers in the student's major.

Provide more and better training for counselors.

Provide better selection or personnel to go into counseling (too often the counselor is just a "nice Joe").

Provide secondary school students with more occupational information through a variety of methods.

In the visits made, a few schools were found which had no counseling programs. These were usually technical institutes or post-high school area vocational schools. When asked concerning why they had no counselors or counseling program the statement was made that the students had already made an occupational choice, otherwise they would not be registered in such a school. If students felt the need for some counseling because of a desire to change programs, or for some other reason, the situation was usually handled by the teachers concerned in consultation with the school director. Some of them reported that this worked very satisfactorily but others said that counseling services would be very desirable and that they were planning this for the future. Many of the new schools, such as area vocational technical schools recently established, had been so busy in setting up their curriculum and getting their schools in operation that little attention had been given to the problems of guidance and counseling. Also, many of them had more than an adequate supply of students applying for admission and had not felt the need for counseling services.

The school directors were asked about the use of various kinds of tests in the selection and guidance of their students. Of course, in schools without guidance and counseling programs little or nothing was done in this regard. The scores obtained from intelligence tests given in high schools were frequently used as a basis for admission. Schools like Milwaukee Vocational and Adult School, O'Fallon Vocational School, and Los Angeles Trade Technical College had outstanding guidance and counseling programs and used a great variety of tests. Some of the schools had developed some of their own tests and found these to be very useful because they were well adapted to their particular needs. Quite a number of the schools used intelligence, interest and aptitude tests and a few of them used personality tests when they felt a need for such an instrument. The more commonly used tests were the American College Test, the General Aptitude Test Battery, and the Kuder Preference Record.

Improving Counseling Services

The information presented so far in this section has shown that guidance and counseling are extremely important if adequate vocational education programs are to be organized and maintained. It has also been shown that existing counseling and guidance programs do not seem to be adequate to meet the needs of the young people in selecting their lifes' work and preparing for it. In addition, there is considerable evidence that counselors themselves believe they are doing a better job of counseling than school administrators think they are doing. Superintendents were asked to offer their suggestions for improving counseling services and the counselors were asked to list the important things they thought could be done to improve the whole program of counseling. The suggestions made by the counselors are summarized as follows:

Remove from the counselors all administrative responsibilities such as, being assistant principal, student council advisor, and discipline in any form.

Promote better parental understanding of the wide program of guidance and counseling through an educational program planned for this purpose.

Provide for more exchange of good ideas among counselors.

Establish a sound program of guidance and counseling in each school district within the state making any necessary adaptations for the individual schools within the district. This program should set forth the specific functions of the counselor which are most essential and which are within the means of realization with the existing staff.

Provide a sufficient number of counselors so that the job can be done adequately. Ratio not more than 300 students to 1 counselor.

Make the counseling positions full time.

Provide adequate physical facilities so that counselors may have the necessary space and equipment to do their job. There should be an area for private conferences.

Provide the necessary funds so that occasionally counselors may attend state and national conventions where they may receive stimulation for their work and obtain ideas for improvement and to keep themselves current in new developments.

Expand counseling services into all elementary schools as well as to provide it in junior and senior high school.

Make it possible for counselors to work through the summer months when it would be possible to work under more relaxed conditions and without the pressure of time. This would be an excellent time to work with parents as well as with the students.

Provide better training for counselors.

Let counselors counsel--not be glorified secretaries and administrative assistants.

Provide training for teachers which will help them in understanding the work of the counselors.

Improve the image of the counselor in the eyes of the teachers, students, and parents.

Provide more opportunity for couselors to have experiences in the world of work.

Provide opportunities for counselors to do research and follow-up.

Provide an adequate budget so that counselors may have the materials, supplies, and equipment necessary.

Change the state financial formula from a nine to 1 ratio to a 7 to 1 ratio so that enough counselors can be provided.

Decrease the secretarial work frequently required of the counselors by providing adequate secretarial help.

Arrange for proper referral services such as psychologist, psychiatrists, and physicians so that when problems arise which are beyond the role of the counselors, the problems can be adequately handled.

Define more thoroughly the role of counseling and guidance in the public schools.

Improve the personnel involved, both counselors and administrators.

Assist administrators in becoming more realistic in regard to the counseling program, and the work of the counselor.

Screen more carefully the people who go into counseling.

Provide the salary schedule for counselors.

Upgrade the certification requirements for counselors.

Provide for more student - parent conferences for giving vocational and educational guidance and for reporting school work and disciplinary problems.

Provide more classes for students in occupational information. The cooperation of businesses and industries should be obtained to acquaint students with job opportunities.

Train counselors to meet students on their level rather than on the counselor's level.

Permit the students to help plan the program of counseling and let students assist each other to some extent.

Provide more in-service training for counselors including workshops, the latest techniques and procedures and to give them a better understanding of business and industry, including the ever-changing occupations. Training for group counseling should be provided so that more effective use can be made of this technique.

Improve the college training for elementary and secondary school counseling.

Place very competent counselors, by nature and training at the kindergarten and grade school levels.

Provide adequate state supervision in counseling and make it possible for counselors to have personal contact with the state supervisor.

Place a degree of responsibility for vocational counseling on the class room teachers because of their ability to give help in their specialities.

Attach professional significance to counseling and counselors.

Allow time for follow-up activities, evaluation, and research.

Allow counselors freedom to leave the school to work with parents, business, and industry.

Set up a set of standards to coordinate and give a degree of uniformity to counseling throughout the state.

Make provision for counselors to receive current information on occupations.

Provide more training in vocational education services before an individual enters the educational profession as a counselor.

Dignify the profession through full time counselors, better salaries, and recognition and support of teachers and administrators.

Appoint to counselor positions only those who meet the required qualifications, Provide for adequate individual testing and "write-ups" then make better use of the information available.

The suggestions for improvement of counseling services given by the superintendents are very similar to those given by the counselors although not as numerous. Therefore, there is no particular point in repeating those already given, but there are a few suggestions which are enough different than those given by the counselors that they should be made.

Improve the relationships between counselors and principals.

Require counselors to have broader experiences in work situations than most of them now have. Also better understanding of vocational guidance, They need a wider range of experiences so as to bridge the gap between theory and practice.

Prepare a guidebook for the use of counselors, This should probably be done by the counseling staff and the state department of education.

Provide diagnostic programs.

Train counselors to have a better understanding of students.

Seek better cooperation on the part of parents and more interest in parents in the school counseling services.

Train counselors for more realistic and practical counseling--not so theoretical. Also give less emphasis to test scores as accurate predictors.

Provide more women counselors with adequate training.

Encourage counselors to use less of the non-directive approach especially in cases where it accomplishes little or nothing.

Have counselors give more emphasis to education and vocational counseling and less on personal--too many counselors set themselves up as psychiatrists.

It should be mentioned that most of the superintendents emphasized the following points (1) the importance of having enough counselors to do the work expected of them; (2) the necessity of adequate training; (3) the importance of proper screening and selection of persons to become counselors; (4) the desirability of counselors having a better understanding of occupations and vocational guidance; (5) the need for defining counseling and setting forth its real purpose; (6) and the values to be derived from extending the counseling throughout the elementary and secondary schools.

After reading through such an extensive list of suggested improvements, one could easily reason that the existing program is not worth much. Obviously, this would not be true because many fine things are being done and there is ample evidence to show that the programs of counseling are already being improved. On the other hand, it must be recognized that more improvements are needed and the list given above should prove to be of value in offering suggestions for those who are interested in bringing about better guidance and counseling programs.

SUMMARY

In nearly every phase of this study, as the work progressed, the investigator found that great emphasis was placed upon the importance of guidance and counseling in getting young people to stay in school, in helping them to make a wise selection of their life's work, and in assisting them to obtain training for the occupation of their choice. Along with this there was criticism of present counseling programs. Therefore, counseling and guidance were studied from the point of view of school directors throughout the country, from school district superintendents in Utah, and the counselors themselves in Utah.

The study showed that counselors have many duties which relate directly and properly to their work, but they also have many other duties which have little or no relationship to the counseling or guidance of students. Some counselors reported so many things to do other than counseling that very little time was left to do the things for which they were presumably hired. When the counselors were asked what duties and responsbilities they should have as compared with what they actually have assigned to them, those mentioned were much fewer in number and much more closely related to counseling and guidance matters.

The school district superintendents were quite concerned about counselors and counseling programs. They recognized the need for good counseling and guidance but believed that the programs were not functioning nearly as effectively as they should. The duties and responsibilities they thought counselors should have are as follows:

Helping students in choosing a vocation and in selecting an educational program to help them toward their vocation.

Helping students with personal problems.

Understanding students better in order to give them better help in planning for the future.

Organizing and administering a testing program and using the results properly in counseling with students.

Helping students evaluate themselves in terms of their academic and vocational potential.

Working with parents in an honest apprasial of where the student is going.

Working with teachers to assist them in their part of the guidance program.

Helping students to adjust to school.

Giving the student orientation to a school which he or she might attend after finishing the one where presently enrolled.

Counselors listed many administrative duties as part of their assignment, however the superintendents did not list any administrative responsibilities for counselors and they stressed the fact that counselors should not be disciplinary agents.

The responsibility for planning and organizing the total guidance program seemed to be primarily the responsibility of the director of pupil personnel. Counselors, themselves, apparently had considerable responsibility in this as did some assistant superintendents and school principals. Of course, the superintendents had responsibility in this matter, but this was not mentioned very frequently.

Occupational Information

Counselors were asked to report on the procedures used to help students obtain occupational information and they were asked to rate the importance of the various precedures used. Individual conferences with the counselors was the most commonly used method and this also received the highest rating in terms of importance. The author believes this method to be quite unrealistic in terms of giving occupational information needed by the students because of the limited amount of time a counselor is able to spend with each student.

Effectiveness of Counselors in Helping Students To Select a Vocation

Counselors, superintendents, and school directors were asked concerning the effectiveness of counselors in helping students select a vocation. About three fourths of the counselors responding believed they were effective in this regard, but only 12.5 per cent of the superintendents expressed this belief. About 50 percent of the superintendents believed the counselors were not effective and 35.0 per cent believed they were partly effective. The beliefs of the counselors and the superintendents are far apart. In the schools visited outside of Utah which had counselors there was a belief on the part of the directors that within their own school the counseling and guidance programs were quite effective, but they expressed the belief that the programs in most of the schools from which they drew students were not very effective.

Counselor's Information About the World of Work

The idea has been expressed on many occasions that most counselors do not know enough about the world of work to give students the help they need in selecting an occupation. Slightly more than one-half of the counselors reporting believed they had adequate information about occupations and about one-third said they did not have adequate information, The rest of them reported partial adequacy. The superintendents reported a very different picture as only 7.5 percent of them thought the counselors had adequate occupational information, 62.5 percent believed they did not have adequate information, and 27.5 percent thought their information was partly adequate.

The counselors were also asked if they thought they could be more effective in giving vocational guidance if they had a greater understanding of occupations. Although slightly more than one half of them reported that they felt adequately prepared to give information about occupations, nearly 90 percent of them said that they could be more effective if they had a greater understanding of occupations. Only 2.7 percent of the counselors said they could not improve themselves in this regard.

Teaching Experience and Counseling

Over 90 percent of the counselors believe they should have teaching experience before becoming counselors. A number of them were uncertain on the matter and nearly seven percent said that teaching experience should not be required. Superintendents believed strongly that counselors should have teaching experience before they become counselors.

There have been problems in the past as to whether or not classroom teachers should participate in counseling and guidance and in this study 96.5 percent of the counselors reported that teachers should be involved. However, many of them made it clear that the responsibilities of the teacher were not exactly the same as those of the counselor and that each should work in his own sphere and not try to take on the responsibilities of the other.

Counseling on Problems of Personal Adjustment

In some cases there have been strong feelings about counselors spending too much time dealing with students' personal problems and that because of this not enough time is left to handle other problems of guidance including vocational guidance. The counselors were asked about this and one-third of them reported that they were concerned

primarily with personality adjustment problems. There were 63.3 percent of the counselors who said this was not their primary responsibility although they did handle such problems. There were a few who did not answer the question. The responses show that a significant part of the counselor's time is spent in dealing with personality adjustment problems. At the present time there does not seem to be an answer as to how much time should be spent on these problems. The counselors were asked whether or not they thought greater emphasis should be placed on vocational guidance and 85.0 percent of them answered that there should be.

Students' Understanding of the Work of the Counselor

Another criticism of counseling which has frequently been expressed is that students do not understand the work of the counselor and that they do not make effective use of the counselors' services. A larger percentage of counselors believe the students understand the work and purposes of the counselor than is true of the superintendents. The same situation exists regarding the effective use of counselors' services by the students.

The counselors were asked whether or not they counseled with students individually regarding their test-indicated aptitudes, interests, and abilities, and 96.6 per cent of them reported this was being done.

Involving Parents in the Guidance Program

The belief has been expressed that parents should be involved in counseling and guidance to a greater extent than they are at present. Nearly 80 percent of the counselors said they should be, 13.0 percent said they should not be and nearly eight percent had mixed beliefs on this matter or did not answer the question. Most of the school superintendents believed that parents should be involved in many phases of the school program including counseling and guidance. However, there were two or three who expressed the belief that parents are involved about as much now as they should be and that educators should have enough training to do the job they are supposed to do and should do it without involving parents any more than is absolutely necessary. A serious problem pointed out by a number of superintendents was that too many parents are simply not interested either in the school or in their children and that involving them accomplishes no useful purpose.

Certification of Counselors

Some of the superintendents suggested that the certification requirements for counselors need to be improved. Two points made by

the superintendents in this regard were that teaching experience should be required and also that some kind of experience or training which would help them gain a better understanding of the work of the world should also be included. The counselors were asked whether or not the present requirements for a Utah Counselor's Certificate are satisfactory and 81.7 percent of them answered "yes, they are satisfactory." Suggestions for improvement were requested and some of the counselors offered the same suggestions made by the superintendents. Others suggested that the training be better suited to the level in which the counselor would work, such as elementary, junior high school, or senior high school. They also suggested more courses outside of the field of psychology and that more testing experience would be desirable. The recommendations made by the counselors seem to suggest that perhaps there is need for more than one counselor in many of the schools and especially in the large ones. One person might specialize in personality adjustment problems, another in vocational guidance, and so on.

Full Time or Part Time Counseling

A few of the counselors thought that it would be better if they had some teaching assignment to go along with their counseling work. They believed this would keep them in closer contact with the students and give them a better understanding of students' problems. However, 87.1 percent of the counselors believed that counseling should be a full time job and that a counselor could do better if he were not involved in problems which teachers have with students

Ratio of Counselors to Students

In recent years there has been considerable discussion about the number of students for whom a counselor should be responsible. The study showed that in the 40 school districts of Utah there was one in which the ratio was less than 200 students per counselor, eight where there were 200 to 300 students per counselor, 21 where there were 300 to 400 students for one counselor, and seven where the ratio was more than 400 students per counselor. Three school districts did not have counselors as such, but the counseling was handled by teachers or the school principal. Where the ratio does not exceed 400 students per counselor, the number comes within the recommendations of the Northwest Accrediting Association, but counselors and superintendents thought that the counseling services could be much more effective if there were not more than 300 students per counselor.

Improving Counseling Services

In the visits made to schools throughout the country, in the interviews with superintendents, and in the questionnaires sent to counselors, requests were made for suggestions dealing with the improvement of the total program of counseling and guidance. Many excellent suggestions were made. They may be summarized in the following points:

(1) Have enough counselors to do the work expected of them, (2) provide adequate training for counselors, (3) provide proper screening and selection of persons to become counselors, (4) provide counselors with a better understanding of occupations and vocational guidance, (5) define counseling and guidance more clearly and set forth its real purposes, (6) extend counseling services into the elementary schools, (7) make use of the summer months for guidance sessions with parents and students.

CONCLUSIONS

High quality guidance and counseling are needed to a very great extent in order to help students assess their abilities and aptitudes, to help them make realistic choices of their life's work, to assist them in planning their education programs so that they can attain their goals set, to help them in finding satisfying and worthwhile employment. At present, guidance and counseling programs are not functioning as effectively as they should in these matters.

Counselors have too many things to do which do not contribute to the actual guidance and counseling of students. Therefore, the functions of counselors need to be much more clearly defined than they are at present and considerable planning and organizing are essential in order to improve the counseling services.

There is evidence that young people in the vocational technical field did not receive adequate guidance. There is further evidence that aptitude and other guidance tests can be effective in identifying vocational technical candidates.

Students in the public schools of Utah are not receiving enough occupational information in order to gain an understanding of the world of work and the place they might occupy in the labor force.

RECOMMENDATIONS

That efforts be made as soon as practicable to improve the selection and training of public school counselors. In doing this, attention should be given to the qualities and characteristics of good counselors so that only those persons become counselors who can meet the qualifications. Also, attention should be given to the counselor training programs in colleges and universities and to the certification requirements so that those who acquire counseling certificates will be of the highest quality possible.

That the State Department of Public Instruction and the various school districts set forth the purposes of the guidance and counseling programs and clearly define the duties and responsbilities of counselors. Also, the same agencies should plan the entire program of guidance and counseling for each school so that all phases of the program are included. Special attention should be given to providing adequate occupational information and vocational guidance so that young people will be given the assistance they need in making realistic choices of their life's work.

That guidance services be extended into the elementary schpols and that programs be planned and suited to this level of education.

That the ratio of counselors to students be not less than one counselor to 300 students.

That in the schools where it is practicable, attention be given to more specialists in vocational guidance, in personal guidance, in giving and interpreting tests, or in some other important aspect of the program.

That summer workshops be held for counselors for the purpose of acquainting them thoroughly with business and industry and the many job opportunities available to young people in business and industry.

That counselors be hired on a 12 - month basis (with time allowed for vacation) so they can have more time for working with parents and students than is allowed in the regular school year. The work done in the summers should be largely of a vocational guidance nature.

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ABSTRACT - The concept of industrial arts has changed from an emphasis on crafts to a more relevant approach to understanding contemporary productive society. This handbook, providing information about such a contemporary program and about the facilities to implement it, outlines in four chapters: (1) "The Alberta Industrial Arts Program" describing the local junior and senior high industrial arts program, (2) "Basic Planning Guidelines" presenting fundamental facility planning advice, (3) "Industrial Arts Laboratory Layouts" giving 10 suggested shop floor plans, and (4) "Equipment" outlining questions pertinent to equipment selection and purchase. (EM)

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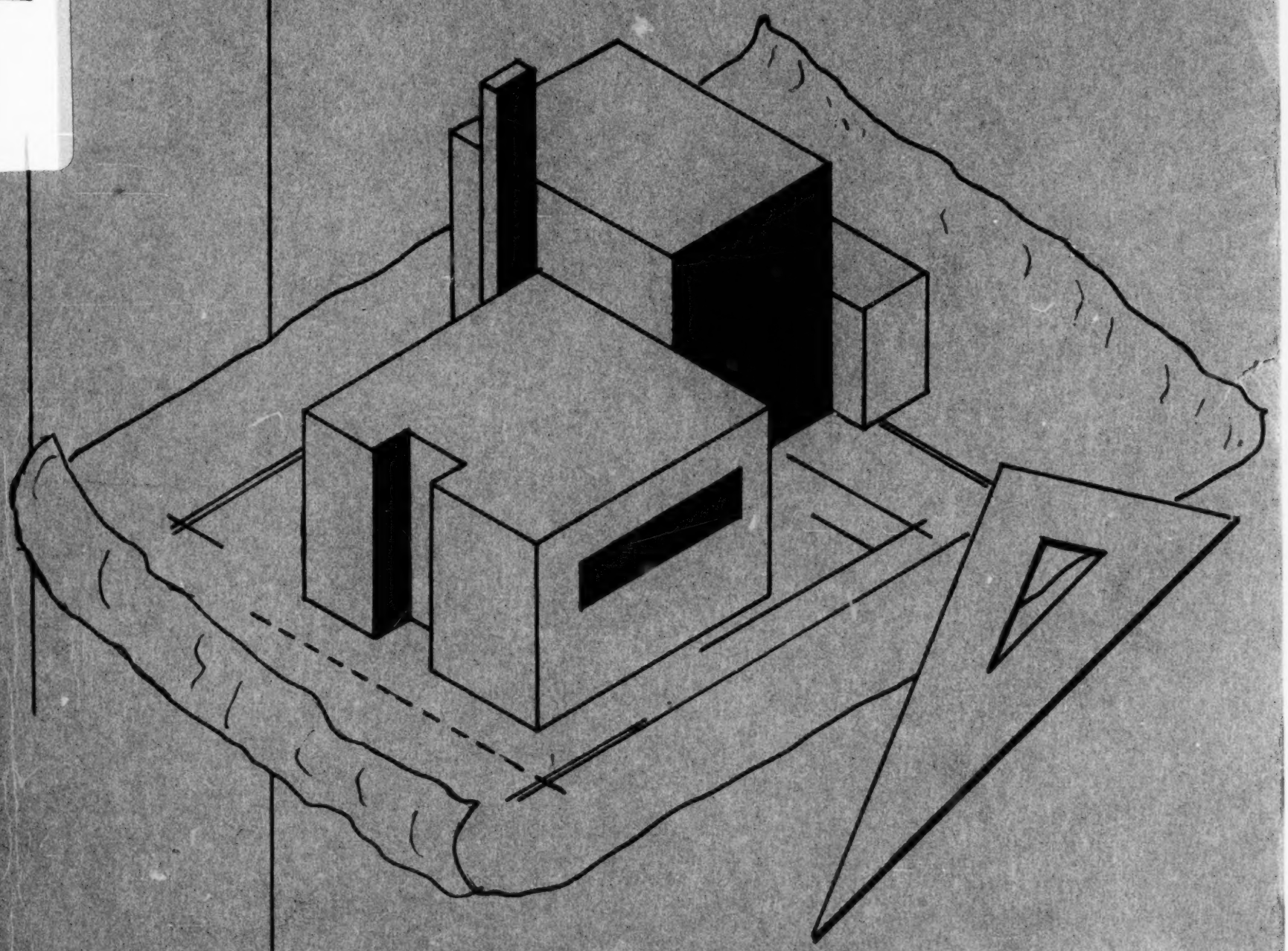
INDUSTRIAL ARTS LABORATORY PLANNING



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INDUSTRIAL ARTS

LABORATORY

PLANNING

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J. D. Harder

PREFACE

Administrators responsible for the educational needs of students should have available to them a rationale for the various courses making up the curriculum. With the many changes in programs of studies that mark the present era planners need resource material to help them.

Over the past four years the industrial arts program has been completely revised and with it the facilities, equipment and furnishings have also changed. This handbook has been written to provide information about the program and facilities to implement it. It is hoped that the experience we have had will benefit teachers, administrators and architects in planning for the future.

J. D. Harder

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CHAPTER ONE

THE ALBERTA INDUSTRIAL ARTS PROGRAM

I. INTRODUCTION

Industrial arts is a subject area that constitutes a part of general education. It has developed from an emphasis on crafts to a more relevant approach to understanding contemporary productive society. The following paragraphs describe the program.

II. INDUSTRIAL ARTS EXPLAINED

Industrial arts has a unique place to fill in an education program that has as its objective the development of an informed citizenry in a highly industrialized society - a society that must learn to use and control the technologies. Schools must help prepare people to manage an industrial complex unknown before and work in vocations not yet described. Industrial arts is a subject area the scope of which introduces students to all aspects of productive society with the objectives of:

1. making them aware of the multiplicity of occupational opportunities by providing exploratory experiences in selected technologies and material areas prevalent in productive society.
2. helping them develop an understanding of the applications of the academic disciplines through their activities in the solution of practical problems.
3. helping them discover and develop their interests and talents with a view to future study and vocational choice.

4. helping them to understand the multiplicity and interrelationship of educational or occupational opportunities.
5. helping them develop attitudes of safety with a respect for safe working habits and practices in the use of tools, equipment and materials.
6. helping them develop attitudes of personal and social responsibility.

A. Junior High School Program

To achieve these objectives the Alberta curriculum in industrial arts spans six years of public school starting in Grade Seven. During the first three years (Grades Seven through Nine) students study a minimum of three different units each year. More units per year may be studied if the teacher and facilities are such to make it possible. Each of these units is thirty hours in length and may be chosen from the following: power mechanics, electricity, electronics-computer, metals, wood, plastics, ceramics, graphic communications, graphic arts, and one of industrial crafts (art metal, leather, lapidary).

The content of the units is highly structured through the use of instruction sheets, manuals and audio-visual materials.

The program is implemented in a laboratory that has a planned work area or "bay" for each of the units. Each area is large enough to accommodate from four-five students with the machines, tools and materials needed. This is known as a "multiple-activity" organization for learning. Class sizes are limited to a maximum of twenty students with the average being fifteen. On a visit to

such a laboratory one would see small groups of students busily engaged in many different activities.

Small school systems generally have one laboratory with both the materials areas and the technologies represented. Where several laboratories are required the units are broadly divided into those relating to materials in one and the technologies in the other. An example of the units provided in a single laboratory for a three year junior high school program is as follows:

Grade 7

Graphic Arts
Plastics
Ceramics

Grade 8

Graphic Comm.
Wood
Electricity

Grade 9

Electronics
Power Mechanics
Metals

Multiple-Activity Laboratory

B. Senior High School

At the senior high school level (Grades Ten through Twelve) there are two programs to choose from. One is called "General" and the other "Cluster".

1. Industrial Arts General 10, 20, 30

For those students who attend a school with limited industrial arts facilities a general program is most suitable. Content is broad in scope and extends the knowledge obtained

in the junior high school. This course can also be used by students who wish to continue with vocational courses following Grade Ten.

Students in the program have experiences in four different units each year selected from a total of twenty-one. These units are chosen from the areas of electronics, materials, graphic communications or power mechanics.

A typical three-year sequence could be as follows:

I.A. General 10	I.A. General 20
Basic Electricity-Electronics	Electronics (Systems)
Wood	Metals
Drafting	Photography
Internal Combustion Engine	Production Science

I.A. General 30

Plastics
Other Power Sources
Hydraulics
Hot Metals

Each unit represents thirty to thirty-three hours of work.

2. Industrial Arts Clusters

The second program at the senior high school level is called the "cluster" program. The courses provide time to gain greater depth in a field consisting of closely related technologies. These clusters are built around four major areas:

(1) Electronics - electricity, electronics, computer

(2) Materials - wood, metals, plastics, earths

(3) Graphic Communications - drafting, printing, photography lithography

(4) Power Mechanics - power scources and transmission

Each cluster has content for one hundred and thirty hours in each of three years of high school.

3. Other Alternatives

It is quite feasible and educationally sound to allow certain students to select portions from both the General and the Cluster program. For example a student could choose to take the Electronics cluster for five credits and in the same year select four units from the remaining clusters in the General program for an additional five credits. He would then be registered in Industrial Arts Electronics 10 and Industrial Arts General 10.

III. ORGANIZATION FOR INSTRUCTION

The multiple-activity concept of organization and instruction extends through the high school. Both the general and the cluster programs require this method of organization. The advantages of such an approach include:

- a well organized instructional program (instruction sheets, audio-visuals, manuals, reference books).
- the inter-relationships of the technologies can be better illustrated.
- provision can be made for many different areas of activity which would otherwise not be economically possible.
- it is possible to better meet the needs and interests of a heterogeneous student group, through an environment that resembles in part at least, the diversity of activity found in the world of work.

The instructional program needs to be highly structured and well organized. Each unit of work requires a student workbook which in essence partly outlines his program from day to day. Text, reference,

and audio-visual materials are programmed to coordinate with the workbooks so that students become responsible in some part for their own achievements. Periodic evaluation of student progress is made by the teacher.

While students carry out the major portion of their activities in the area or bay designated for it, they, never-the-less, get some familiarity with the various other activities that are going on around them. In addition the new laboratories have a central conference room where small groups can be assembled for specific instruction, reference reading, report writing or film viewing.

IV. FACILITIES AND EQUIPMENT

Wood Area
Of Multiple-Activity Laboratory

The industrial arts laboratories are designed to accommodate multiple-activity programs. Each area of activity has been studied for the requirements in space, equipment, workbenches, storage and utilities.

The activity area or "bay" is made as self contained as possible. The electronics area, for example, contains all the equipment, references and experimental material required, as well as storage.

Equipment chosen is adequate for instruction concerning concepts and processes outlined in the course of studies.

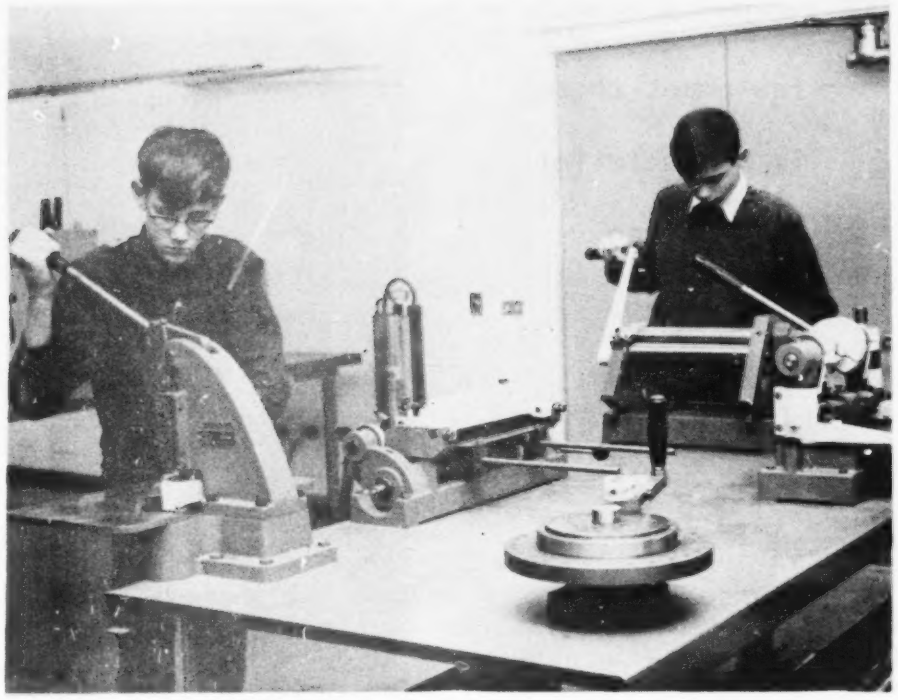
Electronics Area

V. CONCLUSION

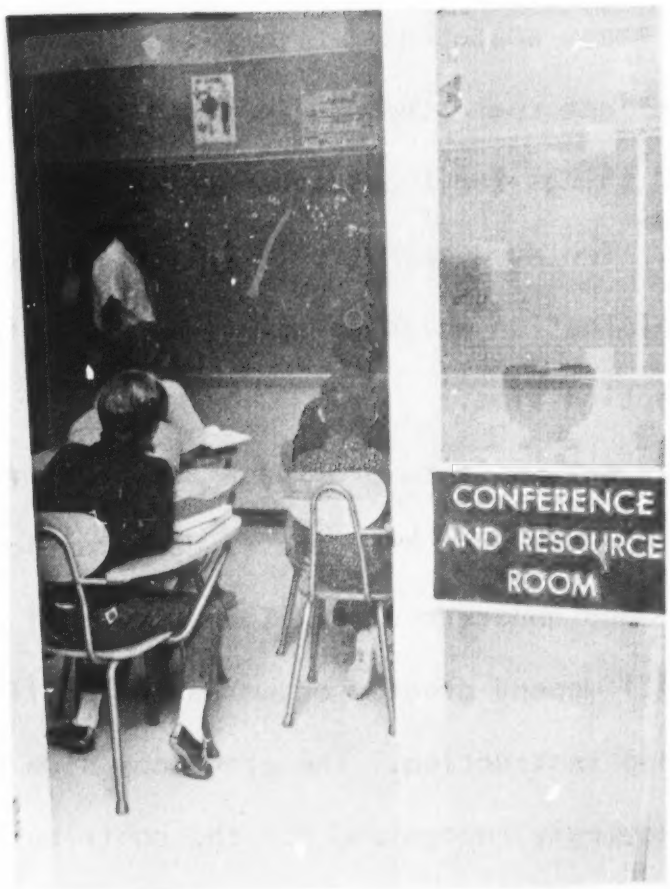
In Education In A Technological Society, a UNESCO publication, the author makes these statements: "Many of our difficulties today are caused by the fact that students in school do not learn to think, or to do and find things for themselves--which should be the first aim of education. Too much emphasis is laid upon the communication of second-hand information which is apt to stay in the pupils' mind only until examination time.

If general education is to provide a broad and realistic introduction to life, it must help the student to close this gap in his experience and understanding. The success of general education in this school will depend greatly on workshop facilities and the quality of workshop instruction. The practical side of school life needs to be increasingly recognized for the contribution it is able to make to general education--it is an opportunity for children to

develop their inherent manual and artistic skills, without in any way leading to a specific vocation."



Metals Area



CHAPTER TWO

BASIC PLANNING GUIDELINES

It is the purpose of this handbook to suggest guidelines for planning industrial arts laboratories. It is not the intention to standardize all the facilities. There is much virtue in planning each laboratory to meet the needs of the locale. Furthermore, the many varying circumstances of construction, sites and materials militate against any one standard design. There are, however, a number of general guidelines which one should be aware of when developing plans.

I. PROPORTIONS AND SHAPE

A. Rectangular

This is the most commonly used shape and has many benefits which range from economy of construction to efficient interior layout. Proportions of 1 : 1 1/3 to 1 : 1 1/2 are recommended

e.g. a 3,600 sq. ft. laboratory might be 50 x 72

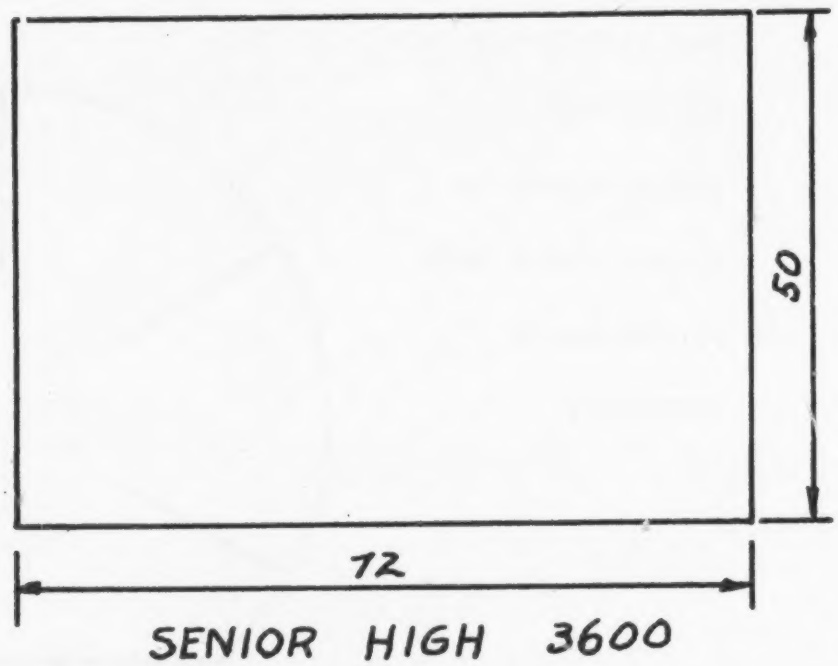


Fig. 1 Rectangular Laboratory

B. Square

A single teacher laboratory of the square shape lends itself to effective use in some types of layout. Costs are increased because of long roof spans. Effective use of the square shape -- see page 33, can be made where several teaching stations are planned in one large open area. e.g. a single area of 4,800 sq. ft. with provision for two teachers and two classes at one time.

C. Other Shapes

Other geometric shapes may be used but each presents problems relating to incorporation in the total design of the school and cost of construction.

1. Round

The round or semi circular shape, with the curved walls helps to reduce the noise level. It also keeps the walking distance from area to area to a minimum.

One difficulty is to add future enlargements to such a shape when expansion is necessary.

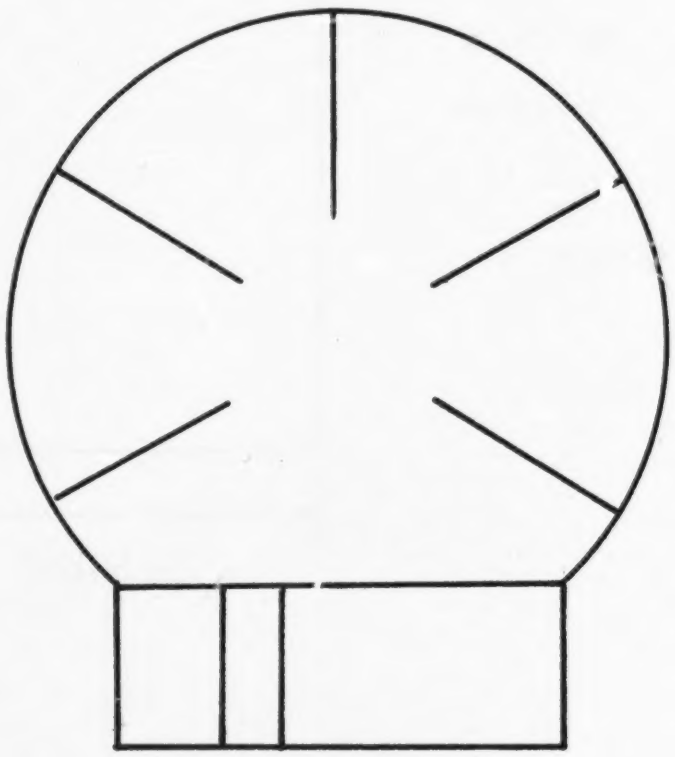
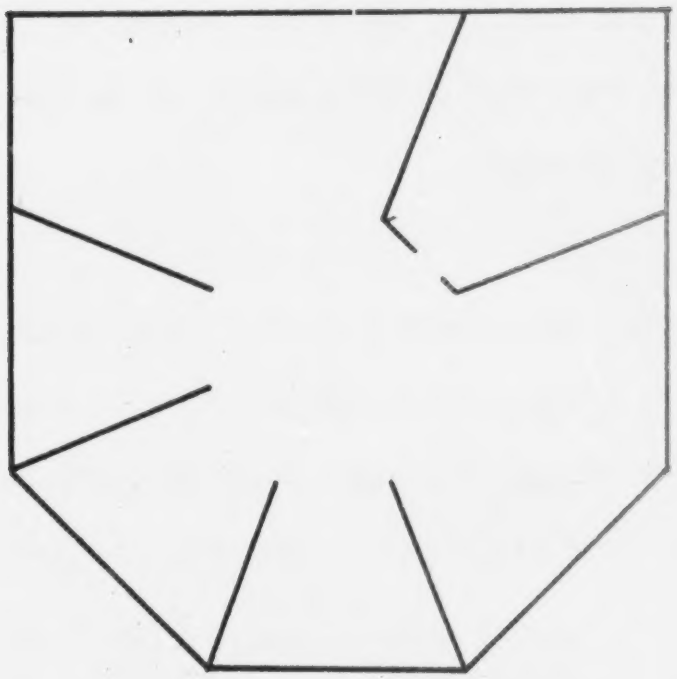


Fig. 2 Round Laboratory

2. Hexagon and Octagon

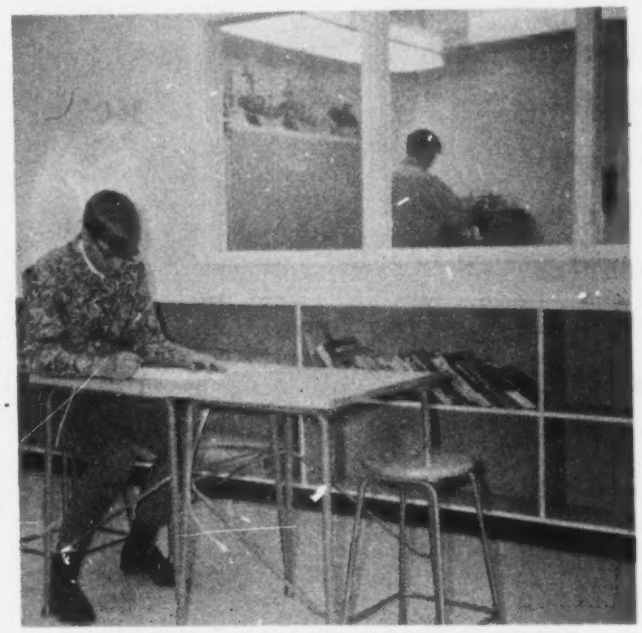


This has the same advantages and disadvantages as the round.

Fig. 3 Multi-Sided Shape

II. AREAS

The recommended areas allotted for each student might be 150 sq. ft. for junior high and 180 sq. ft. for senior high where only one laboratory is provided. The total space could thus accommodate about twenty students. This would include auxiliary space for storage, conference room, wash area, office and darkroom. When two or more laboratories are built adjacent to



Conference Room

each other the basic area per student may be reduced to 120 sq. ft. Such laboratories complement each other and a saving in space per pupil is realized without reducing the effectiveness of the facility. This is because of the fact that certain areas can be shared by both classes. e.g. conference room

A. Area Allotments

Subject to other considerations, the areas in square feet recommended for the various units and services in a multiple-activity laboratory are given below. Such an organization provides space for four-six students per instruction area.

	Junior High (1 Teacher)	Senior High (1 Teacher)	Multiple Labs (2-3 Teachers)
Electricity- Electronics	200	250	400
Power Mechanics	300	400	500
Graphic Communications	400	460	460
-Photography	100	100	120
Graphic Arts	150	180	200
Wood	350	500	600
Metals			
-Machine Shop			
-Welding	360	460	540
-Sheet			
Plastics	150	150	200
Ceramics	150	150	200
Materials Testing Area	100	100	200
Crafts	100	150	200
Other-			
-Finishing Room	120	120	120
-Storage	240	300	600
-Offices	80	80	160
-Conference Room	200	200	300
	3,000	3,600	4,800

B. Clusters

The recommended space for cluster areas might be allocated as follows: (Each cluster requires one teacher)

1. Electronics	1,200	
-Storage	100	
-Office	80	
		1,380
2. Power Mechanics	2,100	
-Engine Running Room	100	
-Storage	150	
-Office	80	
		2,440
3. Graphic Communications	1,200	
-Storage	80	
-Darkroom	120	
-Office	80	
		1,480
4. Materials	2,400	
-Storage	400	
-Finishing Room	120	
-Office	80	
		3,000
Areas to be used in Common		
Research and Material Testing	400	
2 Conference Rooms @450	900	
		1,300
		9,600

In a large school offering instruction in four cluster areas the total space recommended would be 9,600 sq. ft.

C. Laboratory Site

1. The site should be large enough for future expansion of the building.
2. Each laboratory should have independent access from the main building especially for students that are bussed in, and for night classes.
3. Laboratories should be above ground level.
4. Should be accessible by service drive.

D. Laboratory Plan

Laboratory areas for industrial arts should be planned for flexibility so as to allow for the rearrangement of furniture and equipment.

1. Partition walls should be kept to a minimum.
2. Partitions used should be non-bearing and free of ducts, internal conduits and pipes.
3. All parts of the laboratory should have visual access from the main activity area.
4. Utilities should be placed on perimeter walls where possible. Provision should be made for these services to be moved or extended; gas, water, air, electricity.
5. Provision must be made for the removal of exhaust fumes where such are generated. An engine running room may be advisable in the power area. (See Chart 1)
6. Provision should be made for dust removal by either a built in exhaust system or by collectors placed on the machines.

7. Technologies or material areas that are closely related should be placed in close proximity to each other.
8. Provision for a clock should be made.
9. Provision should be made for television outlets in the conference room.
10. Spacing between benches and machines and other equipment should be sufficient for students' safety and free passage. Safety zones should be clearly marked.

E. Structural Considerations

1. Walls - masonry construction, painted or plywood at least to 48 inches from the floor and suitable sound absorbent material from there to the ceiling.
2. Ceiling - height should be a minimum of 10 feet to underside of beam and covered with sound deadening insulation.
3. Doors - proper exit doors as required by the fire regulations must be installed. One standard size garage door (6' x 8') or double doors should be installed in the power mechanics area of high schools. This provision is not necessary for junior high school laboratories.
4. Coloring - a pleasing color scheme should be planned. Light colors are preferred. The use of color dynamics and area color coding could prove useful. Area colors as follows are suggested:

Power	-Blue
Electronics	-Red
Wood	-Green
Metals	-Gray
Plastics	-Light Green
Ceramics	-Purple
Graphic Communications	-Yellow
Materials Testing	-Orange

5. Flooring - floors should be pleasing in appearance and of a material suitable to the activity (Chart 1)

6. Other - a coat rack should be provided either in the corridor next to the laboratory or near the entrance to the laboratory. (This is necessary when students are bussed in.)

   -an attractive display cabinet should be built into one wall near the laboratory entrance and face onto the corridor.

   -moveable chalk and bulletin boards should be provided in strategic locations.

   -adequate storage needs to be provided for materials and student projects.

   -keyed class or student lockers are recommended.

F. Special Considerations

1. Heating

   a. Heating units should be of low noise level and of slow air movement type. Registers should be accessible for cleaning.

   b. Closed areas such as the darkroom and the conference room should be adequately heated and ventilated. A hot air duct into the darkroom helps to pressurize the room to reduce dust and also keep the temperature constant.

2. Lighting

   a. Lighting should be adequate and safe.

b. Artificial lighting should be provided for at the intensity necessary for the activity.

-general lighting	-50 candlepower
-drafting	-100 candlepower
-machines	-individual lights
-darkroom	-safe lights
-electronics area	-incandescent lamps

3. Electrical Wiring

a. At least one master control switch (keyed) to control all outlets (except lights) should be installed with at least one auxiliary panic button strategically placed.

b. Electrical outlets should be provided on every unbroken wall space of four feet or more at intervals of six to eight feet. (Chart 1)

c. Special wiring of 220 volts must be provided in areas as noted in Chart 1.

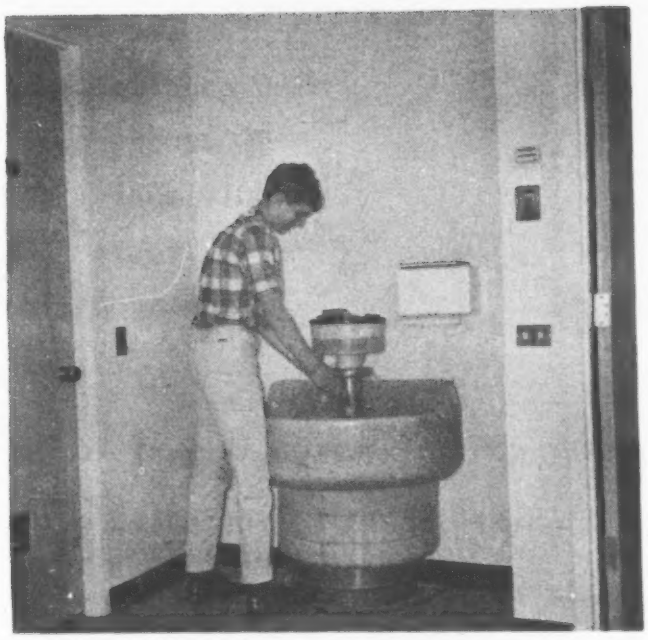
d. Floor outlets need to be provided for certain machines that must be placed away from the wall such as the circular saw and jointer. These outlets should be recessed and placed flush with the surface of the floor.

4. Plumbing

a. Adequate washing facilities should be provided in each laboratory.

b. Each laboratory should be provided with a drinking fountain.

c. Use regular developing sink in darkroom.



Wash-Up Area

5. Furniture

   a. Cupboards with sinks will need to be permanently built-in.

   b. As much of the furniture, work tables, tool boards, etc., as possible should be portable.

   c. Table tops in all areas are recommended to be 30" wide.

   d. In the teacher's office a formica covered shelf 30" wide could be placed across one end to serve as a desk. Two double drawer filing cabinets could be placed underneath it. (Fig. 4)

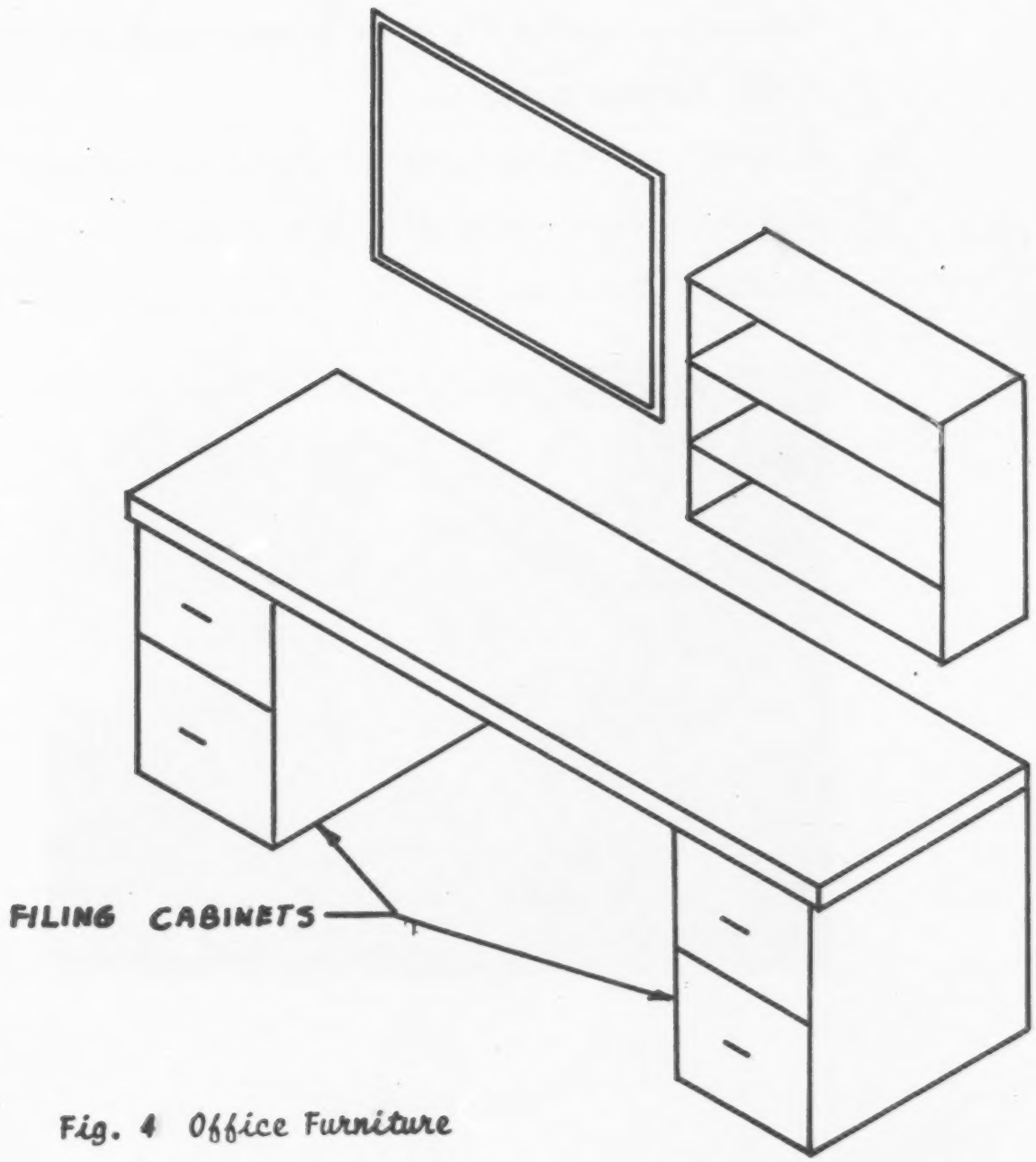


Fig. 4 Office Furniture

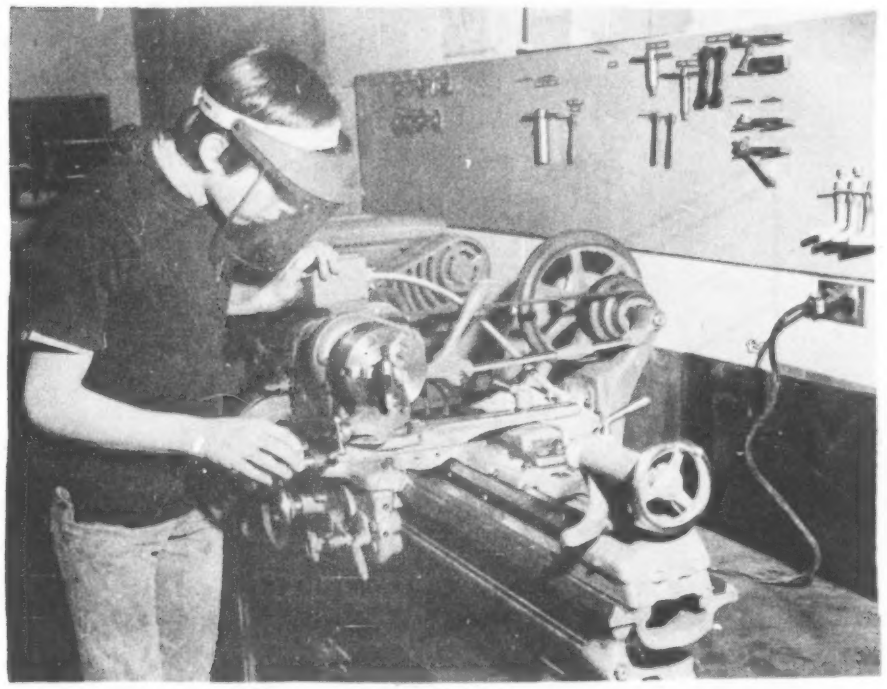
6. Equipment Placement

a. Equipment should be placed so that it can be safely operated. Safety zones around each machine should be designated on the floor by painted lines or tape.

b. Equipment, except that which is of the portable type, should be fastened securely to a bench or other stable foundation.

c. Equipment should be placed at a comfortable working height for the students.

d. Machines that create vibration should be cushioned with shock absorbing material and in most cases placed on individual tables.



Machine Shop

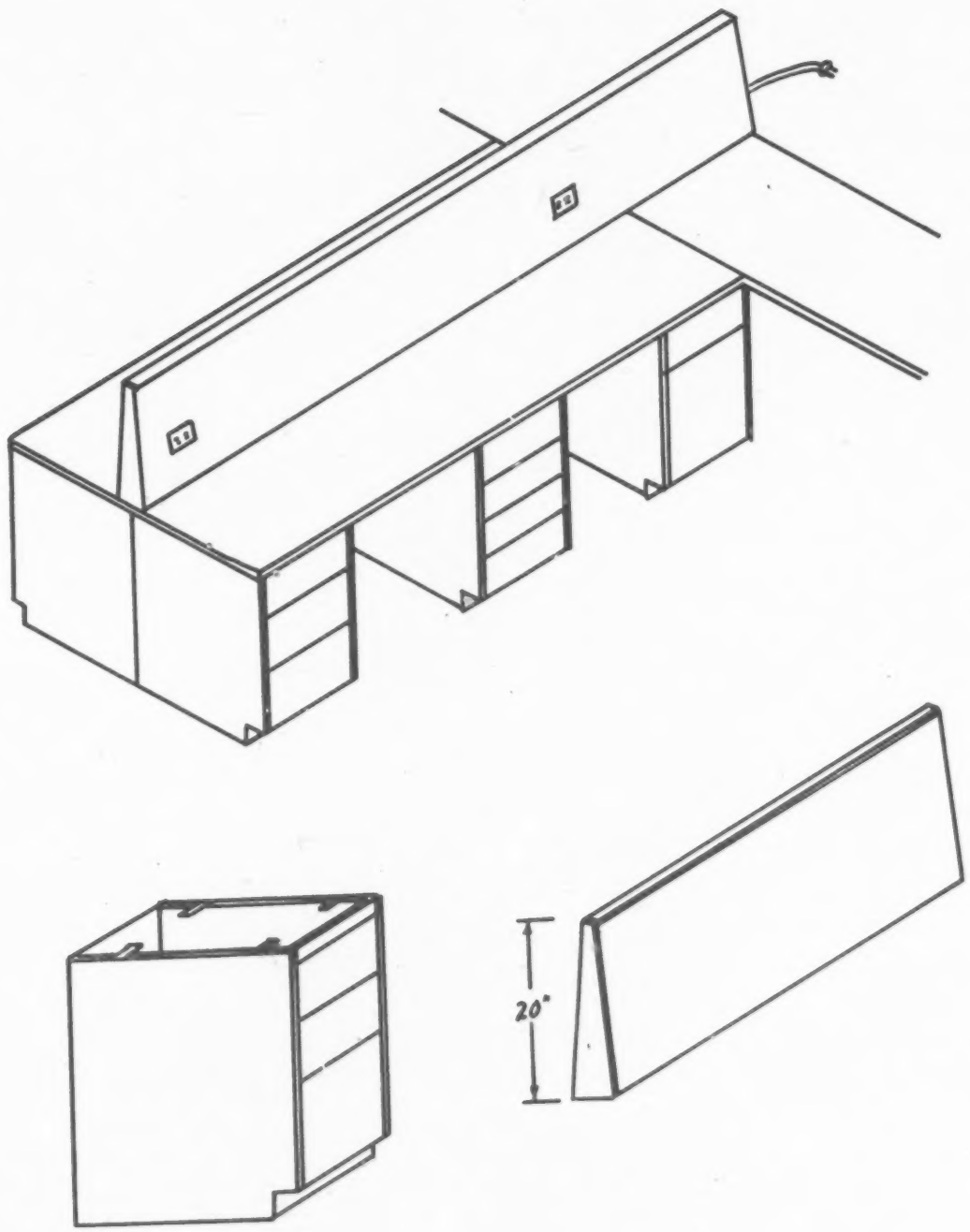


Fig. 5 Suggestions For Modular Furniture

CHART 1

SPECIAL CONSIDERATIONS FOR THE VARIOUS AREAS IN THE INDUSTRIAL ARTS LABORATORY

AREA	FLOOR	TABLE TOP	ELECTRICAL	GAS	SINK	EXHAUST	OTHER
Electricity	Tile or Wood	Glasweld or Linoleum	4 duplex receptacles 110V	No	No	No	
Electronics-Computer	Tile or Wood	Glasweld or Linoleum	8 duplex receptacles 110V	No	No	No	Incandescent Lights, Glassed Off (Senior High)
Power Mechanics	Concrete-Painted	16 Gauge Metal Cover	4 duplex receptacles 110V	No	Yes-in engine running room	Yes-in engine running room	Compressed Air
Graphic Communications	Tile or Wo[illegible]	Arborite or Glasweld	4 duplex receptacles 110V	No	No	No	Good Light Glassed Off
Photography	T[illegible]r Wo[illegible]	Arborite or Glasweld or Moulded	2 duplex receptacles 110V	No	Yes Temp. reg. Water	Yes	Special Lighting Light Trap
Graphic Arts	Tile or Wood	Arborite or Glasweld	3 duplex outlets 110V	No	Yes	No	Glassed Off (Senior High)
Wood	Tile or Wood	Laminated Maple	6 duplex outlets 110V 1 floor outlet 220V 2 duplex outlets 220V	No No	No No	Dust Collector System is Desirable	
Metal	Concrete	16 Gauge Metal 30" Wide	4 duplex outlets 110V	Yes	No	Yes	
Welding (Senior High)	Concrete	Fire Brick & Steel	220 Volt-Heavy Current	No	No	Yes	Shielded (Arc Welding)
Plastics	Tile or Wood	Glasweld or Arborite	4 duplex receptacles 2 - 220V	Yes	Yes	No	Compressed air Water
Ceramics	Concrete (Drain)	Glasweld	2 duplex receptacles 1 - 220V for kiln	Yes	Yes Special Clay Sump	No	Floor Drain Recommended
Material Testing	Tile Wood or Concrete	16 Gauge Metal and Glasweld (section of each)	1 duplex 220V 4 duplex receptacle 110V	Yes	Yes	Yes	
Paint Room & Storage	Concrete	Metal - Galvanized	Lights - vapor proof	No	No	Yes	Compressed air and Exhaust
Material Storage	Concrete			No	No	No	Racks
Office	Tile		2 duplex	No	No	No	Telephone outlet
Conference Room	Tile		4 duplex T.V. Outlet	No	No	Ventilated	

CHAPTER THREE

INDUSTRIAL ARTS LABORATORY LAYOUTS

I. INDUSTRIAL ARTS LABORATORIES

General considerations for such laboratories were discussed in the previous chapter. The following plans show the layout of various facilities. Examples include one teacher and multiple teacher laboratories. The basic principles of flexibility within the total area, utilities placed on perimeters and self-contained work areas were implemented in these drawings. Most of the work benches and counters shown are moveable. Where two benches are placed back to back a tool board is used as a divider between the areas.

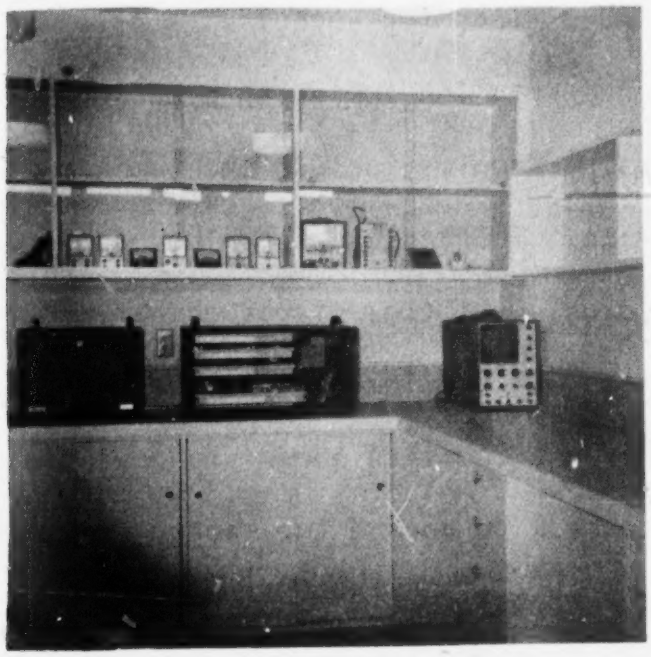
There are a number of basic principles that apply to all industrial arts laboratory planning. These include:

1. That the interior layout of furniture and equipment be made as flexible as possible by:
   a. reducing load bearing partitions
   b. using portable benches rather than built-ins
   c. placing utilities on perimeter walls
2. That the units of instruction be determined prior to planning the layout of the laboratory. Consideration must be given to the type of laboratory being planned; whether it be a single comprehensive laboratory for junior and senior high school, a junior high school only or for a senior high school cluster program.

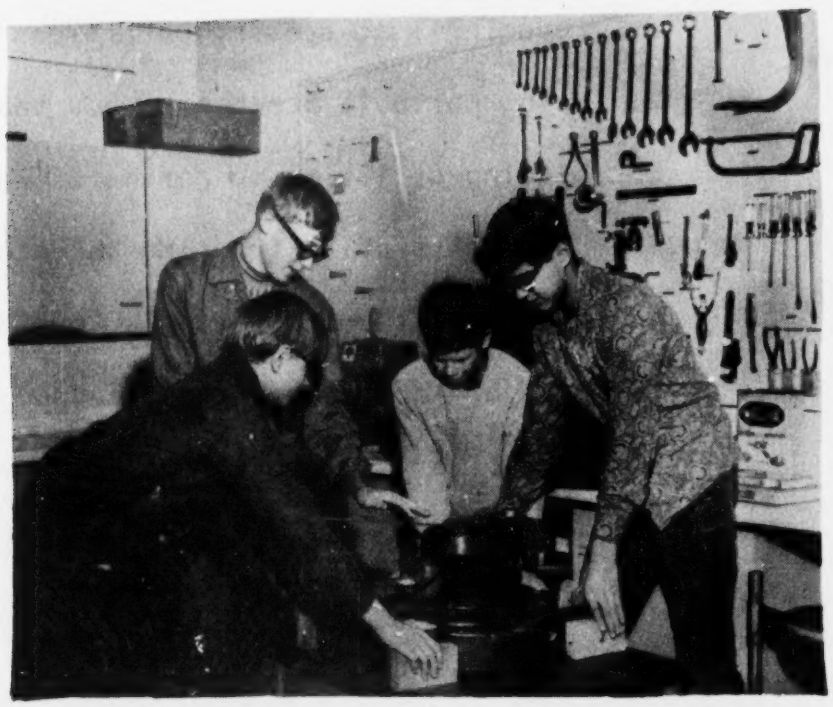
3. That common areas for storage and conference be provided.

4. That the possibility of future expansions be considered in the initial planning and that provisions be made to facilitate it.

A. Junior High School Industrial Arts Laboratories



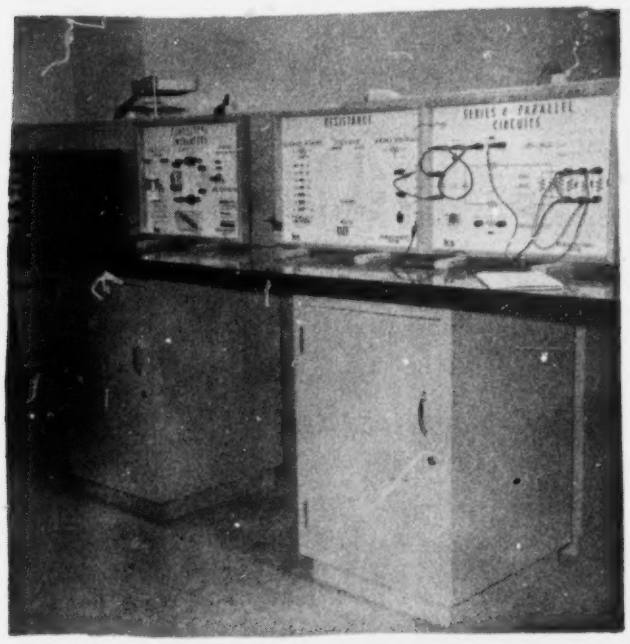
Electronics Area



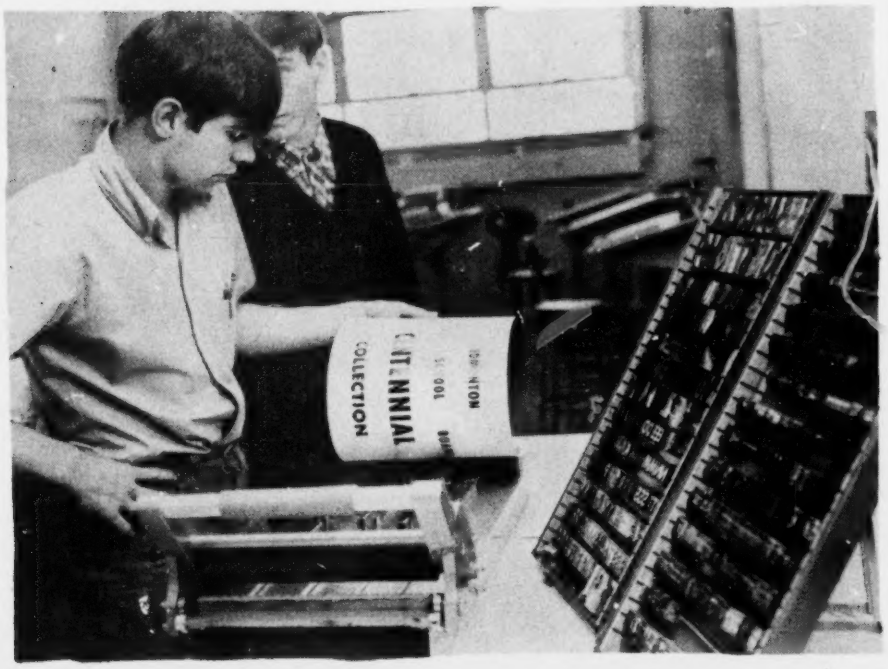
Power Technology Area

B. Junior-Senior High School Industrial Arts Laboratories

The following are examples of layouts that have proved functional and are suggested for ideas.



Electronics Area



Graphic Arts Area

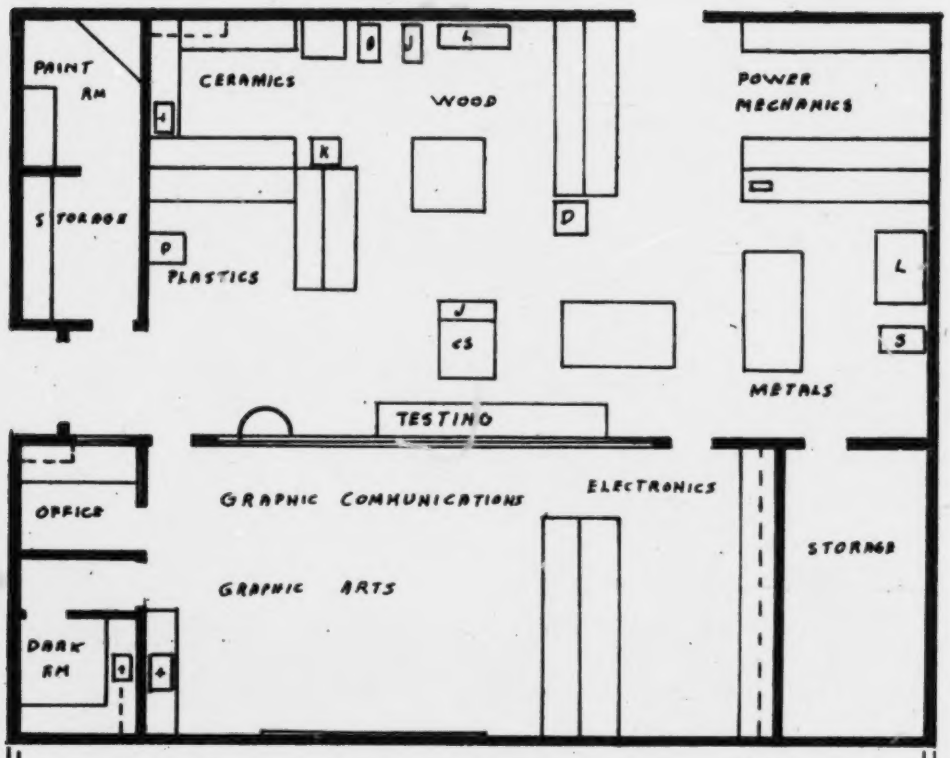


Fig. 6 Junior High School Industrial Arts Laboratory
3,000 Sq. Ft. 3/32"

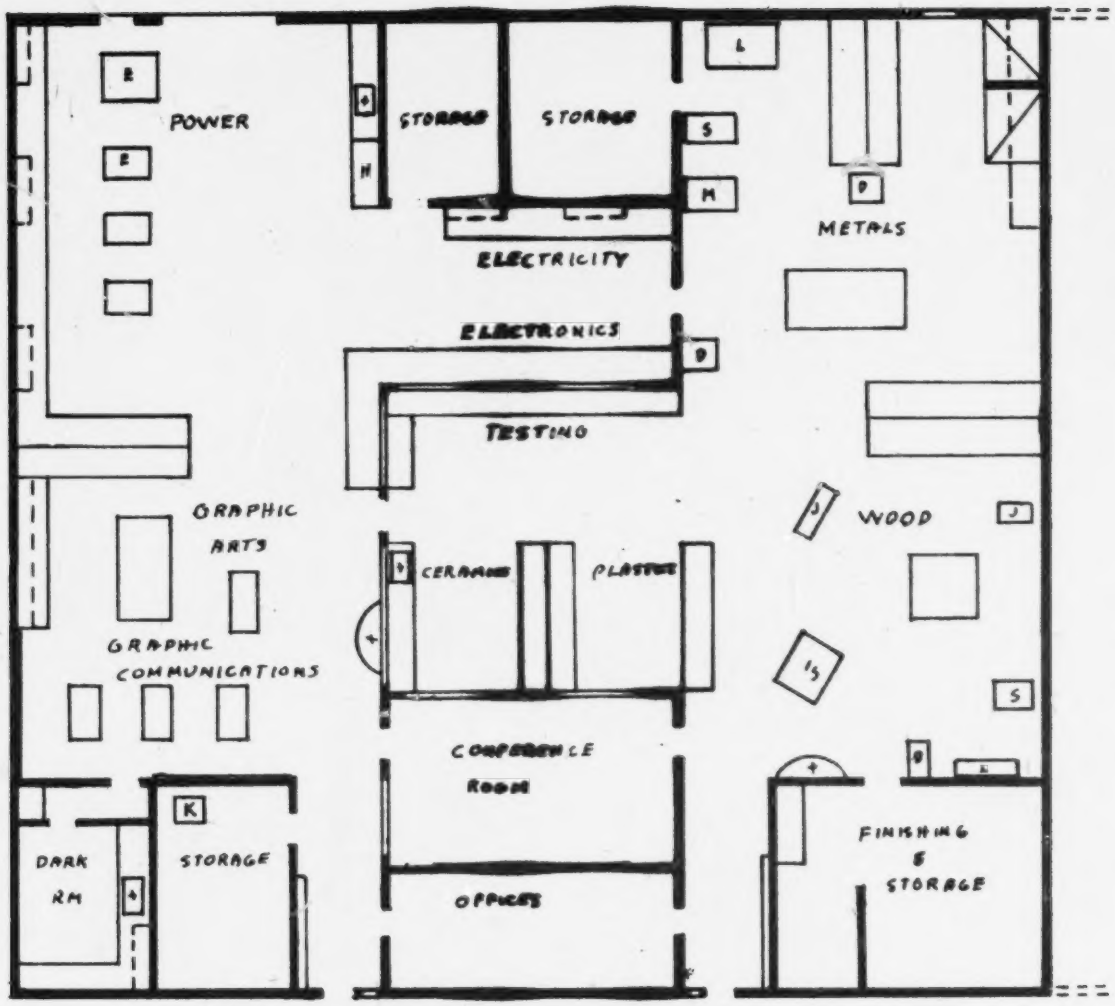
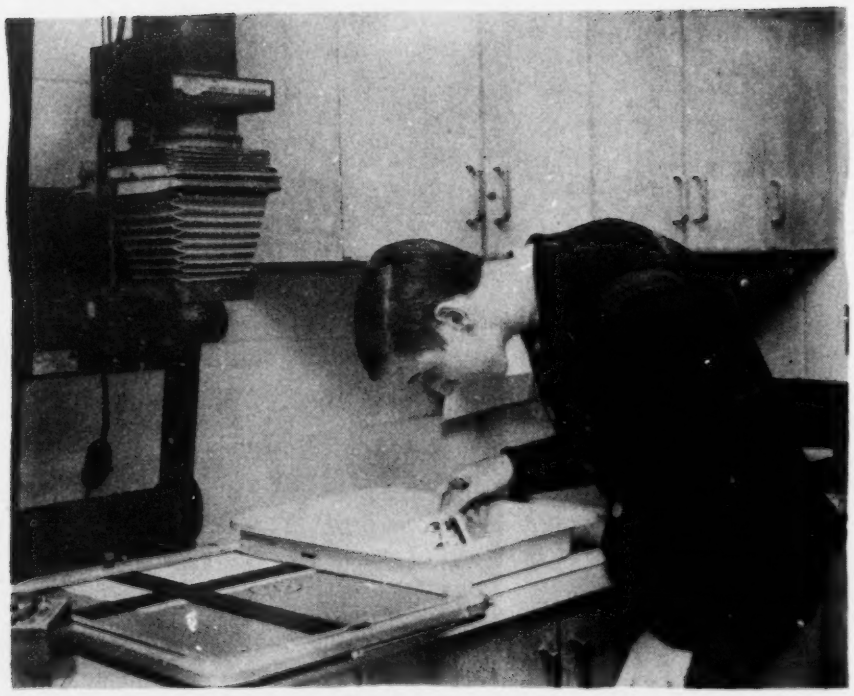


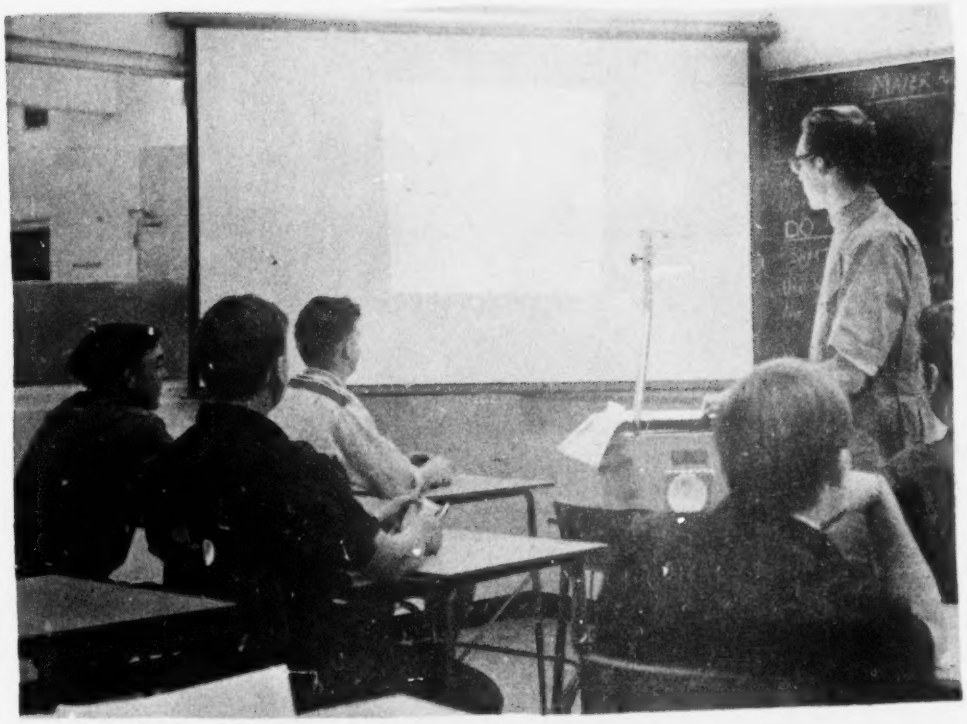
Fig. 7 Two Teacher Industrial Arts Laboratory
4,800 Sq. Ft.

2027

Computer Area

Photography Area



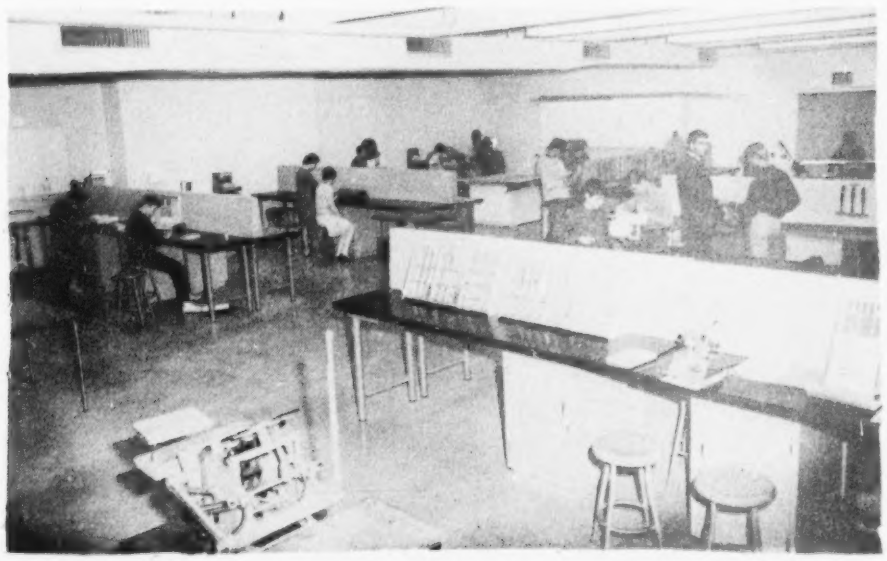


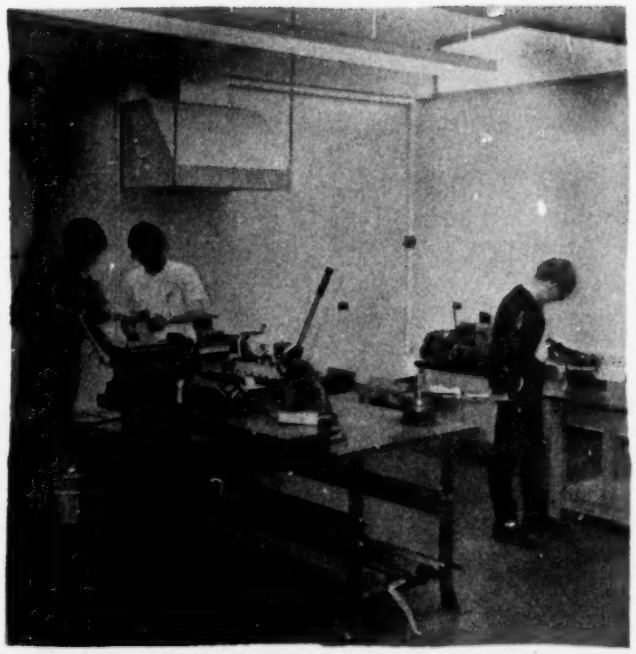
Conference
and
Audio-Visual
Room

Ceramics
Area

C. Multiple Laboratories

Considerable flexibility in layout is possible when a number of teaching stations are planned. The possibilities range from individual laboratories to large open areas where three or four teachers might work as a team.





Metals Area

Storage Area

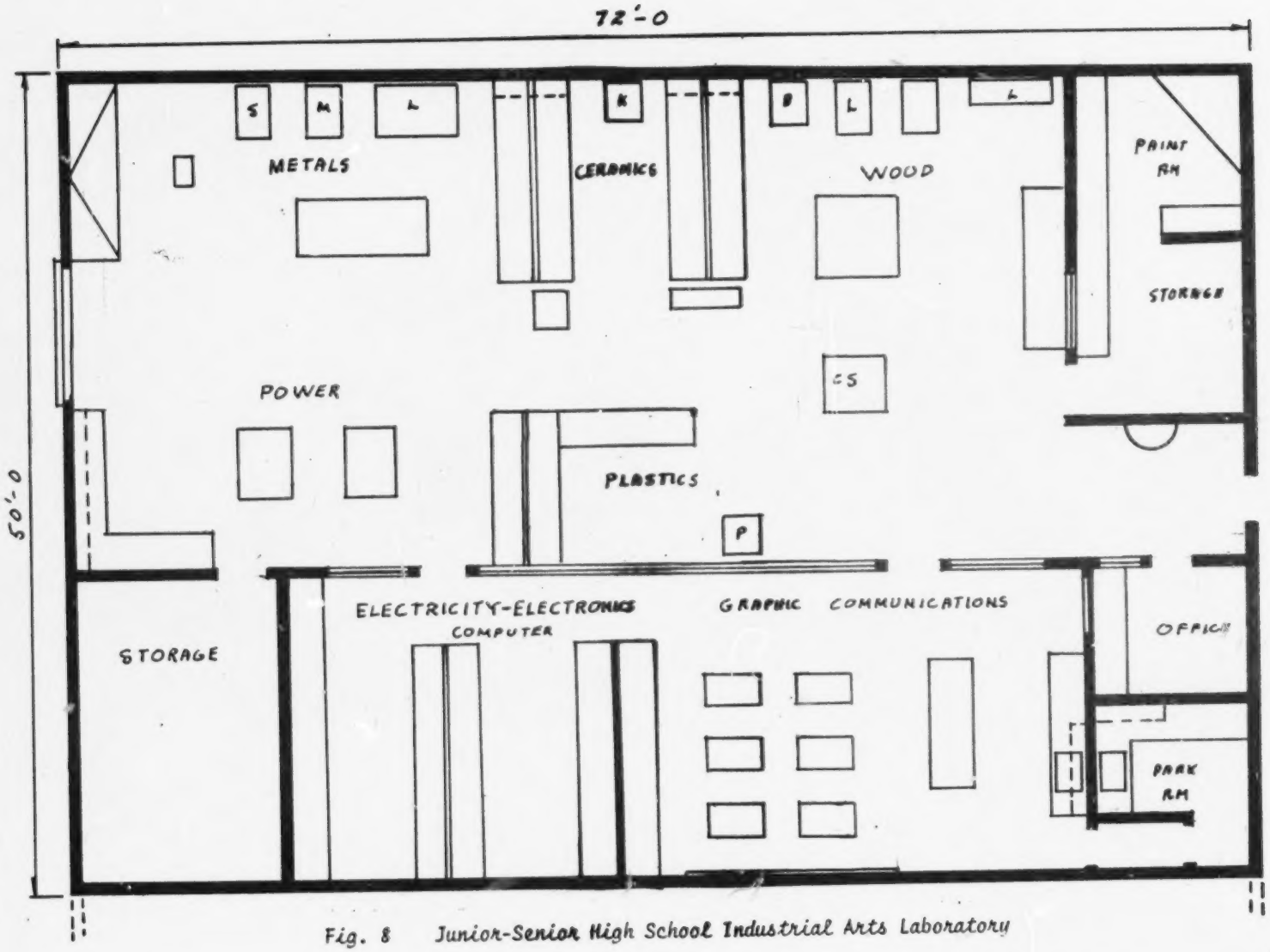


Fig. 8 Junior-Senior High School Industrial Arts Laboratory

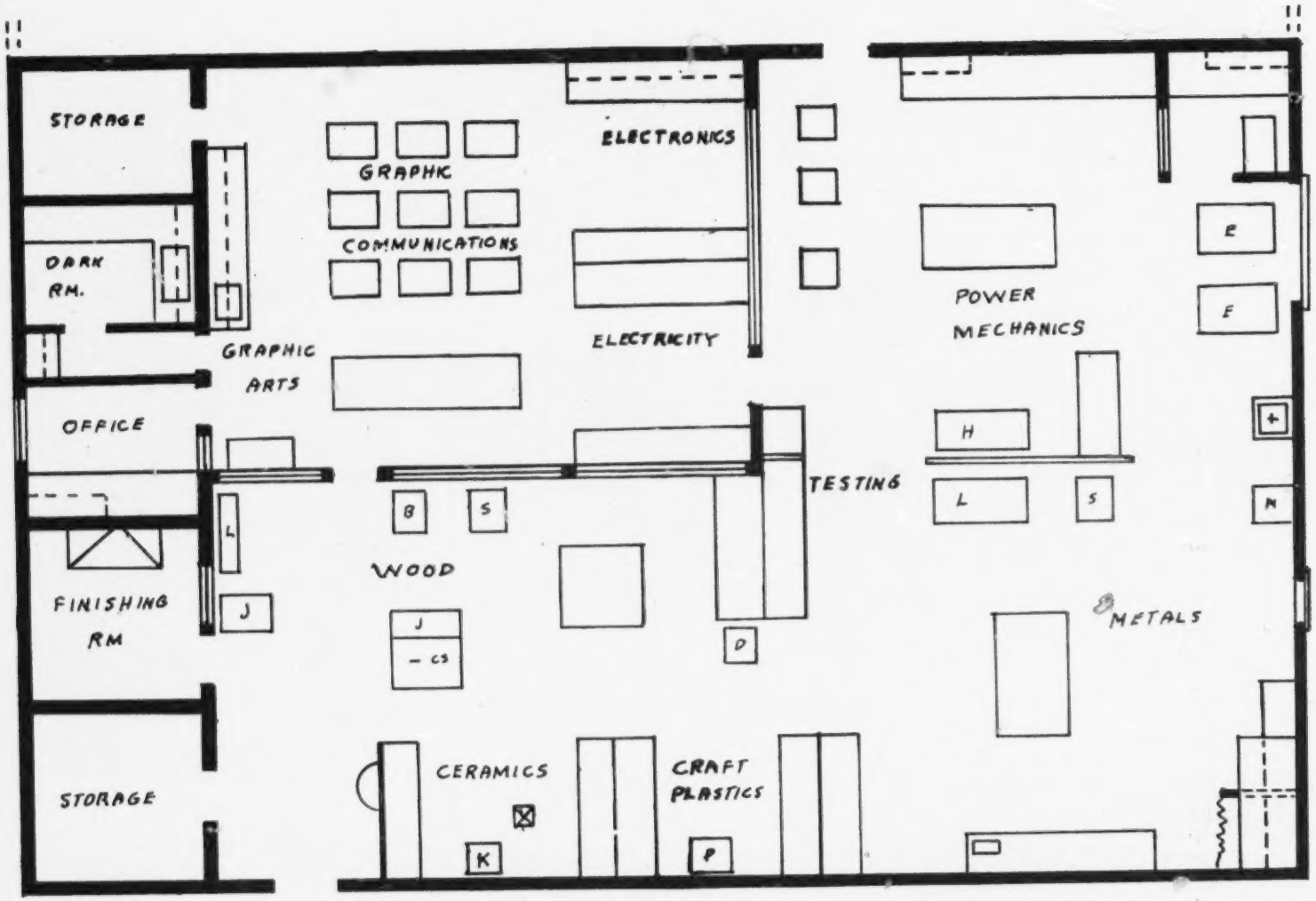


Fig. 9 Junior-Senior High School Industrial Arts Laboratory
3,600 Sq. Ft.

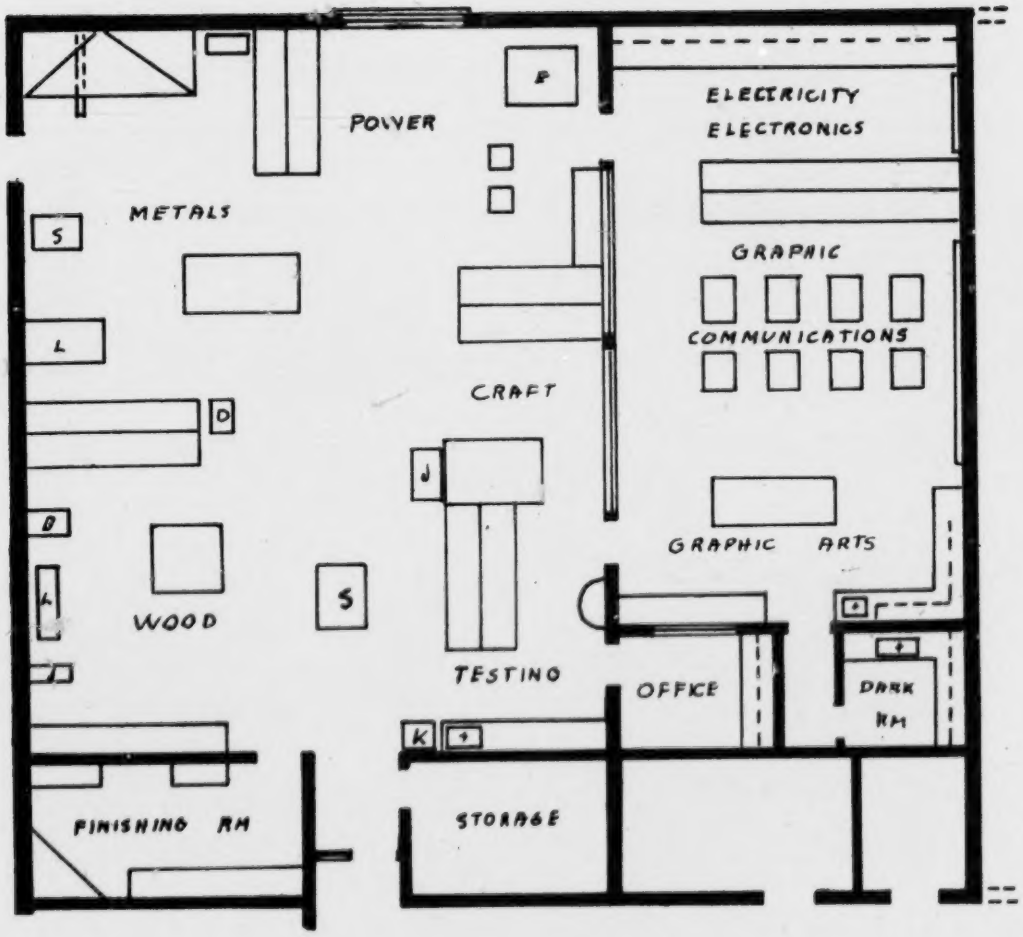


Fig. 10 Junior-Senior High School Industrial Arts Laboratory 3,600 Sq. Ft.

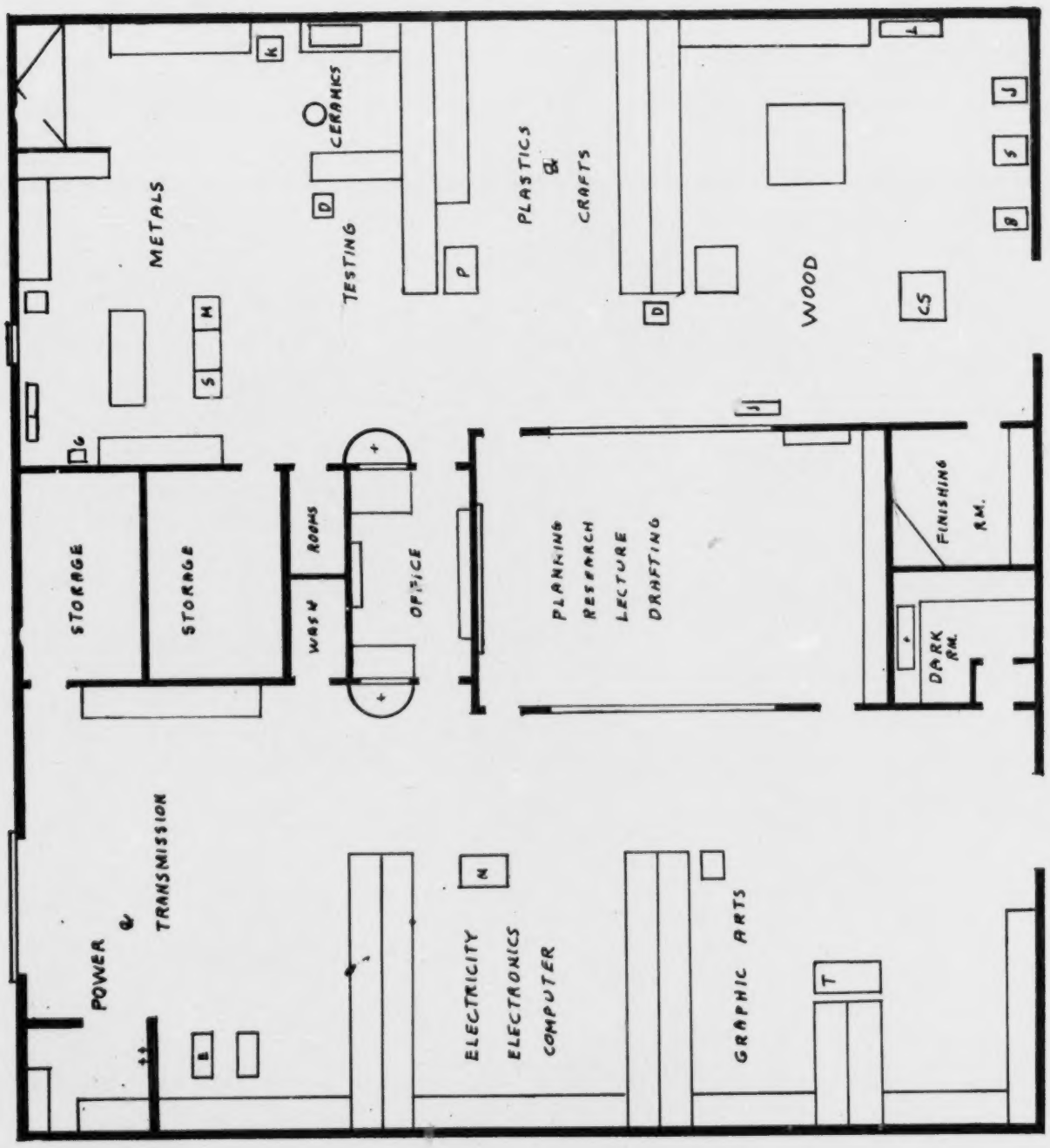


Fig. 11 Two Teacher Industrial Arts Laboratory

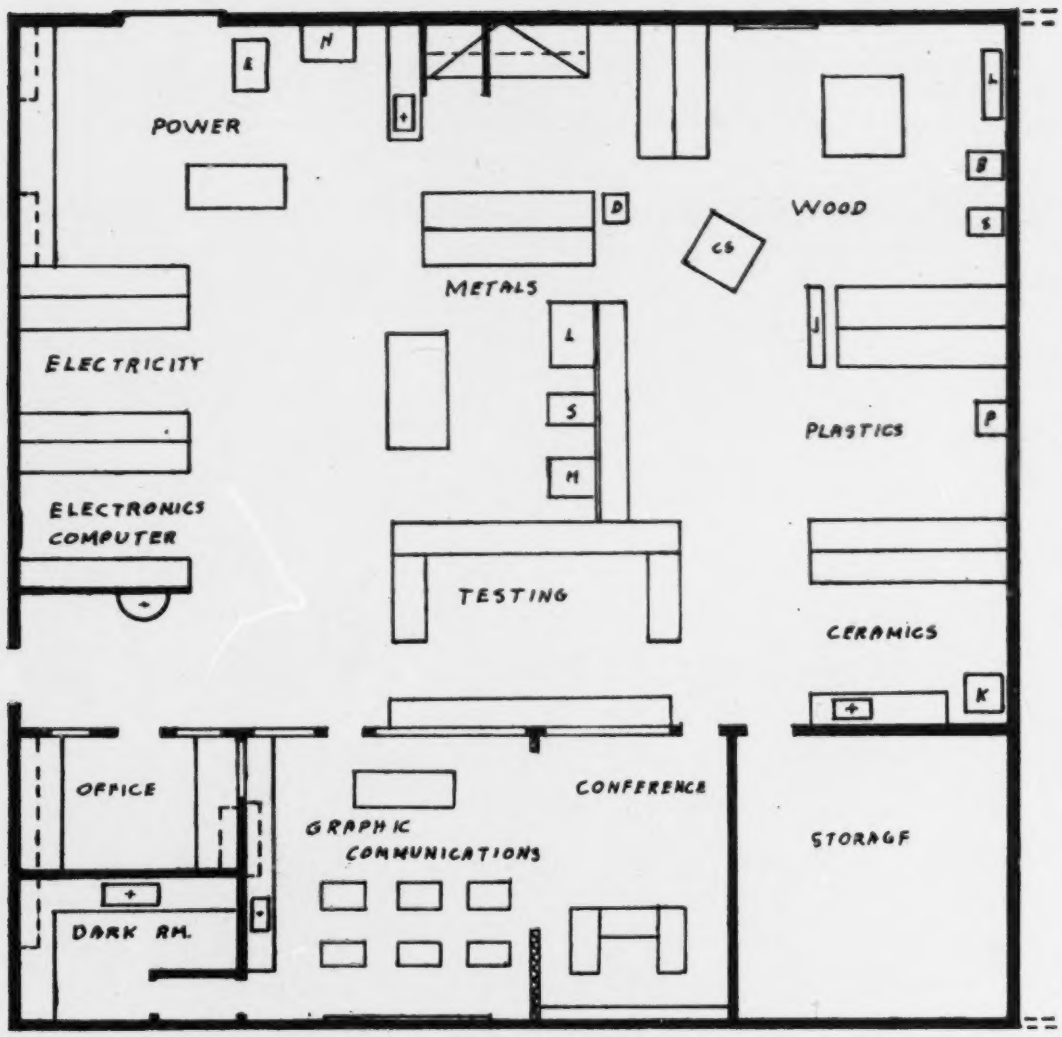


Fig. 12 Two Teacher Industrial Arts Laboratory
4,800 Sq. Ft.

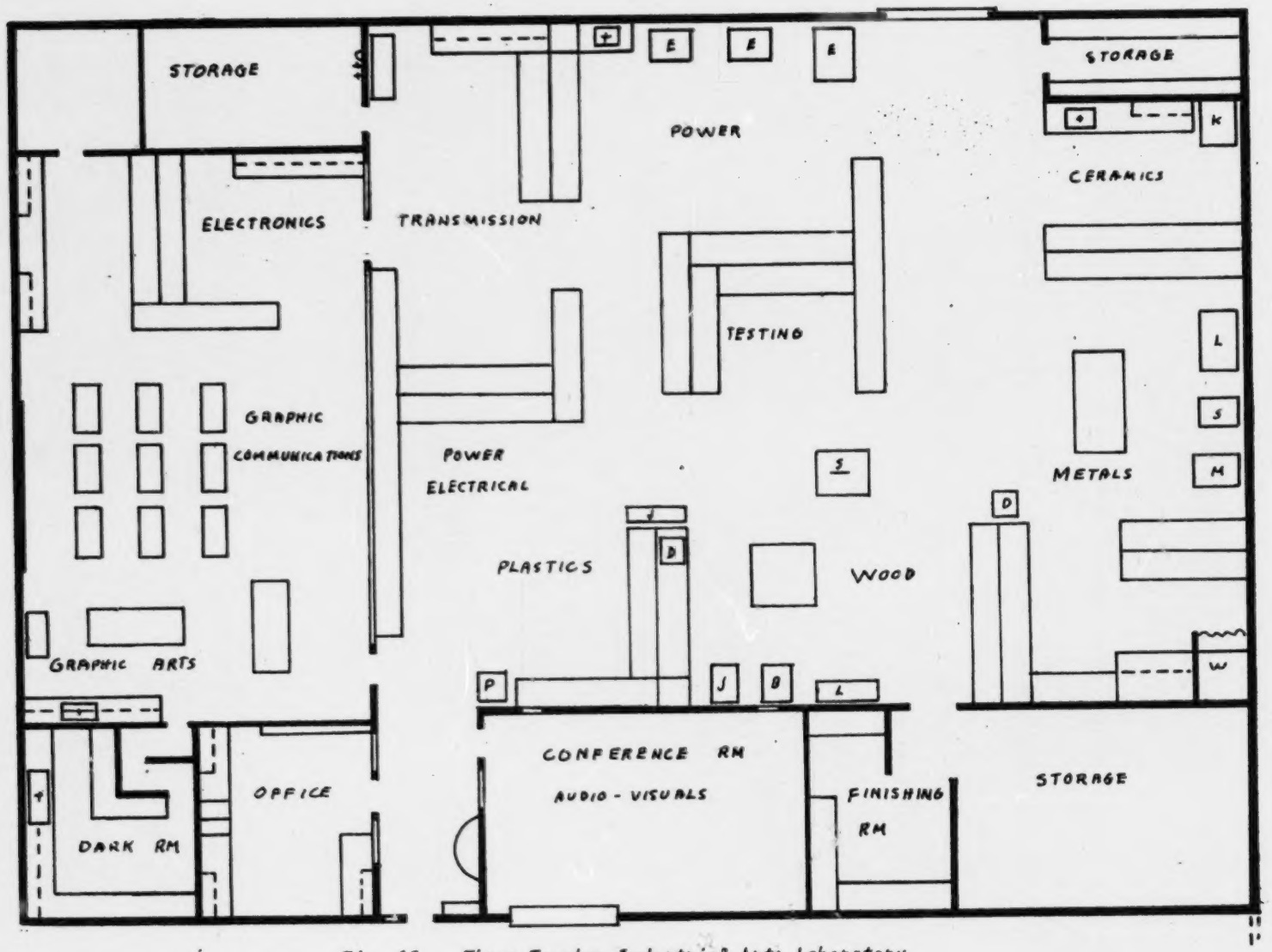


Fig. 13 Three Teacher Industrial Arts Laboratory
7,200 Sq. Ft.

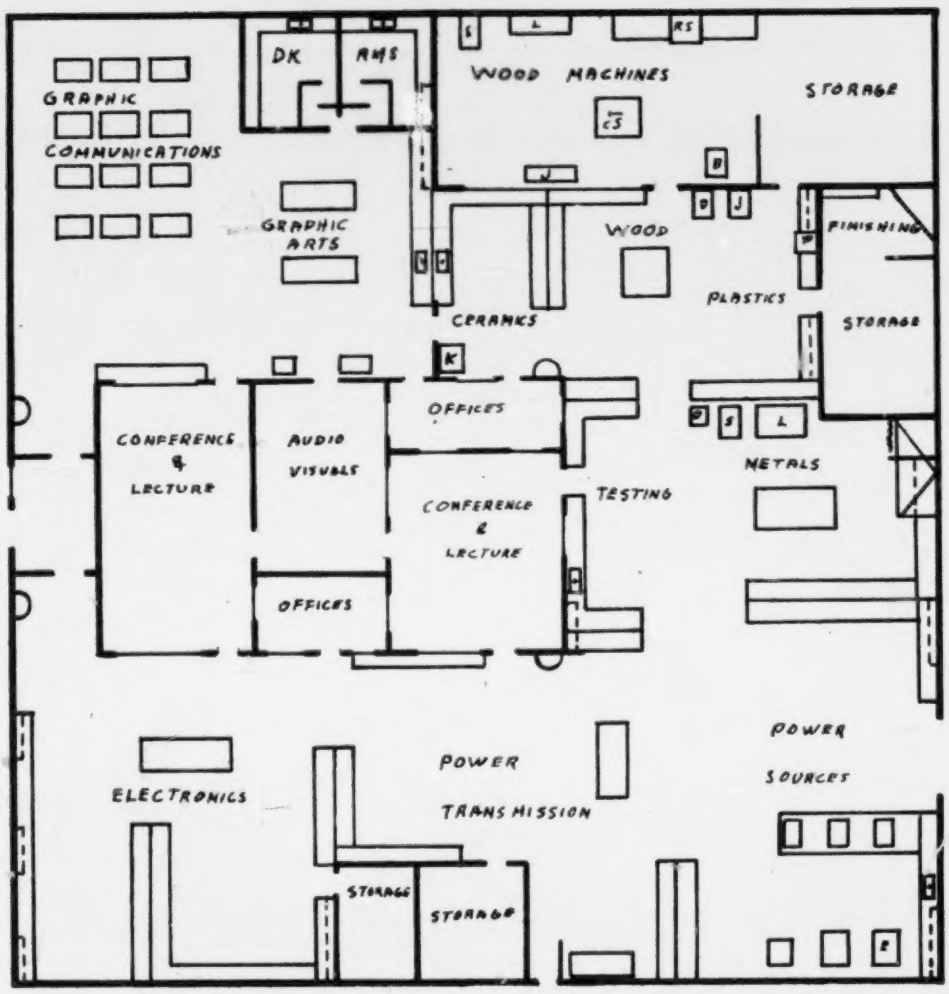


Fig. 14 Four Teacher Industrial Arts Laboratory
9,600 Sq. Ft. Scale 1/16"-1

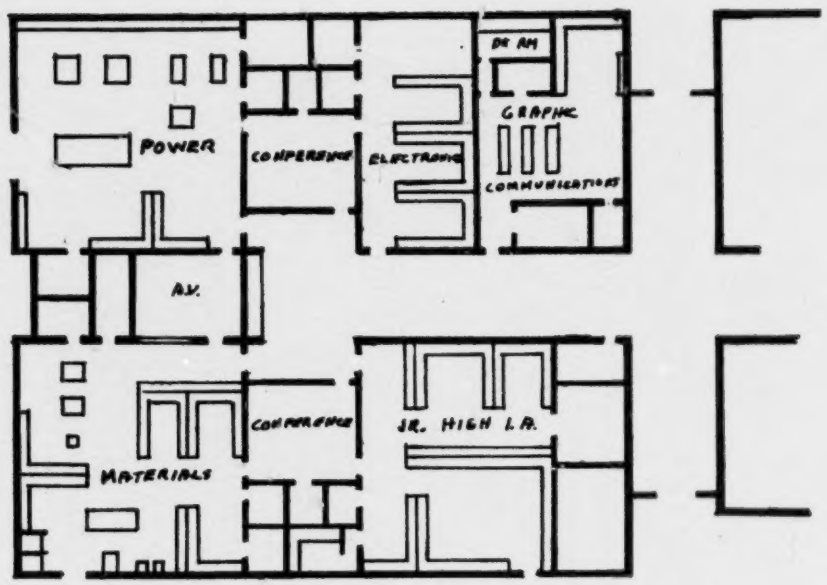


Fig. 15 Five Teacher Industrial Arts Laboratory
12,000 Sq. Ft.

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CHAPTER FOUR

EQUIPMENT

I. EQUIPMENT

Basic equipment lists are available from the Supervisor of Industrial Arts, Department of Education, Edmonton, Alberta. This list is not exhaustive but it enables the local authorities to choose equipment which has been found satisfactory for the program.

II. PURCHASING EQUIPMENT

The problems of purchasing school equipment have increased greatly in recent years through the need to update and equip both old and new facilities. Decisions concerning equipment are made more difficult by the wide range available. Many School Boards do not have purchasing agents and the selection and ordering of equipment is left to the secretary and the teacher.

When making evaluations on what to buy, it is suggested that the following principles be considered:

A. Quality

B. Service

C. Safety

D. Real Cost

Let us define each of these separately.

A. Quality

Quality is the sum total of a manufacturer's reputation and integrity.

Check:

-Length of time manufacturer has been in business?

-Nature of "improvements on equipment" - are they useless gadgets, fancy knobs and housing, or is there an actual improvement in the usefulness and quality of the machine?

-What schools are using the equipment? Contact these and get their comments.

-Was the salesman honest in his appraisal of the tool?

B. Service

Service becomes very important as more complicated machines are introduced and "down" time becomes costly in loss of student time.

Check:

-Are parts readily available?

-Are trained factory field men available on reasonable notice to examine malfunctioning equipment?

-Does the dealer or manufacturer provide maintenance and instruction aids to help the teacher get the most out of the machine?

C. Safety

Safety must be looked at from more than just the point of seeing that adequate guards are provided.

Check:

-Are moving and electrical parts adequately protected?

-Do the guards over blades function properly for the various operations the machine is designed to perform?

-Is the basic design of the tool safe?

D. Real Cost

The real cost is the value received for the amount paid. This does not only include the original cost of the tool but its serviceability, its life without repair, and to what extent it meets the educational goals of the school.

The final decision on what equipment is purchased rests with the local administration, but having applied the four principles of purchasing will give greater assurance of value.

Girls Find Industrial Arts Challenging

III. PLANNING PROCEDURE

1. Determine the program required for the community.
2. Make a sketch plan of the laboratory within the approved space.
3. Have sketch reviewed by the Supervisor of Industrial Arts for the Department of Education and the local subject matter authority.
4. Make working drawing in accordance with suggestions and have them approved by above mentioned officials.
5. Prepare detailed drawings for submission to the Department of Education School Buildings Branch for final approval.

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VT 007 937
Roman, Melvin; Jacobson, Sally
Training of Mental Health Aides. Progress Report. Appendix A.

Albert Einstein Coll. of Medicine, Philadelphia, Pa. Lincoln Hospital Mental Health Services.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Dec65 22p.

DESCRIPTORS - *HEALTH OCCUPATIONS EDUCATION; *PSYCHIATRIC AIDES; *LOW INCOME GROUPS; COMMUNITY SERVICES

ABSTRACT - Between January 1 and July 1, 1965, two separate groups of 18 mental health aides were trained from a recruitment potential of 85 indigenous residents of the Lincoln Hospital Mental Health Service area. At the time of the report, 100 applicants, including some from out of the community, were awaiting selection for the third training group. Among selection considerations were stability of family life, education, and physical health. A minimal level of reading and writing will be required for the third group. Of the 16 members of the first two groups employed at the time of the report, seven were males and nine were females of which seven were Negro and nine Puerto Rican, and ranged in age from 20 to 25 years to 72 years. Two trainees had had only elementary school education, four had had some college, and one had graduated from an advanced technical school. Employment in low income or service occupations was characteristic. Experience indicated that the goals for the first phase of training were too ambitious and it was decided that the initial period be used to prepare aides for the roles of interviewer and expeditor. Field trips, didactic materials, group discussions, and observation were utilized. The second phase, on-the-job training, is conducted half-time at a newly functioning neighborhood service center, with the other devoted to individual and group instruction. The third phase, inservice training, includes regularly scheduled conferences. (JK)

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APPENDIX A

LINCOLN HOSPITAL MENTAL HEALTH SERVICES
ALBERT EINSTEIN COLLEGE OF MEDICINE

PROGRESS REPORT: TRAINING OF MENTAL HEALTH AIDES

December, 1965

Submitted by

Melvin Roman, Ph. D.
Assistant Director
Lincoln Hospital Mental Health Service
Director of Training

Sally Jacobson, M. S.
Director Mental Health Aide Training

VT007937

INTRODUCTION

Early in its planning history the Lincoln Hospital Mental Health Services made provision for the utilization of nonprofessional mental health personnel. This was in keeping with the two primary general objectives of the program, namely, to develop a comprehensive community mental health service and to establish a national facility for the training of mental health personnel.

Historical precedents and experience for the delineation of a role model for nonprofessional mental health workers, who have come to be known in this program as Mental Health Aides, are almost non-existent. A major responsibility became the development of a functional identity for the Mental Health Aide and the provision of training necessary to enable selected untrained personnel to assume this role.

Although a theoretical model was conceptualized for the training and functioning of Mental Health Aides it was not until the program unfolded in the context of daily practice that it was possible to sharpen, modify, redefine, and create innovations in the role and training of the Mental Health Aide.

The recruitment of Mental Health Aides by Lincoln Hospital Mental Health Services was begun November 1, 1964. The training program became operative with the initiation of the Neighborhood Service Center Program January 1, 1965 upon receipt of a grant from the Office of Economic Opportunity. The mandate of the grant specified the operation of four Neighborhood Service Centers to be manned by nonprofessional indigenous personnel specifically trained as Mental Health Aides by Lincoln Hospital Mental Health Services. In addition a number of Aide trainees were selected for training and placement in the Multipurpose Clinical Facility.

A demonstration school project was initiated in September, 1965 in an elementary school located close to the hospital and one of the Neighborhood Service Centers. Plans call for the use of Mental Health Aides as liaison between the Clinic, Centers, and school. There is some cross-referral at present between Neighborhood Service Centers, Clinic, and we expect, shortly, from the school.

Between January 1 and July 1, 1965 two separate groups of 18 Mental Health Aides were selected and trained from a recruitment potential of 85 indigenous residents of the Lincoln Hospital district and adjacent environs for placement within the Neighborhood Service Center Program and the Multipurpose Clinical Facility. Although Aides were placed in different settings, they trained together and not until the on-the-job terminal phase did each group spend more time in their permanent setting.

Throughout this paper reference will be made to Group I, Group II, and Group III. They are identified as follows:

Group I — a total of 7 Aides, selected and trained January-February, 1965. 5 placed in N. S. C.; 2 placed in Clinic*

Group II — a total of 11 Aides, selected and trained May-June, 1965. 7 placed in N. S. C.; 4 placed in Clinic

Group III — a total of 10 Aides selected and trained November, 1965 - Jan.

RECRUITMENT AND SELECTION

Recruitment procedures have changed over time. It is no longer necessary to make extensive use of mass media or saturate the various public and private agencies with request for applicants, the method employed in recruiting the first group.

---

* Of the two Clinic Aides, one resigned, one was dismissed.

Thereafter word-of-mouth recruitment by the employed Aides and other staff members, as well as unsolicited publicity attracted many applicants.

A job description available to all applicants has become more specific in outlining some of the functions of a Mental Health Aide, listing requirements, and specifying salary and other benefits.

The application has been revised in order to include more comprehensive data on family background and community activity.

Since we did not attract many Negro male applicants in the first group a specific, selective recruitment procedure was used with agencies such as NAACP, Urban League, and key community residents to increase Negro male applicants for the second group. The wording of information pertinent to the job was changed to emphasize the need for men.

Thirty-five applicants were available for Group I, 50 for Group II and at present there are approximately 100 applicants awaiting selection for the third training group.

There continues to be more female applicants but a higher proportion of males have applied for Group III. Initially, there were more Puerto Rican applicants which is in keeping with the overall population groupings of the community. However, recently, as many Negroes as Puerto Ricans have made application which may be attributed to our intensive recruiting in this direction.

For the first time since recruitment began applications from out of community and other ethnic groups have been submitted. While we have emphasized the critical significance of Aides as local indigenous residents, wa are now considering residents from other areas and other ethnic

groups in order to allow for differential evaluation. (We have always had some concern regarding issues of confidentiality, emotional distance, ambivalence in attitudes towards the poor, mentally ill, etc. when both the helpers and help reside in the same area).

With Group II, there was greater concern in recruiting members of unemployed low-income groups and welfare recipients. Over 60% of Group II were unemployed and of the present Group III applicants, 68% are unemployed.

There is no longer a problem of recruitment but rather of trying to keep applicant numbers to manageable size. We have been concerned about the relatively long waiting period for many of the applicants who applied at the end of selection of a previous group and thus had a waiting period, in some cases, of four months. It is possible that many potentially good candidates will be lost during this waiting period although the many calls we received from applicants indicated their continuing interest. In our program, due to the operational phasing of the Neighborhood Service Centers, there seemed to be no way to avoid this delay between original application and selection. In the future, we would certainly make efforts to reduce the waiting period.

Since the inception of the training program all applicants have been invited to an orientation meeting before any screening occurs. We have not eliminated at the application level. We are not screening out by application with Group III although the number of applicants is large, over 100. It is possible that the number of applicants for any future programs may become so large as to make it necessary to pre-select a smaller group at random from the original group before proceeding with testing and group screening.

Group I of 35 applicants were interviewed individually by one of the trainers. This interview was to elicit pertinent life history and employment history and provide information on the nature of the Mental Health Aide's job. It is now possible to elicit this information through application, interview questionnaires, group screening and to provide information on the nature of the job with printed material and at a brief orientation meeting.

Therefore, this individual interview as a regular screening process was not repeated with Group II although some individual interviews were conducted in selected cases with Group II members.

All applicants from Group II were invited to a general orientation meeting where they were given information by both professional and non-professional members of the program (Mental Health Aides) and were invited to ask questions.

The second stage of the selection process consists of small group interviews. Thus far each small group has consisted of no more than 12 applicants assigned at random (with the exception of the employed for whom an evening group was designated) and interviewed by two professional staff members in a one-way viewing room. Observing behind the one-way mirror were various members of staff, several of whom were judges along with the interviewers. The group meetings lasted approximately one and half to two hours and explored attitudes toward child rearing, broken homes, delinquency, addiction, the poor, racial conflict, welfare and other social agencies, as well as encouraging discussion of own life experiences. Following these meetings the judges met to rate and discuss the candidates.

Since the concept of the small group is of basic importance in the overall program, both as a teaching device, a treatment process, and a means for growth and development there was an attempt to assess the candidates' sensitivity to each other and to the group process. For example, questions were initiated concerning their feelings about being observed, the competition they were experiencing, the behavior in the group, etc. Although many of the candidates attempted to say the things they thought the interviewers would like to hear, the type of skilled depth interviewing done and the forces generated within the group, enabled the staff to get a picture of the feelings, attitudes and sensitivity of many of the candidates. While the candidates found the experience anxiety-producing and stressful, the degree of composure exhibited was very impressive. Many candidates stated that they were stimulated by the process and learned by participating. For some it was unique experience to be made self-aware and introspective as well as to have the opportunity to relate to professionals in a meaningful way. The candidates found they could get to know each other in the group, use each other for mutual support during and after the meetings. Often during training and on the job Aides have referred back to their initial group screening. They have also expressed an interest in observing prospective aides being screened and in participating in the screening process. We are seriously considering their use in screening and do plan to use them in training.

Although some of the areas rated by the judges tended to be ambiguous, all judges were skilled clinicians with years of experience in diagnosing behavior and there appeared to be a high consensual validation of rating and choice. Although no formal testing was used to evaluate candidates,

Firo scales and Attitude Toward Mental Illness questionnaires were administered to the final group of 12 candidates in Group I and all applicants in Group II. All Aides selected filled out a Sociological Interview Form. This data is now being evaluated by the research team who will be intimately involved in studying the Neighborhood Service Center Program. The job performance of the presently employed Aides as well as the total group of applicants will be studied and evaluated and these findings used as a guide for an even more intensive and definitive study of the trainees selected to comprise Group III.

From each group candidates were selected for further screening and another group interview scheduled. This was considered the final group interview (there were two group interviews in all) and was conducted similarly to the other groups. However, candidates were informed that they had been selected from the larger group and were nearing the final hurdle. Although there was no further screening after this group session with Group I, individual interviews were held with several candidates from Group II about whom the judges felt uncertain. Several candidates selected in both Group I and II did not go through the standard screening process. In Group I since there were insufficient Negro candidates one Negro Aide not available for the final group interview was nonetheless chosen. (She was absent due to illness). In Group II one Aide was chosen who did not go through any of the usual screening but was interviewed individually by several staff members. (This was a welfare recipient of 11 years with multi-problem family and psychiatric history, bright and articulate, and upon whom we wished to take what might be considered an employment risk). We assumed a number of candidates selected would present emotional problems.

We felt that we had a responsibility to provide sufficient support and professional assistance when necessary to enable these people to "make it". This was made clear to the group and such a need arose during the training of the second group. Several Aides have requested professional assistance after training. The issue of emotionality for this type of group undergoing a unique kind of training and job functioning in a mental health setting will be dealt with in detail in a future report.

While there appear to be differences in the kinds of people required for different assignments, there appears to be agreement on general considerations that pertain to all types of Mental Health Aides. These might be referred to in terms of such general traits as "flexibility","trainability", "creativity", and those specific talents or skills which seem to be most closely associated with character and "style" rather than formal training.

Flexibility is often considered more significant than almost any other particular personal trait apparently because it seems to relate so intimately to the "trainability" of the Aide. He obviously should have a substantial interest in other people and be able to listen and take the point of view of "the other." It is desirable that he not be overly moralistic, judgmental or punitive. He should be able to tolerate some degree of aggression and irrational behavior from others. He must be able to accept supervision and criticism and be able to function effectively as a member of a group. There is a need for Aides of both sexes. The age range is wide. Although people between 21 and 50 were those likely to be most commonly employed, consideration has been and will continue to be given to 21 year olds and to senior citizens.

Although for many aspects of the program the Aide of low income background from the area is likely to be most useful, it seems advisable to recruit a certain number of trainees of similar background from outside the area.

There are a number of functions which in all likelihood can be better performed by Aides from middle class strata who have substantial backgrounds. (A very rough appraisal of the present group indicates that two of the most effective Aides have some college and are those most attuned to psychological concepts, i. e., causality of behavior).

It is not necessary that the Aide be married but a stable family life may be important. Typically, many of the present Aides have relatively unstable family lives and while this does intrude in job performance it does not seem to prevent competent functioning.

Completion of high school is preferable but may not be a necessary requirement for all functions.

Our impression, however, is that Aides with more education (and this appears to correlate with intelligence) perform more effectively. Several Aides were employed in both Groups I and II who did not possess adequate skills in reading and writing. We have discovered that this is a handicap although not one that cannot be overcome with special in-service skill training. Consequently, we will demand a minimal level of reading and writing skill of all candidates in Group III. Along with a number of tests, attitude scales, questionnaires, many of which were administered to the previous candidates in Groups I and II, a test of reading and writing will be administered. This will be done as the first phase of screening

and we expect that a high percentage of candidates will be eliminated. None of the other tests will be used for screening but only for purposes of research and evaluation.

Good physical health is essential. There were some distinctions in selecting Aides for placement in the Clinic or in the Neighborhood Service Centers. Generally, more sensitivity, self-awareness, ability to be introspective, sophistication regarding behavior were sought in Clinic Aides while more outgoingness, interest in doing or action rather than thinking, concern about community were considered important in Center Aides.

Aides selected possess the following characteristics which were fairly consistent for the total group of applicants. They have a history of employment in low income or service positions or their parents or spouses have this occupational background. Although there is some range of educational background extending from eighth grade to college, most have a high school education. Of the 16 currently employed, 9 are Puerto Rican and 7 are Negro. All of the Puerto Rican Aides are bilingual. Many of the Puerto Rican Aides identify themselves as Negro. Almost all have a mixed racial background.

CHARACTERISTICS OF MENTAL HEALTH AIDES

AGE	SEX	ETHNIC GROUP	EDUCATION
20-25 - 3	Male - 7	Negro - 7	Elementary
26-35 - 7	Female - 9	Puerto Rican - 9	8th grade -2
36-40 - 4			
46 - 1			High School
72 - 1			3 years - 1
			Equivalency-1
			Graduated-7
			College
			Less than 1 year - 1
			1-2 year-2
			2-3 year-1
			Advanced Technical School
			Graduated - 1

All applicants were informed of their selection or rejection by letter. Since a range in salary had been quoted this letter informed applicants of the salary assigned. At the inception of the program salary ranged from $3500 to $4500 with most falling in the lower end of the scale. In August all Aides received a $500 across the board raise in order to make salaries commensurate with a national average for similar positions in poverty programs. Age, amount and kind of experience, family responsibility were used in determining salary. A review of the screening process reveals it to be an unusual and stressful experience. It is unlikely that many highly trained professionals have ever experienced a similar evaluation for a position. Never in previous life experiences did these applicants have to go through so much for a particular job. For most of these people it was their first introduction to a highly organized, well trained middle class world which

commands respect, admiration, perhaps awe but is often intimidating. All Aides became employees of the Albert Einstein College of Medicine, Department of Psychiatry and suddenly found themselves invited by psychiatrists, psychologists, and other professionals to lunch with them and address them often on a first name basis. For many "the man" seemed to be just another "guy". Could he really be trusted? What was expected of the Aide? What was the Aide really going to do? How was he going to be able to do it? We looked to our training program to provide us with some of the answers.

CORE TRAINING

Thus began the training period which has varied in duration and content for Groups I and II and will be further modified for Group III.

The original plan of training called for a three week intensive in-service training followed by on the job supervision and continuous in-service training. This three weeks of intensive training hoped to provide an orientation to the hospital, the community, and the community mental health project, as well as specific knowledge about personality theory, group behavior, and community influences. Training was also to teach skills of interviewing, individual counseling, family interviewing, group interviewing. (See: Preliminary Training Document, Mental Health Aide Training Program).

It became evident quickly that these goals were grandiose. Even in the more extended training period of six weeks provided for the second group this was not possible and did not seem desirable.

It was decided that the specific goal for the initial training period for Group I and which continued with Group II would be to prepare the Aides

for the roles of interviewer and expeditor. At the time of training of Group II it was difficult to identify clearly other roles since the Neighborhood Service Center was not yet in operation. Further, the Aides were being placed in a completely new role for them and we had to be careful that we did not try to teach them all of the things in three weeks that had taken us years of professional training and experience to acquire, lest the Aides become confused and overwhelmed.

In spite of our concern and caution feedback from the Aides has indicated that they were uncertain of their prospective role, the duties they were to perform, the usefulness and application of what they were being taught. Many expressed an eagerness to get on the job immediately and learn in that manner even though they expressed anxiety and uncertainly about the nature of the job. Many comments after training indicated that they felt they had not been prepared for the job they were doing. It appears that this may be an inevitable criticism having less to do with the actual content of the training program than with the anxiety and ambivalence of the trainees.

Additionally, the Aides are constantly exposed to the anxiety and uncertainty of the training and administrative staff who verbalized often "this is a new program, developing, changing, and we may not always know that what we are doing is most appropriate." The concern Aides expressed focused on their competence in handling the job, being entrusted with severe problems in the lives of people, being relied upon, being made responsible. It would seem that these are profound issues of a chronic nature that were intensified by the demands of training and the nature of the program. It would seem also that we should always expect such responses

and only become alarmingly concerned when this type of criticism and expression of anxiety is not forthcoming. These become an issue for training as related to on the job supervision and continuous in-service training as well as providing safeguards and making available assistance for serious displays of emotionality.

The two functions selected, interviewer and expeditor, seemed most appropriate since these would be required immediately on the job in the Neighborhood Service Center and within the Clinic. These relate to the fact that people would be coming in asking for specific help. Therefore, the Aides should have some understanding of the feelings clients have in seeking help, how to enable the client to relate his story, how to ask questions and how to assess the implications of what the client is telling the Aide. Further, the Aides have to then be in a position to make some judgements as to what are the appropriate community resources that can be brought to bear on the client's problems. This, therefore, dictated that they had to know community resources, the appropriate channels for enlisting the cooperation of agencies, and how to make contact with these agencies.

Since we recognized that the Aides were being placed in a new role and a stressful situation, it appeared that one of the factors that would help them to withstand the anxieties and tensions this would create would be the development of an esprit de corps, a group feeling of solidarity so that they could receive support not only from the professionals who are training them, but also from each other. Some of this had already begun during the selection process. A part of our training program was

directed towards creating those opportunities that would foster group cohesiveness and an atmosphere of tolerance, support and understanding. The Aides were given their own room, were involved in planning to decorate the room, purchasing materials, buying curtains, etc. Group decisions were made about the expenditures for coffee.

Whenever possible the trainer would note the universality of the feelings that an Aide would have in facing new situations and also attempt to help the group recognize some of the mutual feelings that they would have both of a positive and negative nature towards the training sessions, the agencies, or the community.

Finally, the Aides were involved with the Neighborhood Service Center Director in planning the specific layout of the Center and considering with her the kinds of furniture and decorations needed. They were involved in planning a community survey and publicity as well as the "open house" for formally opening the Centers.

As to specific knowledge and skill training, the Aides were exposed to an orientation regarding Lincoln Hospital and the Mental Health Services in particular. Field visits, discussions and reading material were used to acquaint them with some of the major public and private agencies serving the community. These included schools, police department, Welfare Department, Mobilization for Youth Neighborhood Service Centers, Community Service Society's Community Action Program, East Side Settlement House and a walking tour of the neighborhood. Additional visits scheduled for Group II were joined by the already employed Aides when possible. These field visits appeared to be the highlight for most of the Aides. They continue to request contact with other agencies and resources and are encouraged to make as many informal visits as possible. Formal visits and invitations

to agency representatives are an ongoing part of the program.

To provide skills in interviewing, didactic materials and group discussions were utilized to develop knowledge as well as employing role playing techniques simulating specific situations. The one way observation room was used to give the Aides an opportunity to see group therapy and family interviewing sessions. These observation tasks were directed towards enhancing their sensitivity to non-verbal communication as well as to specific interviewing techniques used by professionals in these cases. By the end of the core training program the Aides had developed a considerable group cohesiveness. Ability to observe and analyze increased, positive attitudes were expressed to clients, professional staff, the overall program. They expressed great eagerness to "let us go out and show you what we can do".

Although we were aware with Group I that they had not received sufficient preparation in the details and mechanics of the job, such things as learning how to fill out forms, keep records, how to find agencies, discover specific channels for making contact, even so simple as task as the proper use of the telephone and identifying oneself, we felt that much of this could be developed in the on the job period of training which was to last two weeks.

Their resistance to didactic teaching did not always seem whole hearted and there is evidence that in many cases they were able to use or incorporate a number of the concepts that were detailed and elaborate in didactic presentations. At occasional staff presentations to which they were invited and which were certainly heavily laden with professional jargon and abstract concepts they listened attentively and asked responsive questions or made pertinent comments.

The coordinator and trainer of both groups selected training tasks, prepared schedules, arranged trips to various agencies, selected films, records, arranged for other speakers. In direct training group development was fostered. With Group II each trainer shared responsibility for weekly individual conferences with the trainees.

The experience in training Group I permitted modifications and the more systematic planning of core training for Group II. During Group II's screening process information regarding the trainees was provided which the trainers planned to validate and document. These include value orientation, attitudes towards others, motivation, etc. The immediate concern of the training staff continued to be establishment of an effective relationship with the trainees and rapidly assessing their training needs. Since a Neighborhood Service Center was now operative it was possible to phase in on-the-job training more smoothly. Detailed objectives, functions and the necessary skills to carry out these functions were clearly spelled out. (See document An Outline for a Training Program).

ON-THE-JOB TRAINING

Group I was assigned to the Neighborhood Service Center for on-the-job training under the direct supervision of the Neighborhood Service Center director with whom they had had contact in field visits and in planning the furnishing and decorations of the Center. The Center was open to the neighborhood on a half-time basis, the other half-time devoted to individual and group supervision based on the practical experiences and problems that the trainees encountered in offering service. Here the emphasis was on learning more intimately the agencies and resources that could be

tapped for helping neighborhood people with their day-to-day living problems and mastering the details of the forms necessary to assist clients in making use of resources. The Aides were encouraged to develop informal resources and were very effective in this; i.e., cavassing merchants who agreed to provide a discount to people referred, small business men who listed job openings, inexpensive baby sitters, etc. Field visits were continued and provided the Aides with an opportunity to interpret the Center and their specific role. Where possible, procedures from the Neighborhood Service Center to these agencies were established for referral.

What seemed important to the Aides was the always available, open-door informal policy made explicit by the Director. She constantly reiterated that she was there to be used, relied on, provide support, information and back up. Independence in exercising judgement was encouraged and the need to make mistakes and use them as a learning situation an accepted policy.

Many decisions regarding procedures and policy were arrived at by group discussion. The Aides were kept informed of changes and developments within the entire program.

During this period a weekly meeting of the trainees with the training coordinator was established. Their purpose was not only to continue cementing the trainees as a group, but also to begin the use of group process as a means of increasing the trainee's sensitivity to emotional factors, as well as help them with some of the tensions and anxieties they were facing in their new role.

This was not continued when the second group of Aides was selected due to limitation of staff time and concern for the effectiveness of the sensitivity training at this stage in the Aide's development.

The on-the-job training for the second group was conducted in a similar fashion with both the trainees and Center Director available as supervisor but additionally the trainees continued their intensive relationship with the trainers. This was gradually phased out. When the Center officially opened its doors at the end of the six week training the Director was available full-time and the trainers exited.

IN-SERVICE TRAINING

Until October, 1965, in-service training was conducted on an as needed, informal basis, as well as through supervision. A major portion of training continued in constant daily supervision on the job. Individual conferences and group meetings regarding specific issues of program and daily practices were scheduled weekly. With the addition of the second group, periodic meetings of all Mental Health Aides were conducted to discuss pertinent issues and to encourage solidarity and a functional identity of Mental Health Aides.

Visits to other agencies and institutions continued and personnel from outside agencies were invited to staff meetings. (List from Neighborhood Service Center Directors).

Appropriate literature was provided and selected bibliography suggested. A central library was started with books, journals, and pamphlets available on loan.

The Clinic Director provided a short term seminar in psychopathology for the first group. This enabled us to evaluate more appropriate means for introducing material related to behavioral dynamics, pathology,

treatment, etc. and assisted us in setting up the formalized in-service training program this Fall.

A visiting psychiatrist, available half-day weekly for a period of three months, held group meetings and individual conferences related to case material with the first group. The Aides responded to this psychiatrist with outspoken enthusiasm and still discuss him and talk longingly about the help he provided. He explored issues related to clients as well as the Aide's emotional response to their work. He helped them to become more sensitive and insightful regarding the behavior of clients as well as their own behavior.

In planning and preparing community meetings and developing means of activating and organizing the community the Aides met with the Community Organizer.

Much "unplanned" informal teaching has been done by clinic personnel when consultation has been requested related to specific cases. The Aides have thus had an opportunity to work with personnel from Rehabilitation, psychiatrists in both the adult and children's service, social workers, psychologists, nurses, and other hospital service personnel.

The development of a record keeping system necessitated contacts with the Record Bank coordinator and research assistants and gave the Aides a meaningful introduction to data collecting and research in general.

In the Fall of 1965 based on our experience and meetings with staff and Aides a formalized in-service training program was established. Each week a unit group of Aides meets with a member or members of the training staff; i.e., Neighborhood Service Center I, Neighborhood Service Center II, and Clinic Aides. The first in-service training course will run approximately 12 weeks and will be devoted to intensive teaching of interviewing

techniques and report writing. These are conducted as small group seminars with open discussion utilizing prepared materials introduced by the trainers and case material brought by the Aides. Once monthly all Aides meet for a more didactic presentation of material culled from the small weekly meetings. For example, during the first month the concern with issues of "transference and countertransference" as distinguished from appropriate emotional responses in working with clients and patients provided the focus for the monthly lecture presented by the Clinic Director. The trainers work closely with the staff member presenting (various staff are expected to participate) so that material is pertinent to the Aide's experience.

With time, in-service training will become more specialized. We expect that different Aides will display specific interests and talents; i.e., working with small groups, families, community organizations, adolescents, etc.

In addition, the trainers meet weekly with supervisory personnel of Mental Health Aides to discuss training issues, means of implementing training on the job, and in general to provide a two way feed back as well as providing "in-service training" to professionals who need assistance in working with non-professionals.

The in-service training is supplementing but has not supplanted the other learning experiences described and both the Clinic and Centers provide continuous supervision and specific instruction and information related to program.

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ABSTRACT - The Hill-Burton Program has stimulated the construction, modernization, and replacement of more than 9,500 health facilities projects since its inception in 1947. More than half of these projects have been general hospital projects. Program emphasis has shifted, however, from new facilities, constituting 80 percent of the general hospital projects in 1948, to additions, alterations, and replacements, constituting 96 percent of the general hospital projects in 1968. Relevant legislation from 1946 through 1968 is summarized and highlights are given of the Hill-Burton program for July 1967 through June 1968. Forty tables and charts giving a statistical summary of Hill-

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Hill-Burton Program
PROGRESS REPORT

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Hill-Burton Program
PROGRESS REPORT

July 1, 1947 - June 30, 1968

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FOREWORD

For more than two decades, the Hill-Burton Program has stimulated the construction of needed health facilities and provided leadership in encouraging planning, coordination, and sharing among facilities and communities. More recently, special emphasis has been focused on the diversification of health care options available to communities for providing ambulatory care.

This annual report presents national and State statistics on the more than 9,500 projects which have been approved for the construction, modernization, and replacement of voluntary nonprofit hospitals and other health facilities throughout the country. As depicted, more than one-half of all Hill-Burton projects approved since the inception of the Program have been for general hospitals. However, during this period, program emphasis shifted. In 1948, of the general hospital projects initially approved, new facilities accounted for 80 percent, whereas in 1968 only four percent was for new construction. In contrast, modernization in the form of additions, alterations, and replacements accounted for 96 percent of the total general projects initially approved during 1968.

Many of the staff of the Office of Program Planning and Analysis of the Health Facilities Planning and Construction Service were involved in producing this publication. However, Miss Anna Mae Baney, Special Assistant, and Mrs. Angeline D. Ursitti, Chief, Statistical Reports and Records Branch, had primary responsibility for its preparation.

It should be pointed out that in this edition, Tables 10 through 22 show the progress of the program over the last five years rather than the cumulative picture since the beginning of the program. We hope that the numerous persons and groups concerned with the provision of health care facilities for the American people will find this report helpful.

Harald M. Graning

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Assistant Surgeon General
Director, Health Facilities Planning
and Construction Service

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LEGISLATIVE BACKGROUND AND HILL-BURTON HIGHLIGHTS

LEGISLATIVE BACKGROUND

1946 Hospital Survey and Construction Act--Hill-Burton Program (Public Law 79-725, Title VI of Public Health Service Act, August 1946)

Authorized grants to States for:

Surveying needs and developing State plans for construction of facilities.

Assisting in constructing and equipping needed public and voluntary nonprofit general, mental, tuberculosis and chronic disease hospitals, and public health centers.

1949 Amendments to Hospital Survey and Construction Act (Public Law 81-380, October 1949)

Authorized the Public Health Service to conduct and provide grants for research, experiments, and demonstrations relating to the development, effective utilization, and coordination of hospital services, facilities, and resources. (Funds not appropriated until 1956 Appropriation Act.)

1954 Amendments to Hospital Survey and Construction Act (Public Law 83-482, July 1954)

Broadened program to provide specific grants for construction of public and voluntary nonprofit nursing homes, diagnostic or treatment centers, rehabilitation facilities, and chronic disease facilities.

1958 Amendments to Hospital Survey and Construction Act (Public Law 85-589, August 1958)

Gave sponsors who meet the standard eligibility and priority qualifications the option to take a long-term loan in lieu of a grant.

1961 Community Health Services and Facilities Act of 1961 (Public Law 87-395, October 1961)

Increased appropriation authorization for construction of nursing homes from $10 million to $20 million annually.

Raised annual research appropriation authorization to $10 million and authorized appropriations for experimental and demonstration construction and equipment projects.

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1964 Hospital and Medical Facilities Amendments of 1964 (Public Law 88-443, August 1964)

Extension of the Hospital and Medical Facilities Survey and Construction program through June 30, 1969.

Authorization of appropriations over a 5-year period totaling $1.34 billion in grants and loans for new construction, modernization, and replacement of hospitals, long-term care facilities (including nursing homes), public health centers, diagnostic or treatment centers, and rehabilitation facilities.

$160 million was authorized for modernization and replacement over a 4-year period beginning with fiscal year 1966. Considerable flexibility is permitted in transferring funds between the new construction and modernization categories.

$350 million was authorized for long-term care facilities over a 5-year period. This category combines the previously separate grants programs for chronic disease hospitals and nursing homes; the annual ceiling was raised from $40 million to $70 million.

Other authorizations over the 5-year period include:
Hospitals and public health centers -- $680 million
Diagnostic or treatment centers -- $100 million
Rehabilitation facilities -- $50 million

Program of project grants to help develop comprehensive regional, metropolitan area, or other local area plans for health and related facilities. (Previously, demonstration grants supported areawide planning efforts.)*

Use by States of 2 percent of their allotments (up to $50,000 a year) to assist in the efficient and proper administration of the State plan.

Continuation of grants program to support research and demonstration projects pertaining to hospital operation. (See 1967 Partnership for Health Amendments.)

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* 1966 Comprehensive Health Planning and Public Health Services Amendments (Public Law 89-749) transferred such authority from the program as of June 30, 1967.

1967 Partnership for Health Amendments of 1967 (Public Law 90-174, December 5, 1967)

Section 304 of the Public Health Service Act was amended by repealing Section 624, a program of project grants for research and demonstrations, administered by the Hill-Burton program. At the same time, there was established under Section 304 the National Center for Health Services Research and Development, which assumed, among other responsibilities, the authority to administer a program of project grants for research and development, similar to the Section 624 program which had been repealed.

1968 Hospital and Medical Facilities Construction and Modernization Assistance Amendments of 1968 (Title IV, Public Law 90-574, October 1968)

Extension of the Hospital and Medical Facilities Survey and Construction program through June 30, 1970.

HILL-BURTON HIGHLIGHTS

July 1, 1947 through June 30, 1968

By June 30, 1968, a total of 9,459 projects had been approved since the beginning of the program. These projects, providing 413,797 beds in hospitals and nursing homes and 2,737 other types of health facilities, involved:

$10.05 billion total costs

$ 3.11 billion Federal share

$ 6.94 billion State and local funds

TYPE OF CONSTRUCTION

More than three-fifths of all Hill Burton projects have been additions, alterations, or replacements. The remaining projects -- 36.5 percent -- are for completely new facilities.

	Projects	Hill-Burton Funds
New facilities	36.5%	33.4%
Additions, alterations, and replacements	63.5	66.6

TYPE OF CONTROL

The 4,755 projects in voluntary nonprofit facilities are providing 240,783 beds and represent 49.8 percent of all projects and 57.3 percent of all Hill-Burton funds.

The 4,794 projects in publicly owned facilities account for 50.2 percent of all projects, 58.2 percent of the beds, and 42.7 percent of the Hill-Burton funds. Of these, 4,172 projects are in local publicly owned facilities, and 622 are in State owned facilities.

TYPE OF FACILITY

Hospital and long-term care facility projects approved under the Hill-Burton program during July 1, 1947 - June 30, 1968 have provided a total of 413,797 beds:

Type of Facility	Beds	Hill-Burton Funds (in millions)
Total	413,797	$3,108.4
General hospitals	305,310	2,245.9
Long-term care facilities	80,021 1/	395.3
Units of hospitals	43,831	241.2
Nursing homes	29,993	123.5
Chronic disease hospitals	6,197	30.6
Mental hospitals	21,042	78.4
Tuberculosis hospitals	7,424	27.4
Other health facilities include:		
1,189 public health centers 2/		$84.7
38 State health laboratories		12.0
890 diagnostic or treatment centers		157.8
426 rehabilitation facilities		106.9

1/ Excludes 7,109 long-term care beds built in conjunction with general and other hospital projects, for which funds cannot be separated from total project costs; reported with hospital projects as follows: 7,013 general; 60 mental; 36 tuberculosis.

2/ Excludes 129 public health centers built in combination with general hospitals.

GENERAL HOSPITALS

The 5,224 projects providing 305,310 beds account for:

55% of all approved projects

74% of all beds in approved projects

72% of Hill-Burton funds allocated to date

6% of these beds are for long-term care, mental, and tuberculosis patients

LONG-TERM CARE FACILITIES

Long-term care facilities include nursing homes, chronic disease hospitals, and long-term care units of hospitals.

The 1,443 long-term care projects have provided 80,021 beds in these facilities:

Nursing homes	29,993 or 37.5%
Chronic disease hospitals	6,197 or 7.7%
Units of hospitals	43,831 or 54.8%

These projects account for 15 percent of all approved projects and 13 percent of the Hill-Burton funds.

In addition, 7,109 long-term care beds have been constructed in conjunction with general or other hospital projects where the long-term care portion of cost cannot be separated from other hospital project costs.

SUMMARY TABLES AND CHARTS (National Data)

Table 1. HILL-BURTON APPROPRIATIONS
By Fiscal Year, 1948 - 1968

Fiscal Year	Total Amount (000's)	Fiscal Year	Total Amount (000's)
1948	$ 75,000	1959	$185,000
1949	75,000	1960	185,000
1950	150,000	1961	185,000
1951	85,000	1962	209,728
1952	82,500	1963	220,000
1953	75,000	1964	220,000
1954	65,000	1965	220,000
1955	96,000	1966	258,500
1956	109,800	1967	270,000
1957	123,800	1968	267,200
1958	120,000		

NOTE: Federal assistance under the Hill-Burton program is made available through annual Congressional appropriations. Each appropriation is then allocated among the States and Territories in accordance with a statutory formula based on population and relative per capita income. The legislation provides that these allocations are available for the fiscal year in which the funds are appropriated and for the succeeding fiscal year. Thus, in effect, each annual appropriation is available for a two-year period for each State and for a three-year period for the Territories. It should also be noted that beginning with fiscal year 1965, 2 percent of the State allocation (up to $50,000 per year) could be used by each State "for the proper and efficient administration" of their Hill-Burton State Plan.

Tables 2-3 show the number of projects approved, facilities provided, and Federal funds obligated which are produced from each annual appropriation. Because of the more than one-year availability of funds, the data shown in tables 2-3 for fiscal year 1968 are incomplete. Additional projects may be submitted and approved during fiscal year 1969 from the remaining unobligated 1968 funds.

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Table 2. TOTAL PROJECTS APPROVED
By Fiscal Year of Appropriation, July 1, 1947 - June 30, 1968

Fiscal Year	Number of Projects	Inpatient Beds	Outpatient Facilities 1/	Total Cost	Federal Funds Obligated 2/
Total	9,549	413,797	2,737	$10,048,248,922	$3,108,415,721
1948	448	22,015	74	283,087,023	74,404,235
1949	366	18,354	59	283,191,272	74,869,859
1950	536	27,332	101	459,286,727	149,722,023
1951	266	12,849	62	250,002,856	84,704,994
1952	250	11,374	67	271,405,635	82,184,988
1953	263	11,559	76	244,715,424	74,912,105
1954	215	8,761	72	179,835,760	64,915,444
1955	458	13,869	187	367,698,035	95,529,871
1956	428	17,296	136	376,518,736	109,424,927
1957	501	18,801	165	413,801,212	122,671,582
1958	448	18,375	139	440,866,625	119,025,688
1959	636	23,941	215	584,514,417	184,266,475
1960	558	23,836	165	558,224,627	183,752,993
1961	538	23,345	149	552,330,235	183,919,623
1962	562	25,604	158	666,737,518	208,902,749
1963	600	24,987	186	680,819,976	216,703,976
1964	541	23,153	172	687,961,342	216,318,620
1965	571	23,407	194	776,634,123	217,883,348
1966	595	29,071	169	893,080,154	256,780,891
1967	594	27,892	152	838,751,320	267,426,877
1968	175	7,976	39	238,785,905	105,902,543
1969 3/	-	-	-	-	14,191,910

1/ Includes diagnostic or treatment centers, rehabilitation facilities, and public health centers.

2/ Federal funds obligated from annual appropriations based on two-year availability for each State and three-year availability for Territories.

3/ Funds allocated to "split" projects approved in previous fiscal years, subject to availability of allotments.

Table 3. PROJECTS IN OPERATION
By Fiscal Year of Appropriation, July 1, 1947 - June 30, 1968

Fiscal Year	Number of Projects	Inpatient Beds	Outpatient Facilities 1/	Total Cost	Federal Funds Obligated 2/
Total	8,141	338,480	2,374	$7,659,931,570	$2,415,106,261
1948	448	22,015	74	283,087,023	74,404,235
1949	366	18,354	59	283,191,272	74,869,859
1950	536	27,332	101	459,286,727	149,722,023
1951	266	12,849	62	250,002,856	84,704,994
1952	250	11,374	67	271,405,635	82,184,988
1953	263	11,559	76	244,715,424	74,912,105
1954	215	8,761	72	179,835,760	64,915,444
1955	458	13,869	187	367,698,035	95,529,871
1956	428	17,296	136	376,518,736	109,424,927
1957	501	18,801	165	413,801,212	122,671,582
1958	448	18,375	139	440,866,625	119,025,688
1959	636	23,941	215	584,514,417	184,266,475
1960	558	23,836	165	558,224,627	183,752,993
1961	538	23,345	149	552,330,235	183,919,623
1962	557	25,012	156	642,551,951	203,597,907
1963	593	24,429	183	666,151,035	208,115,540
1964	517	20,637	158	580,913,153	199,086,517
1965	450	14,528	163	452,436,181	148,294,559
1966	106	2,130	45	51,248,932	38,033,843
1967	7	37	2	1,151,734	11,410,090
1968	-	-	-	-	2,262,998

1/ Includes diagnostic or treatment centers, rehabilitation facilities, and public health centers.

2/ Federal funds obligated from annual appropriations based on two-year availability for each State and three-year availability for Territories.

Table 4. TOTAL PROJECTS by Type of Facility
July 1, 1947 - June 30, 1968

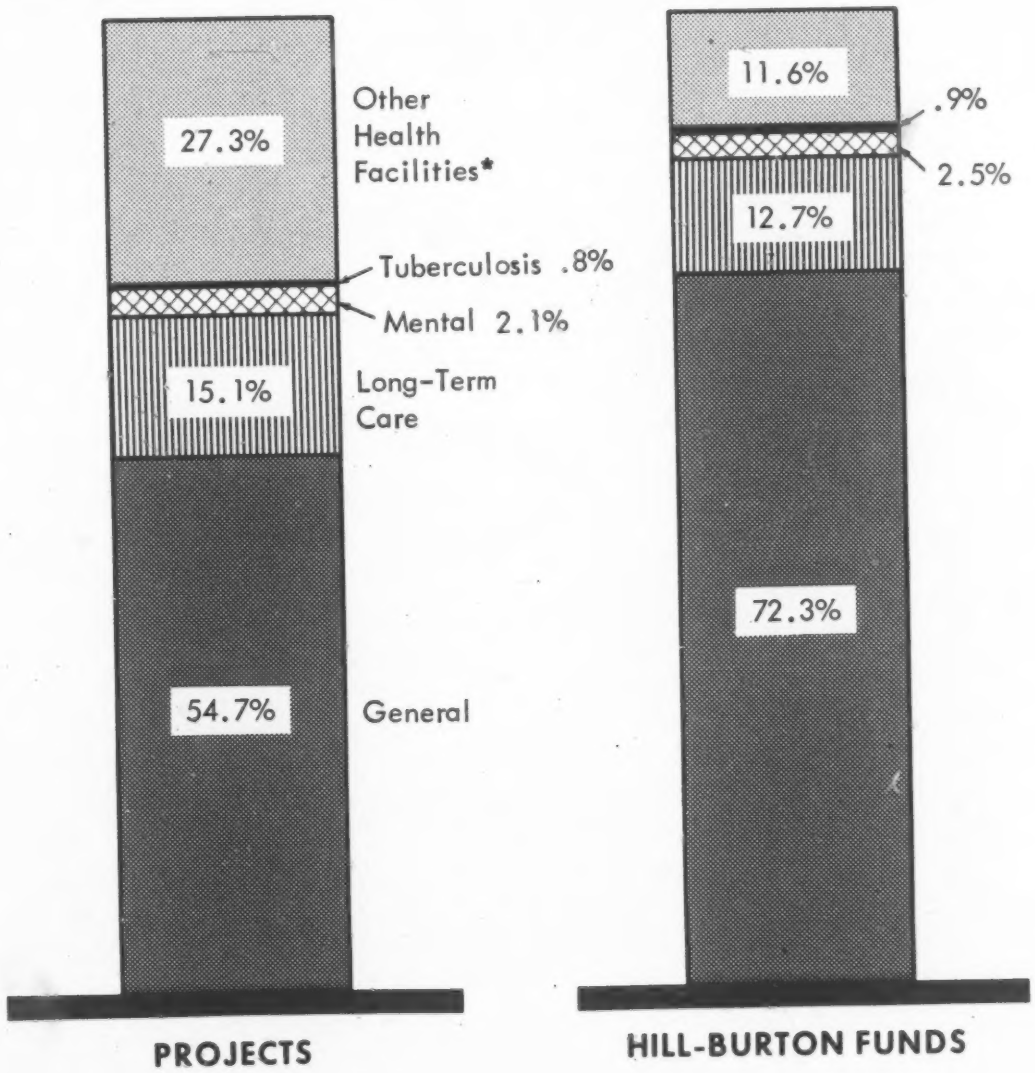
Type of Facility	Projects		Inpatient Beds		Outpatient Facilities 1/		Cost (000's)		
								Federal Share	
	Number	Percent	Number	Percent	Number	Percent	Total	Amount	Percent
Total	9,549	100.0	413,797	100.0	2,737	100.0	$10,048,249	$3,108,416	100.0
General Hospitals	5,224	54.7	305,310	73.8	129 2/	4.7	7,445,755	2,245,948	72.3
Long-Term Care:	1,443	15.1	80,021 3/	19.3	-	-	1,178,377	395,280	12.7
Units of Hospitals	930	9.7	43,831	10.6	-	-	668,423	241,175	7.7
Nursing Homes	429	4.5	29,993	7.2	-	-	406,969	123,512	4.0
Chronic Disease Hosps.	84	.9	6,197	1.5	-	-	102,985	30,593	1.0
Mental Hospitals	195	2.0	21,042	5.1	-	-	247,225	78,423	2.5
Tuberculosis Hospitals	79	.8	7,424	1.8	-	-	75,078	27,377	.9
Diagnostic or Treat. Ctrs.	927	9.7	-	-	927	33.9	481,937	157,799	5.1
Rehab. Facilities	454	4.8	-	-	454	16.6	327,094	106,920	3.4
Public Health Centers	1,189	12.5	-	-	1,189	43.4	244,149	84,706	2.7
State Health Labs.	38	.4	-	-	38	1.4	48,634	11,963	.4

1/ Includes diagnostic or treatment centers, rehabilitation facilities, and public health centers.
2/ Public health centers built in combination with general hospitals and not reported as separate projects.
3/ Excludes 7,109 long-term care beds built in conjunction with general and other hospital projects, for which funds cannot be separated from total project costs; these 7,109 beds are reported in the following categories of facilities: general hospitals, 7,013 beds; mental hospitals, 60 beds; tuberculosis hospitals, 36 beds.

Chart 1

More than half of all Hill-Burton projects have been for general hospital facilities . . .

(July 1, 1947 - June 30, 1968)



*Includes diagnostic or treatment centers, rehabilitation facilities, public health centers and State health laboratories.

Table 5. BEDS ADDED by Type of Facility and Type of Bed
July 1, 1947 - June 30, 1968

Type of Facility 1/	Type of Bed						
	Total Beds	Acute Care	Long-Term Care Units	Nursing Homes 2/	Chronic Disease Hospitals	Mental	Tuberculosis
Total	413,797	287,313	50,940	29,993	6,181	30,033	9,337
General Hospitals	349,141	287,159	50,844	-	-	9,631	1,507
Nursing Homes	29,993	-	-	29,993	-	-	-
Chronic Disease Hospitals	6,197	-	-	-	6,181	16	-
Mental Hospitals	21,042	-	60	-	-	20,366	616
Tuberculosis Hospitals	7,424	154	36	-	-	20	7,214

1/ Denotes primary classification of facility.
2/ Represents "independent" nursing homes; nursing homes built in connection with general hospitals are included in long-term care units of hospitals.

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Table 6. TOTAL PROJECTS by Type of Control
July 1, 1947 - June 30, 1968

Type of Control	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total	9,549	100.0	413,797	100.0	$10,048,249	$3,108,416	100.0
Public, Total	4,794	50.2	173,014	41.8	3,647,523	1,327,567	42.7
State-Owned	622	6.5	39,253	9.5	838,182	298,722	9.6
Other Public	4,172	43.7	133,761	32.3	2,809,341	1,028,845	33.1
Voluntary Nonprofit	4,755	49.8	240,783	58.2	6,400,726	1,780,849	57.3

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Table 7. TOTAL PROJECTS by Type of Facility and Type of Construction
July 1, 1947 - June 30, 1968

Type of Facility	Projects		Inpatient Beds		Outpatient Facilities		Cost (000's)		
								Federal Share	
	Number	Percent	Number	Percent	Number	Percent	Total	Amount	Percent
New Facilities									
Total	3,488	100.0	135,508	100.0	1,492	100.0	$3,089,652	$1,039,006	100.0
General Hospitals	1,677	48.1	104,915	77.4	89 1/	6.0	2,200,078	753,134	72.5
Long-Term Care:	335	9.6	21,485 2/	15.9	-	-	322,025	101,118	9.7
Units of Hospitals	102	2.9	4,527	3.3	-	-	79,224	27,864	2.7
Nursing Homes	205	5.9	14,296	10.6	-	-	192,771	60,826	5.8
Chronic Disease Hosps.	28	.8	2,662	2.0	-	-	50,030	12,428	1.2
Mental Hospitals	44	1.3	5,624	4.1	-	-	110,764	29,597	2.8
Tuberculosis Hospitals	29	.8	3,484	2.6	-	-	39,718	14,231	1.4
Diagnostic or Treat. Ctrs.	207	5.9	-	-	207	13.9	69,300	28,842	2.8
Rehab. Facilities	140	4.0	-	-	140	9.4	103,638	31,905	3.1
Public Health Centers	1,030	29.5	-	-	1,030	69.0	199,732	70,148	6.7
State Health Labs.	26	.8	-	-	26	1.7	44,397	10,031	1.0
Additions, Alterations and Replacements									
Total	6,061	100.0	278,289	100.0	1,245	100.0	6,958,597	2,069,410	100.0
General Hospitals	3,547	58.5	200.395	72.0	40 1/	3.2	5,245,677	1,492,813	72.2
Long-Term Care:	1,108	18.3	58,536 2/	21.0	-	-	856,352	294,161	14.2
Units of Hospitals	828	13.7	39,304	14.1	-	-	589,198	213,310	10.3
Nursing Homes	224	3.7	15,697	5.6	-	-	214,199	62,687	3.0
Chronic Disease Hosps.	56	.9	3,535	1.3	-	-	52,955	18,164	.9
Mental Hospitals	151	2.5	15,418	5.6	-	-	136,461	48,826	2.4
Tuberculosis Hospitals	50	.8	3,940	1.4	-	-	35,360	13,146	.6
Diagnostic or Treat. Ctrs.	720	11.9	-	-	720	57.8	412,638	128,958	6.2
Rehab. Facilities	314	5.2	-	-	314	25.2	223,455	75,015	3.6
Public Health Centers	159	2.6	-	-	159	12.8	44,418	14,559	.7
State Health Labs.	12	.2	-	-	12	1.0	4,236	1,932	.1

1/ Public health centers built in combination with general hospitals and not reported as separate projects.
2/ Excludes 7,109 long-term care beds built in conjunction with general and other hospital projects, for which funds cannot be separated from total project costs.

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Chart 2

Modernization has been involved in two out of three Hill-Burton projects . . .

(July 1, 1947 - June 30, 1968)

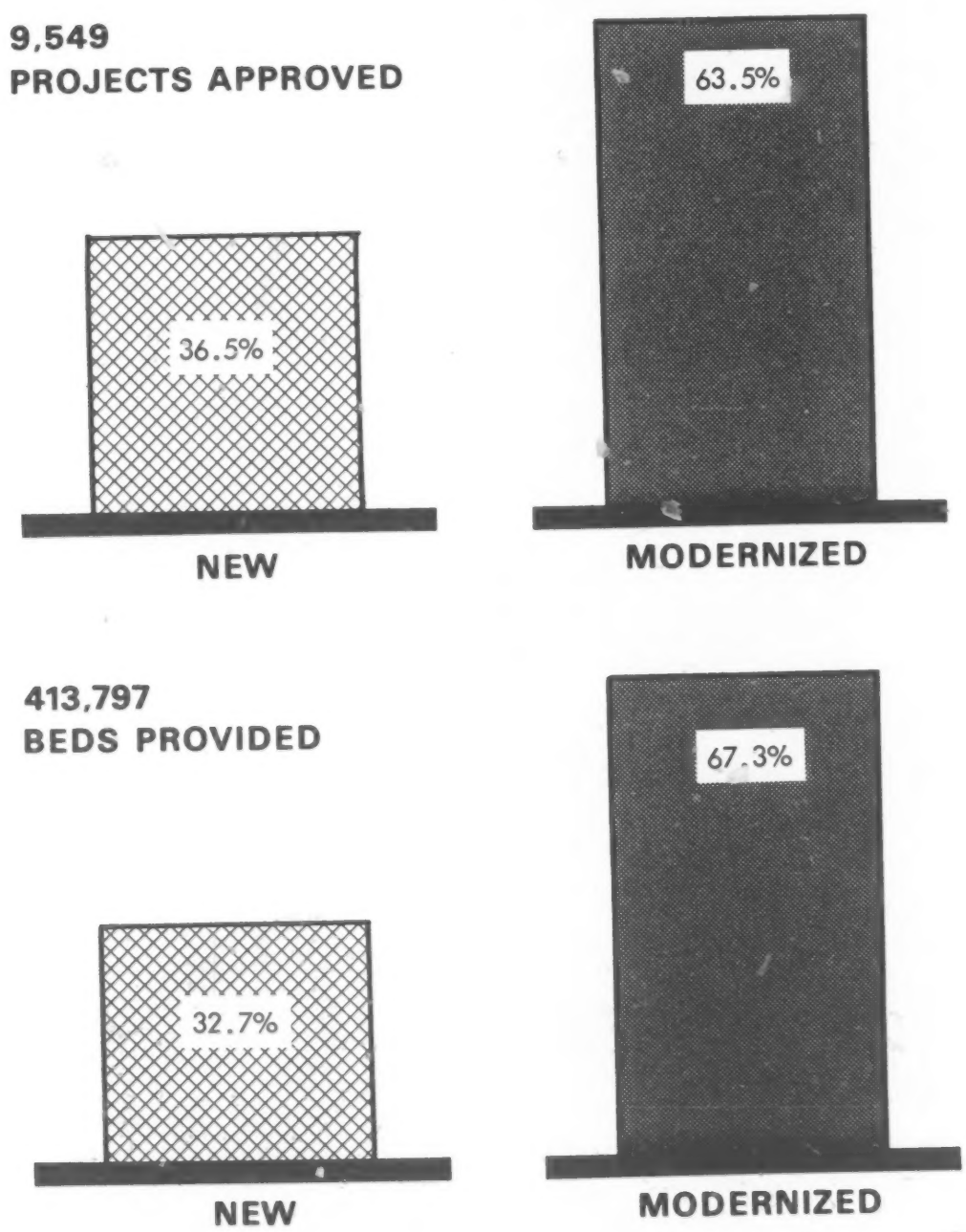

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Table 8. GENERAL HOSPITALS: Projects Approved by Type of Construction, Selected Fiscal Years, as of June 30, 1968

Fiscal Year of Initial Approval	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
New Facilities							
1948	191	80.3	8,197	79.4	$107,267	$36,335	77.8
1953	90	42.7	6,128	53.1	145,610	37,920	44.3
1958	88	36.4	5,867	39.9	140,548	48,133	49.7
1963	58	21.6	5,570	30.9	151,154	53,312	36.1
1968	10	4.1	800	5.1	41,349	9,084	6.7
Additions, Alterations and Replacements							
1948	47	19.7	2,123	20.6	30,648	10,348	22.2
1953	121	57.3	5,419	46.9	155,869	47,648	55.7
1958	154	63.6	8,844	60.1	211,483	48,659	50.3
1963	211	78.4	12,480	69.1	335,108	94,434	63.9
1968	231	95.9	14,908	94.9	457,125	126,619	93.3

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Table 9. LONG-TERM CARE FACILITIES 1/: Projects Approved by Type of Construction, Selected Fiscal Years, as of June 30, 1968

Fiscal Year of Initial Approval	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
New Facilities							
1955	2	40.0	296	49.9	$2,898	$495	62.9
1958	16	22.9	1,161	35.5	13,346	3,966	32.9
1963	30	22.7	1,709	28.5	22,176	9,157	27.3
1968	21	14.7	1,336	15.7	19,743	7,353	15.2
Additions, Alterations and Replacements							
1955	3	60.0	297	50.1	804	292	37.1
1958	54	77.1	2,105	64.5	23,328	8,084	67.1
1963	102	77.3	4,287	71.5	62,752	24,362	72.7
1968	122	85.3	7,159	84.3	121,876	40,952	84.8

1/ Includes nursing homes, chronic disease hospitals, and long-term care units of hospitals.

NOTE: Funds were first specifically authorized for the construction of long-term care facilities for fiscal year 1955, in accordance with the 1954 amendments to the Hill-Burton Act. Previously funds available for hospitals and public health centers could assist in the construction of chronic disease facilities; nursing homes were not eligible for assistance.

Table 10. GENERAL HOSPITALS: Projects Approved by Type of Construction and Resulting Bed Capacity of Hospital, July 1, 1964 - June 30, 1968

Resulting Bed Capacity	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	1,197	100.0	79,901	100.0	$2,505,800	$694,362	100.0
Under 25 beds	25	2.1	270	.3	14,821	5,253	.7
25 - 49	167	13.9	.3,842	4.8	96,856	42,058	6.1
50 - 99	286	23.9	11,751	14.7	319,952	124,287	17.9
100 - 299	464	38.8	35,197	44.1	1,114,648	304,522	43.9
300 or more	255	21.3	28,841	36.1	959,523	218,242	31.4
New Facilities							
Total	106	100.0	8,137	100.0	241,732	87,029	100.0
Under 25 beds	7	6.6	78	1.0	5,506	1,578	1.8
25 - 49	48	45.3	1,442	17.7	37,270	16,033	18.4
50 - 99	23	21.7	1,442	17.7	36,955	17,049	19.6
100 - 299	25	23.6	3,921	48.2	108,235	39,899	45.9
300 or more	3	2.8	1,254	15.4	53,766	12,470	14.3
Additions, Alterations and Replacements							
Total	1,091	100.0	71,764	100.0	2,264,068	607,333	100.0
Under 25 beds	18	1.7	192	.3	9,315	3,675	.6
25 - 49	119	10.9	2,400	3.3	59,586	26,025	4.3
50 - 99	263	24.1	10,309	14.4	282,997	107,238	17.6
100 - 299	439	40.2	31,276	43.6	1,006,413	264,623	43.6
300 or more	252	23.1	27,587	38.4	905,757	205,772	33.9

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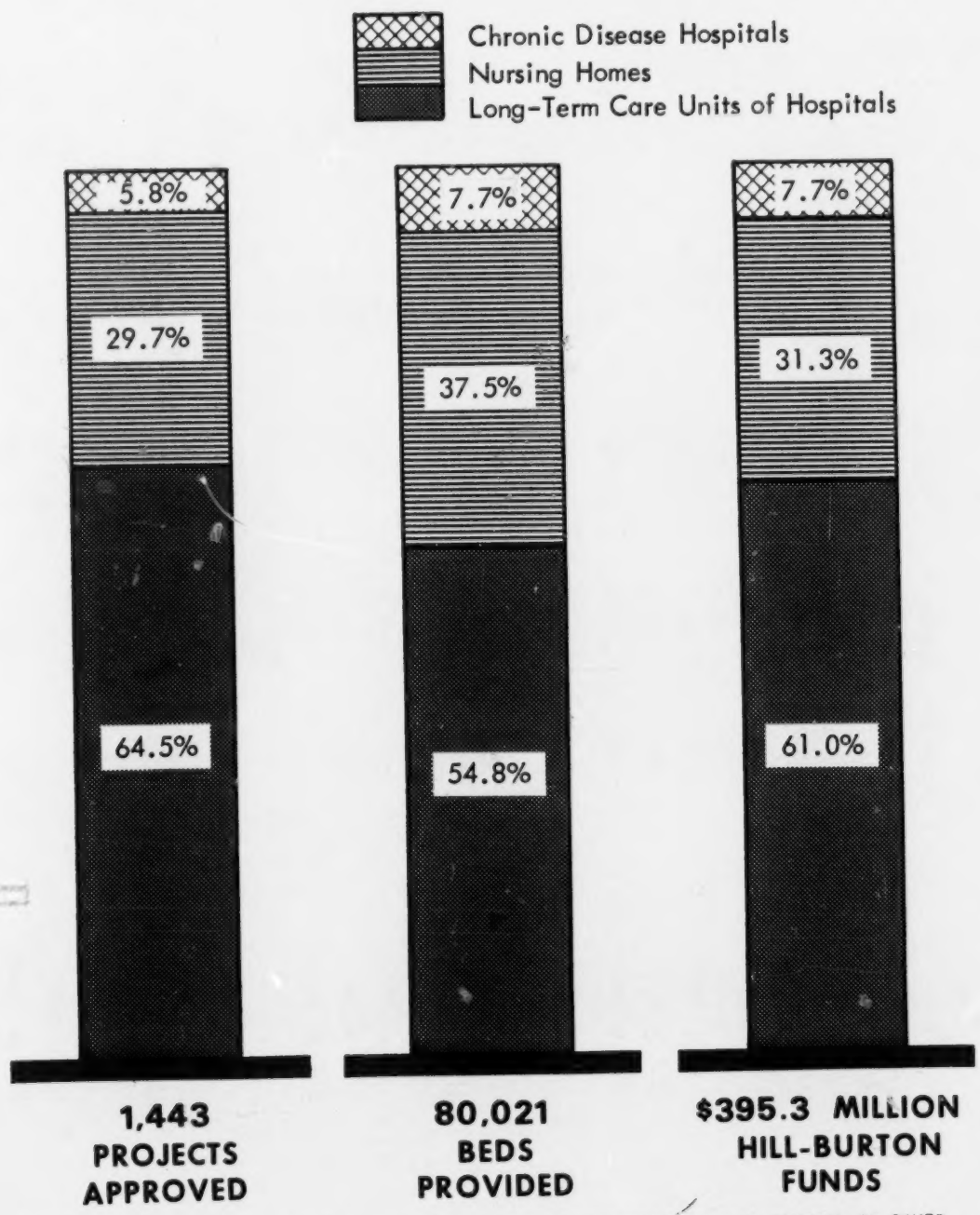
Chart 3

Two-thirds of the long-term care projects have been for units of hospitals . . .

(July 1, 1947 - June 30, 1968)



EXCLUDES 7,109 LONG-TERM CARE BEDS, CONSTRUCTED IN CONJUNCTION WITH GENERAL OR OTHER HOSPITAL PROJECTS, FOR WHICH FUNDS CANNOT BE SEPARATED FROM TOTAL PROJECT COSTS.

Table 11. LONG-TERM CARE UNITS OF HOSPITALS 1/: Projects Approved by Type of Construction and Resulting Bed Capacity of Hospital, July 1, 1964 - June 30, 1968

Resulting Bed Capacity	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	471	100.0	23,207	100.0	$393,308	$143,906	100.0
Under 25 beds	5	1.1	45	.2	944	424	.3
25 - 49	30	6.4	570	2.5	9,199	3,825	2.6
50 - 99	173	36.7	5,622	24.2	87,784	36,121	25.1
100 - 299	179	38.0	9,153	39.4	157,777	61,550	42.8
300 or more	84	17.8	7,817	33.7	137,604	41,986	29.2
New Facilities							
Total	46	100.0	2,072	100.0	36,037	13,514	100.0
Under 25 beds	2	4.3	18	.9	371	146	1.1
25 - 49	8	17.4	133	6.4	2,147	993	7.3
50 - 99	17	37.0	471	22.7	9,652	4,123	30.5
100 - 299	12	26.1	583	28.1	9,513	3,894	28.8
300 or more	7	15.2	867	41.9	14,354	4,358	32.3
Additions, Alterations and Replacements							
Total	425	100.0	21,135	100.0	357,271	130,392	100.0
Under 25 beds	3	.7	27	.1	573	278	.2
25 - 49	22	5.2	437	2.1	7,052	2,832	2.2
50 - 99	156	36.7	5,151	24.4	78,132	31,998	24.5
100 - 299	167	39.3	8,570	40.5	148,264	57,656	44.2
300 or more	77	18.1	6,950	32.9	123,250	37,628	28.9

1/ Includes nursing home units of hospitals.

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Table 12. NURSING HOMES 1/: Projects Approved by Type of Construction and Resulting Bed Capacity of Nursing Home, July 1, 1964 - June 30, 1968

Resulting Bed Capacity	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	208	100.0	15,670	100.0	$240,444	$72,951	100.0
Under 25 beds	2	1.0	35	.2	587	300	.4
25 - 49	43	20.7	1,461	9.3	21,676	8,168	11.2
50 - 99	81	38.9	4,583	29.3	71,200	22,162	30.4
100 - 299	77	37.0	8,447	53.9	128,941	39,105	53.6
300 or more	5	2.4	1,144	7.3	18,040	3,216	4.4
New Facilities							
Total	89	100.0	6,229	100.0	93,913	30,706	100.0
Under 25 beds	2	2.2	35	.6	587	300	1.0
25 - 49	29	32.6	1,085	17.4	15,946	6,276	20.4
50 - 99	39	43.8	2,546	40.9	43,732	12,544	40.9
100 - 299	19	21.4	2,563	41.1	33,648	11,586	37.7
300 or more	-	-	-	-	-	-	-
Additions, Alterations and Replacements							
Total	119	100.0	9,441	100.0	146,531	42,245	100.0
Under 25 beds	-	-	-	-	-	-	-
25 - 49	14	11.8	376	4.0	5,730	1,892	4.5
50 - 99	42	35.3	2,037	21.6	27,468	9,618	22.8
100 - 299	58	48.7	5,884	62.3	95,293	27,519	65.1
300 or more	5	4.2	1,144	12.1	18,040	3,216	7.6

1/ Excludes nursing home units of hospitals.

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Table 13. CHRONIC DISEASE HOSPITALS: Projects Approved by Type of Construction and Resulting Bed Capacity of Hospital, July 1, 1964 - June 30, 1968

Resulting Bed Capacity	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	22	100.0	1,459	100.0	$29,754	$10,115	100.0
Under 25 beds	-	-	-	-	-	-	-
25 - 49	3	13.6	90	6.2	2,088	1,251	12.4
50 - 99	5	22.7	297	20.3	10,043	3,163	31.3
100 - 299	10	45.5	519	35.6	9,001	2,768	27.3
300 or more	4	18.2	553	37.9	8,622	2,933	29.0
New Facilities							
Total	3	100.0	145	100.0	4,517	1,264	100.0
Under 25 beds	-	-	-	-	-	-	-
25 - 49	1	33.3	42	29.0	631	312	24.7
50 - 99	2	66.7	103	71.0	3,886	952	75.3
100 - 299	-	-	-	-	-	-	-
300 or more	-	-	-	-	-	-	-
Additions, Alterations and Replacements							
Total	19	100.0	1,314	100.0	25,237	8,851	100.0
Under 25 beds	-	-	-	-	-	-	-
25 - 49	2	10.5	48	3.6	1,457	939	10.6
50 - 99	3	15.8	194	14.8	6,157	2,211	25.0
100 - 299	10	52.6	519	39.5	9,001	2,768	31.3
300 or more	4	21.1	553	42.1	8,622	2,933	33.1

Table 14. TOTAL PROJECTS by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Inpatient Beds		Outpatient Facilities 1/		Cost (000's)		
								Federal Share	
	Number	Percent	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects									
Total	2,743	100.0	122,978	100.0	818	100.0	$3,753,954	$1,098,993	100.0
Under 2,500	460	16.8	12,509	10.2	122	14.9	288,692	109,991	10.0
2,500 - 4,999	352	12.8	11,687	9.5	63	7.7	262,068	96,959	8.8
5,000 - 9,999	373	13.6	16,225	13.2	64	7.8	401,262	144,020	13.1
10,000 - 24,999	434	15.8	21,927	17.8	110	13.4	638,301	195,157	17.8
25,000 - 49,999	270	9.8	14,152	11.5	89	10.9	488,187	131,173	11.9
50,000 - 99,999	222	8.1	11,429	9.3	99	12.1	388,821	101,010	9.2
100,000 - 249,999	224	8.2	12,586	10.2	89	10.9	408,338	110,994	10.1
250,000 or more	408	14.9	22,463	18.3	182	22.3	878,285	209,689	19.1
New Facilities									
Total	480	100.0	17,166	100.0	230	100.0	524,108	176,885	100.0
Under 2,500	124	25.8	3,311	19.3	55	23.9	79,874	31,302	17.7
2,500 - 4,999	80	16.7	2,771	16.2	27	11.7	65,823	22,556	12.7
5,000 - 9,999	55	11.5	2,214	12.9	16	7.0	46,793	21,308	12.0
10,000 - 49,999	103	21.4	4,054	23.6	57	24.8	134,701	44,880	25.4
50,000 - 99,999	33	6.9	709	4.1	24	10.4	27,313	10,772	6.1
100,000 - 249,999	39	8.1	1,688	9.8	23	10.0	53,007	18,898	10.7
250,000 or more	46	9.6	2,419	14.1	28	12.2	116,597	27,169	15.4
Additions, Alterations and Replacements									
Total	2,263	100.0	105,812	100.0	588	100.0	3,229,846	922,108	100.0
Under 2,500	336	14.8	9,198	8.7	67	11.4	208,818	78,689	8.5
2,500 - 4,999	272	12.0	8,916	8.4	36	6.1	196,245	74,403	8.1
5,000 - 9,999	318	14.1	14,011	13.2	48	8.2	354,469	122,712	13.3
10,000 - 49,999	601	26.6	32,025	30.3	142	24.1	991,787	281,450	30.5
50,000 - 99,999	189	8.3	10,720	10.1	75	12.8	361,508	90,238	9.8
100,000 - 249,999	185	8.2	10,898	10.3	66	11.2	355,331	92,096	10.0
250,000 or more	362	16.0	20,044	19.0	154	26.2	761,688	182,520	19.8

1/ Includes diagnostic or treatment centers, rehabilitation facilities, and public health centers.

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Table 15. GENERAL HOSPITALS: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Inpatient Beds		Outpatient Facilities 1/		Cost (000's)		
								Federal Share	
	Number	Percent	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects									
Total	1,197	100.0	79,901	100.0	15	100.0	$2,505,800	$694,362	100.0
Under 2,500	172	14.4	4,833	6.0	4	26.7	136,777	54,102	7.8
2,500 - 4,999	160	13.4	5,475	6.9	3	20.0	147,009	56,562	8.1
5,000 - 9,999	193	16.1	10,095	12.6	2	13.3	285,687	100,621	14.5
10,000 - 24,999	217	18.1	15,436	19.3	6	40.0	465,434	139,846	20.1
25,000 - 49,999	125	10.5	10,593	13.3	-	-	363,085	92,673	13.4
50,000 - 99,999	85	7.1	8,460	10.6	-	-	267,900	59,947	8.6
100,000 - 249,999	89	7.4	9,339	11.7	-	-	280,729	68,394	9.9
250,000 or more	156	13.0	15,670	19.6	-	-	559,179	122,217	17.6
New Facilities									
Total	106	100.0	8,137	100.0	2	100.0	241,732	87,029	100.0
Under 2,500	29	27.4	1,443	17.7	1	50.0	39,728	16,131	18.5
2,500 - 4,999	26	24.5	947	11.6	-	-	25,692	10,967	12.6
5,000 - 9,999	21	19.8	1,282	15.8	-	-	30,645	14,816	17.0
10,000 - 49,999	17	16.0	2,121	26.1	1	50.0	58,178	23,475	27.0
50,000 - 99,999	3	2.8	198	2.4	-	-	7,846	2,132	2.5
100,000 - 249,999	4	3.8	634	7.8	-	-	16,703	6,911	7.9
250,000 or more	6	5.7	1,512	18.6	-	-	62,940	12,597	14.5
Additions, Alterations and Replacements									
Total	1,091	100.0	71,764	100.0	13	100.0	2,264,068	607,333	100.0
Under 2,500	143	13.1	3,390	4.7	3	23.1	97,049	37,971	6.3
2,500 - 4,999	134	12.3	4,528	6.3	3	23.1	121,317	45,595	7.5
5,000 - 9,999	172	15.8	8,813	12.3	2	15.4	255,042	85,805	14.1
10,000 - 49,999	325	29.8	23,908	33.3	5	38.4	770,341	209,044	34.4
50,000 - 99,999	82	7.5	8,262	11.5	-	-	260,054	57,815	9.5
100,000 - 249,999	85	7.8	8,705	12.2	-	-	264,026	61,483	10.1
250,000 or more	150	13.7	14,158	19.7	-	-	496,239	109,620	18.1

1/ Includes diagnostic or treatment centers, rehabilitation facilities, and public health centers.

Table 16. TOTAL LONG-TERM CARE FACILITIES 1/: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	701	100.0	40,336	100.0	$663,505	$226,972	100.0
Under 2,500	163	23.3	7,150	17.7	106,120	40,471	17.8
2,500 - 4,999	128	18.3	6,108	15.1	98,951	33,982	15.0
5,000 - 9,999	115	16.4	5,935	14.7	91,877	34,901	15.4
10,000 - 49,999	160	22.8	9,425	23.4	171,476	57,899	25.5
50,000 - 99,999	32	4.6	2,159	5.4	39,306	13,622	6.0
100,000 - 249,999	41	5.8	3,039	7.5	50,359	16,959	7.5
250,000 or more	62	8.8	6,520	16.2	105,416	29,138	12.8
New Facilities							
Total	138	100.0	8,446	100.0	134,466	45,485	100.0
Under 2,500	38	27.5	1,552	18.4	19,638	8,377	18.4
2,500 - 4,999	26	18.8	1,792	21.2	33,559	8,495	18.7
5,000 - 9,999	18	13.1	932	11.0	13,011	5,055	11.1
10,000 - 49,999	29	21.0	1,833	21.7	29,118	10,676	23.5
50,000 - 99,999	5	3.6	486	5.8	7,006	3,585	7.9
100,000 - 249,999	10	7.3	944	11.2	12,750	4,410	9.7
250,000 or more	12	8.7	907	10.7	19,384	4,887	10.7
Additions, Alterations, and Replacements							
Total	563	100.0	31,890	100.0	529,039	181,487	100.0
Under 2,500	125	22.2	5,598	17.6	86,482	32,094	17.7
2,500 - 4,999	102	18.1	4,316	13.5	65,392	25,487	14.0
5,000 - 9,999	97	17.2	5,003	15.7	78,866	29,846	16.5
10,000 - 49,999	131	23.3	7,592	23.8	142,358	47,223	26.0
50,000 - 99,999	27	4.8	1,673	5.2	32,300	10,037	5.5
100,000 - 249,999	31	5.5	2,095	6.6	37,609	12,549	6.9
250,000 or more	50	8.9	5,613	17.6	86,032	24,251	13.4

1/ Includes nursing homes, chronic disease hospitals, and long-term care units of hospitals.

Table 17. LONG-TERM CARE UNITS OF HOSPITALS 1/: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	471	100.0	23,207	100.0	$393,308	$143,906	100.0
Under 2,500	115	24.4	4,150	17.9	65,898	26,607	18.5
2,500 - 4,999	99	21.0	4,263	18.4	59,733	25,356	17.6
5,000 - 9,999	86	18.3	3,809	16.4	63,502	24,299	16.9
10,000 - 49,999	110	23.4	6,120	26.4	122,906	42,802	29.7
50,000 - 99,999	18	3.8	1,068	4.6	18,073	6,126	4.3
100,000 - 249,999	17	3.6	1,045	4.5	20,786	6,986	4.8
250,000 or more	26	5.5	2,752	11.8	42,410	11,730	8.2
New Facilities							
Total	46	100.0	2,072	100.0	36,037	13,514	100.0
Under 2,500	13	28.3	325	15.7	5,075	2,033	15.0
2,500 - 4,999	11	23.9	882	42.6	8,327	3,753	27.8
5,000 - 9,999	7	15.2	229	11.0	4,116	1,672	12.4
10,000 - 49,999	11	23.9	516	24.9	12,542	4,705	34.8
50,000 - 99,999	-	-	-	-	-	-	-
100,000 - 249,999	1	2.2	50	2.4	1,155	769	5.7
250,000 or more	3	6.5	70	3.4	4,822	582	4.3
Additions, Alterations and Replacements							
Total	425	100.0	21,135	100.0	357,271	130,392	100.0
Under 2,500	102	24.0	3,825	18.1	60,823	24,574	18.8
2,500 - 4,999	88	20.7	3,381	16.0	51,406	21,603	16.6
5,000 - 9,999	79	18.6	3,580	16.9	59,386	22,627	17.4
10,000 - 49,999	99	23.3	5,604	26.5	110,364	38,097	29.2
50,000 - 99,999	18	4.2	1,068	5.1	18,073	6,126	4.7
100,000 - 249,999	16	3.8	995	4.7	19,631	6,217	4.8
250,000 or more	23	5.4	2,682	12.7	37,588	11,148	8.5

1/ Includes nursing home units of hospitals.

Table 18. NURSING HOMES 1/: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	208	100.0	15,670	100.0	$240,444	$72,951	100.0
Under 2,500	47	22.6	2,933	18.7	39,303	13,674	18.7
2,500 - 4,999	27	13.0	1,738	11.1	37,891	8,019	11.0
5,000 - 9,999	27	13.0	1,938	12.4	27,289	10,062	13.8
10,000 - 49,999	48	23.0	3,261	20.8	47,918	14,724	20.2
50,000 - 99,999	12	5.8	901	5.8	16,728	5,874	8.1
100,000 - 249,999	20	9.6	1,868	11.9	23,876	7,592	10.4
250,000 or more	27	13.0	3,031	19.3	47,439	13,006	17.8
New Facilities							
Total	89	100.0	6,229	100.0	93,913	30,706	100.0
Under 2,500	25	28.1	1,227	19.7	14,564	6,344	20.7
2,500 - 4,999	15	16.9	910	14.6	25,232	4,742	15.4
5,000 - 9,999	10	11.2	661	10.6	8,263	3,071	10.0
10,000 - 49,999	18	20.2	1,317	21.1	16,576	5,971	19.4
50,000 - 99,999	5	5.6	486	7.8	7,006	3,585	11.7
100,000 - 249,999	8	9.0	844	13.6	10,946	3,380	11.0
250,000 or more	8	9.0	784	12.6	11,326	3,613	11.8
Additions, Alterations and Replacements							
Total	119	100.0	9,441	100.0	146,531	42,245	100.0
Under 2,500	22	18.5	1,706	18.1	24,739	7,330	17.4
2,500 - 4,999	12	10.1	828	8.8	12,659	3,277	7.8
5,000 - 9,999	17	14.3	1,277	13.5	19,026	6,991	16.5
10,000 - 49,999	30	25.2	1,944	20.6	31,342	8,753	20.7
50,000 - 99,999	7	5.9	415	4.4	9,722	2,289	5.4
100,000 - 249,999	12	10.1	1,024	10.8	12,930	4,212	10.0
250,000 or more	19	15.9	2,247	23.8	36,113	9,393	22.2

1/ Excludes nursing home units of hospitals.

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Table 19. CHRONIC DISEASE HOSPITALS: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Inpatient Beds		Cost (000's)		
						Federal Share	
	Number	Percent	Number	Percent	Total	Amount	Percent
Total Projects							
Total	22	100.0	1,459	100.0	$29,754	$10,115	100.0
Under 2,500	1	4.5	67	4.6	918	189	1.9
2,500 - 4,999	2	9.1	107	7.3	1,326	609	6.0
5,000 - 9,999	2	9.1	188	12.9	1,087	540	5.3
10,000 - 49,999	2	9.1	44	3.0	652	372	3.7
50,000 - 99,999	2	9.1	190	13.0	4,506	1,623	16.0
100,000 - 249,999	4	18.2	126	8.7	5,697	2,382	23.6
250,000 or more	9	40.9	737	50.5	15,568	4,400	43.5
New Facilities							
Total	3	100.0	145	100.0	4,517	1,264	100.0
Under 2,500	-	-	-	-	-	-	-
2,500 - 4,999	-	-	-	-	-	-	-
5,000 - 9,999	1	33.4	42	29.0	631	312	24.7
10,000 - 49,999	-	-	-	-	-	-	-
50,000 - 99,999	-	-	-	-	-	-	-
100,000 - 249,999	1	33.3	50	34.5	649	260	20.6
250,000 or more	1	33.3	53	36.5	3,237	692	54.7
Additions, Alterations and Replacements							
Total	19	100.0	1,314	100.0	25,237	8,851	100.0
Under 2,500	1	5.3	67	5.1	918	189	2.1
2,500 - 4,999	2	10.6	107	8.1	1,326	609	6.9
5,000 - 9,999	1	5.3	146	11.1	456	228	2.6
10,000 - 49,999	2	10.5	44	3.3	652	372	4.2
50,000 - 99,999	2	10.5	190	14.5	4,506	1,623	18.3
100,000 - 249,999	3	15.7	76	5.8	5,048	2,122	24.0
250,000 or more	8	42.1	684	52.1	12,331	3,708	41.9

Table 20. DIAGNOSTIC OR TREATMENT CENTERS: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Cost (000's)		
				Federal Share	
	Number	Percent	Total	Amount	Percent
Total Projects					
Total	376	100.0	$263,056	$82,152	100.0
Under 2,500	37	9.8	9,629	3,814	4.6
2,500 - 4,999	16	4.3	4,581	1,680	2.0
5,000 - 9,999	29	7.7	12,177	4,513	5.5
10,000 - 49,999	98	26.1	55,572	18,771	22.9
50,000 - 99,999	51	13.6	32,452	11,612	14.1
100,000 - 249,999	43	11.4	25,957	8,346	10.2
250,000 or more	102	27.1	122,688	33,416	40.7
New Facilities					
Total	52	100.0	20,187	9,751	100.0
Under 2,500	19	36.5	3,592	1,889	19.4
2,500 - 4,999	3	5.8	736	340	3.5
5,000 - 9,999	3	5.8	984	492	5.0
10,000 - 49,999	11	21.1	8,756	4,036	41.4
50,000 - 99,999	7	13.5	2,240	1,130	11.6
100,000 - 249,999	6	11.5	2,941	1,401	14.4
250,000 or more	3	5.8	938	463	4.7
Additions, Alterations and Replacements					
Total	324	100.0	242,869	72,401	100.0
Under 2,500	18	5.6	6,037	1,925	2.7
2,500 - 4,999	13	4.0	3,845	1,340	1.8
5,000 - 9,999	26	8.0	11,193	4,021	5.6
10,000 - 49,999	87	26.8	46,816	14,735	20.3
50,000 - 99,999	44	13.6	30,212	10,482	14.5
100,000 - 249,999	37	11.4	23,016	6,945	9.6
250,000 or more	99	30.6	121,750	32,953	45.5

NOTE: The majority of the diagnostic or treatment center projects are in conjunction with general hospitals.

Table 21. REHABILITATION FACILITIES: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Cost (000's)		
				Federal Share	
	Number	Percent	Total	Amount	Percent
Total Projects					
Total	182	100.0	$155,405	$48,301	100.0
Under 2,500	15	8.2	12,995	4,783	9.9
2,500 - 4,999	8	4.4	3,628	1,771	3.7
5,000 - 9,999	4	2.2	2,070	815	1.7
10,000 - 49,999	36	19.8	30,368	7,595	15.7
50,000 - 99,999	30	16.5	26,823	9,341	19.3
100,000 - 249,999	32	17.6	27,908	9,639	20.0
250,000 or more	57	31.3	51,613	14,357	29.7
New Facilities					
Total	39	100.0	33,499	10,080	100.0
Under 2,500	2	5.1	1,844	951	9.4
2,500 - 4,999	4	10.3	2,133	1,219	12.1
5,000 - 9,999	-	-	-	-	-
10,000 - 49,999	11	28.2	9,663	1,862	18.5
50,000 - 99,999	7	17.9	4,345	1,677	16.6
100,000 - 249,999	6	15.4	4,723	1,215	12.1
250,000 or more	9	23.1	10,791	3,156	31.3
Additions, Alterations and Replacements					
Total	143	100.0	121,906	38,221	100.0
Under 2,500	13	9.1	11,151	3,832	10.0
2,500 - 4,999	4	2.8	1,495	552	1.5
5,000 - 9,999	4	2.8	2,070	815	2.1
10,000 - 49,999	25	17.5	20,705	5,733	15.0
50,000 - 99,999	23	16.1	22,478	7,664	20.1
100,000 - 249,999	26	18.2	23,185	8,424	22.0
250,000 or more	48	33.5	40,822	11,201	29.3

NOTE: The majority of the rehabilitation facility projects are in conjunction with general hospitals.

Table 22. PUBLIC HEALTH CENTERS: Projects Approved by Type of Construction and Size of Community, July 1, 1964 - June 30, 1968

Size of Community	Projects		Cost (000's)		
				Federal Share	
	Number	Percent	Total	Amount	Percent
Total Projects					
Total	236	100.0	$88,413	$28,862	100.0
Under 2,500	66	28.0	7,538	3,666	12.7
2,500 - 4,999	36	15.2	4,334	1,923	6.7
5,000 - 9,999	29	12.3	7,737	2,491	8.6
10,000 - 49,999	55	23.3	17,611	6,452	22.4
50,000 - 99,999	17	7.2	8,736	3,324	11.5
100,000 - 249,999	12	5.1	14,852	4,311	14.9
250,000 or more	21	8.9	27,605	6,695	23.2
New Facilities					
Total	131	100.0	53,014	16,489	100.0
Under 2,500	33	25.2	3,349	1,673	10.2
2,500 - 4,999	20	15.2	2,817	1,237	7.5
5,000 - 9,999	13	9.9	2,154	945	5.7
10,000 - 49,999	33	25.2	11,980	3,845	23.3
50,000 - 99,999	9	6.9	4,949	1,900	11.5
100,000 - 249,999	9	6.9	9,393	2,737	16.6
250,000 or more	14	10.7	18,372	4,152	25.2
Additions, Alterations and Replacements					
Total	105	100.0	35,399	12,373	100.0
Under 2,500	33	31.4	4,189	1,993	16.1
2,500 - 4,999	16	15.2	1,517	686	5.5
5,000 - 9,999	16	15.2	5,583	1,546	12.5
10,000 - 49,999	22	21.0	5,631	2,607	21.1
50,000 - 99,999	8	7.6	3,787	1,424	11.5
100,000 - 249,999	3	2.9	5,459	1,574	12.7
250,000 or more	7	6.7	9,233	2,543	20.6

APPENDIX TABLES
(State Data)

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Table A. TOTAL PROJECTS APPROVED, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Inpatient Beds	Outpatient Facilities 1/	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	9,549	413,797	2,737	$10,048,249	$3,108,416
Alabama	304	10,358	99	197,807	97,241
Alaska	24	490	5	21,064	6,484
Arizona	100	3,414	24	73,980	25,611
Arkansas	200	6,754	35	125,357	63,144
California	378	19,004	128	573,019	138,910
Colorado	105	4,235	38	100,167	30,103
Connecticut	142	4,562	41	174,525	21,253
Delaware	35	1,695	15	27,460	8,221
Dist. of Col.	39	725	16	27,913	8,645
Florida	311	12,999	129	271,737	90,439
Georgia	426	13,264	189	292,580	111,666
Hawaii	53	1,644	19	40,155	12,865
Idaho	79	2,373	20	48,531	16,941
Illinois	266	16,957	55	498,103	100,436
Indiana	189	9,981	41	266,630	72,574
Iowa	174	8,729	13	182,402	53,231
Kansas	122	5,167	13	118,810	41,257
Kentucky	270	9,211	108	193,932	84,720
Louisiana	261	10,999	103	215,882	85,301
Maine	84	2,569	20	63,908	22,109
Maryland	145	8,659	48	246,008	42,820
Massachusetts	273	12,169	69	348,860	63,074
Michigan	284	14,566	64	364,536	104,960
Minnesota	190	9,371	23	211,763	65,366
Mississippi	328	7,870	179	131,960	79,721
Missouri	195	9,150	41	222,884	72,730
Montana	77	2,199	6	37,215	12,933
Nebraska	124	3,679	19	100,432	28,203
Nevada	41	1,040	7	20,027	8,108
New Hampshire	82	1,952	33	51,891	14,959

Table A. TOTAL PROJECTS APPROVED, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of Projects	Inpatient Beds	Outpatient Facilities 1/	Cost (000's) Total	Cost (000's) Federal Share
New Jersey	178	11,539	61	292,786	58,729
New Mexico	114	3,237	33	63,442	22,627
New York	326	21,011	34	665,456	147,813
North Carolina	442	15,118	128	313,303	134,448
North Dakota	67	2,378	6	46,951	16,784
Ohio	361	20,543	109	547,649	125,983
Oklahoma	268	8,949	67	142,199	54,100
Oregon	132	5,615	20	124,702	29,459
Pennsylvania	321	20,049	48	579,278	166,552
Rhode Island	65	1,883	19	72,459	15,632
South Carolina	273	7,460	134	132,874	71,104
South Dakota	88	2,490	5	42,619	17,952
Tennessee	289	11,363	110	231,583	95,204
Texas	432	27,637	90	557,087	191,193
Utah	70	2,242	12	50,175	18,887
Vermont	49	1,527	15	37,506	11,829
Virginia	212	9,331	87	230,370	90,536
Washington	123	4,390	36	139,461	40,406
West Virginia	108	4,841	26	128,025	50,713
Wisconsin	164	7,257	18	212,184	63,162
Wyoming	51	1,248	10	21,995	7,862
Guam	9	36	7	730	487
Puerto Rico	97	7,798	57	163,960	91,803
Virgin Islands	9	70	5	1,917	1,126

1/ Includes diagnostic or treatment centers, rehabilitation facilities, and public health centers.

Table B. GENERAL HOSPITALS 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	5,224	305,310	$7,445,755	$2,245,948
Alabama	152	7,987	155,887	71,693
Alaska	14	389	16,052	4,332
Arizona	55	2,397	52,633	17,291
Arkansas	120	4,867	97,833	48,091
California	190	15,610	410,697	97,622
Colorado	54	3,339	78,466	21,066
Connecticut	85	3,811	135,203	15,090
Delaware	11	520	11,568	2,786
Dist. of Col.	19	579	14,401	3,956
Florida	138	9,597	194,184	60,765
Georgia	193	10,605	214,358	79,327
Hawaii	19	1,049	23,627	6,896
Idaho	47	1,680	37,[illegible]9	12,409
Illinois	158	13,511	393,830	76,589
Indiana	111	7,937	205,972	57,801
Iowa	129	6,655	145,456	41,829
Kansas	77	3,994	87,447	30,016
Kentucky	119	6,933	140,536	60,277
Louisiana	105	7,182	153,827	56,919
Maine	48	2,132	45,470	15,889
Maryland	72	6,499	195,439	29,959
Massachusetts	173	9,905	266,940	49,335
Michigan	178	11,237	288,032	78,161
Minnesota	121	6,323	146,983	47,473
Mississippi	134	6,526	102,289	61,602
Missouri	115	6,540	162,185	53,510
Montana	44	1,207	23,163	8,058
Nebraska	79	2,786	80,503	21,571
Nevada	20	544	12,133	4,664
New Hampshire	38	1,481	38,603	10,279

Table B. GENERAL HOSPITALS 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
New Jersey	80	7,970	179,090	39,095
New Mexico	59	2,327	48,567	15,846
New York	230	16,737	512,971	114,997
North Carolina	272	12,474	250,507	106,246
North Dakota	45	1,252	32,575	11,078
Ohio	191	15,024	393,440	91,932
Oklahoma	155	5,551	109,522	39,131
Oregon	81	3,999	92,993	22,312
Pennsylvania	219	15,079	439,597	128,646
Rhode Island	35	1,494	55,834	9,698
South Carolina	83	4,463	82,272	44,416
South Dakota	61	1,499	32,169	13,333
Tennessee	124	6,926	125,574	54,885
Texas	283	20,047	422,676	140,883
Utah	34	1,157	31,153	10,777
Vermont	25	1,199	26,885	7,522
Virginia	98	7,597	179,991	66,197
Washington	71	3,495	108,689	29,820
West Virginia	52	3,177	93,203	37,135
Wisconsin	113	5,440	169,266	48,437
Wyoming	32	1,045	15,996	4,968
Guam	2	36	479	319
Puerto Rico	55	3,430	109,882	62,186
Virgin Islands	6	70	1,418	833

1/ Includes 129 public health centers built in conjunction with general hospitals and not reported as separate projects.

Table C. TOTAL LONG-TERM CARE FACILITIES 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of 2/		Cost (000's)	
	Projects	Beds	Total	Federal Share
United States and Territories	1,443	80,021	$1,178,377	$395,280
Alabama	48	1,446	16,216	9,752
Alaska	5	101	3,816	1,613
Arizona	21	777	7,781	3,566
Arkansas	43	1,387	15,544	9,226
California	53	2,990	56,268	13,077
Colorado	17	896	9,400	4,310
Connecticut	14	669	13,092	1,859
Delaware	5	492	5,227	2,234
Dist. of Col.	3	134	2,066	937
Florida	42	2,452	26,912	12,391
Georgia	42	2,459	28,668	13,827
Hawaii	7	341	4,074	1,882
Idaho	14	493	4,940	2,262
Illinois	51	3,203	56,511	11,868
Indiana	36	1,825	34,220	7,868
Iowa	30	1,862	28,632	8,827
Kansas	31	1,059	20,177	7,016
Kentucky	30	1,421	18,523	9,148
Louisiana	36	1,645	18,498	8,364
Maine	14	411	6,846	2,583
Maryland	26	2,100	22,085	6,466
Massachusetts	29	2,196	45,774	7,457
Michigan	42	2,737	37,404	16,120
Minnesota	45	2,988	44,299	10,834
Mississippi	19	930	12,252	8,117
Missouri	33	2,136	27,145	9,239
Montana	27	992	11,623	4,196
Nebraska	25	803	9,419	3,568
Nevada	10	286	4,434	2,172
New Hampshire	11	471	6,925	1,995

Table C. TOTAL LONG-TERM CARE FACILITIES 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of 2/		Cost (000's)	
	Projects	Beds	Total	Federal Share
New Jersey	24	1,731	36,303	6,685
New Mexico	19	788	8,146	3,737
New York	61	4,096	91,685	20,188
North Carolina	34	1,957	30,267	13,372
North Dakota	15	922	11,147	4,448
Ohio	63	4,938	76,636	17,502
Oklahoma	42	1,033	12,382	5,329
Oregon	28	1,026	14,018	4,379
Pennsylvania	50	4,773	74,215	19,775
Rhode Island	9	239	5,365	2,188
South Carolina	33	1,415	15,202	9,356
South Dakota	22	991	8,930	3,964
Tennessee	45	2,171	29,769	12,703
Texas	46	4,654	56,616	19,658
Utah	17	697	7,790	3,316
Vermont	9	328	4,607	1,983
Virginia	30	1,734	26,074	12,669
Washington	16	895	11,472	4,089
West Virginia	17	1,013	17,551	7,871
Wisconsin	32	1,577	21,598	8,109
Wyoming	9	203	3,589	1,693
Puerto Rico	13	1,138	16,244	9,492

1/ Includes nursing homes, chronic disease hospitals, and long-term care units of hospitals.

2/ Excludes 7,109 long-term care beds built in conjunction with general and other hospital projects for which funds cannot be separated from total project costs.

Table D. TOTAL LONG-TERM CARE FACILITIES 1/:
Distribution of Beds, by Type of Facility, by State
July 1, 1947 - June 30, 1968

State	Number of Beds	Percent Distribution 2/			
		Total	Long-term Care Units of Hospitals	Nursing Homes	Chronic Disease Hospitals
United States and Territories	80,021	100.0	54.8	37.5	7.7
Alabama	1,446	100.0	84.7	15.3	-
Alaska	101	100.0	100.0	-	-
Arizona	777	100.0	70.4	24.5	5.1
Arkansas	1,387	100.0	76.4	18.4	5.2
California	2,990	100.0	80.1	5.4	14.5
Colorado	896	100.0	37.9	62.1	-
Connecticut	669	100.0	25.1	74.9	-
Delaware	492	100.0	14.2	-	85.8
Dist. of Col.	134	100.0	-	-	100.0
Florida	2,452	100.0	47.1	49.4	3.5
Georgia	2,459	100.0	55.8	44.2	-
Hawaii	341	100.0	50.7	49.3	-
Idaho	493	100.0	84.4	15.6	-
Illinois	3,203	100.0	56.0	41.4	2.6
Indiana	1,825	100.0	56.8	43.2	-
Iowa	1,862	100.0	91.3	6.0	2.7
Kansas	1,059	100.0	78.7	21.3	-
Kentucky	1,421	100.0	66.2	21.6	12.2
Louisiana	1,645	100.0	77.7	19.3	3.0
Maine	411	100.0	69.1	19.5	11.4
Maryland	2,100	100.0	51.7	27.1	21.2
Massachusetts	2,196	100.0	33.1	42.5	24.4
Michigan	2,737	100.0	28.2	71.8	-
Minnesota	2,988	100.0	72.0	20.4	7.6
Mississippi	930	100.0	95.7	4.3	-
Missouri	2,136	100.0	42.5	57.5	-
Montana	992	100.0	58.3	33.6	8.1
Nebraska	803	100.0	69.6	20.2	10.2
Nevada	286	100.0	100.0	-	-
New Hampshire	471	100.0	9.8	90.2	-

Table D. TOTAL LONG-TERM CARE FACILITIES 1/:
Distribution of Beds, by Type of Facility, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of Beds	Percent Distribution 2/			
		Total	Long-term Care Units of Hospitals	Nursing Homes	Chronic Disease Hospitals
New Jersey	1,731	100.0	56.8	38.7	4.5
New Mexico	788	100.0	72.6	6.3	21.1
New York	4,096	100.0	45.9	53.7	.4
North Carolina	1,957	100.0	75.9	20.2	3.9
North Dakota	922	100.0	7.3	86.2	6.5
Ohio	4,938	100.0	22.5	59.2	18.3
Oklahoma	1,033	100.0	48.6	43.2	8.2
Oregon	1,026	100.0	58.3	41.7	-
Pennsylvania	4,773	100.0	25.2	70.1	4.7
Rhode Island	239	100.0	57.3	42.7	-
South Carolina	1,415	100.0	68.6	31.4	-
South Dakota	991	100.0	34.0	66.0	-
Tennessee	2,171	100.0	60.9	30.0	9.1
Texas	4,654	100.0	49.4	36.1	14.5
Utah	697	100.0	46.6	41.9	11.5
Vermont	328	100.0	67.7	32.3	-
Virginia	1,734	100.0	68.7	18.8	12.5
Washington	895	100.0	65.8	8.9	25.3
West Virginia	1,013	100.0	56.0	39.1	4.9
Wisconsin	1,577	100.0	91.9	8.1	-
Wyoming	203	100.0	100.0	-	-
Guam	-	-	-	-	-
Puerto Rico	1,138	100.0	81.3	3.0	15.7
Virgin Islands	-	-	-	-	-

1/ Includes long-term care units of hospitals, nursing homes, and chronic disease hospitals.

2/ Number of beds in each category is given in Tables E, F, and G.

Table E. LONG-TERM CARE UNITS OF HOSPITALS 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of 2/ Projects	Number of 2/ Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	930	43,831	$668,423	$241,175
Alabama	41	1,225	13,772	8,311
Alaska	5	101	3,816	1,613
Arizona	13	547	5,442	2,486
Arkansas	32	1,060	11,875	6,794
California	42	2,396	40,749	9,733
Colorado	12	340	4,169	1,918
Connecticut	5	168	3,469	543
Delaware	2	70	1,025	400
Dist. of Col.	1	-	130	65
Florida	24	1,156	14,514	6,698
Georgia	29	1,371	18,761	9,138
Hawaii	3	173	1,277	618
Idaho	12	416	4,497	2,043
Illinois	32	1,794	40,334	7,975
Indiana	27	1,036	20,038	4,876
Iowa	28	1,700	25,850	8,007
Kansas	24	833	17,105	5,586
Kentucky	24	941	13,682	6,529
Louisiana	30	1,277	13,860	6,569
Maine	9	284	5,243	2,086
Maryland	7	1,086	8,001	2,358
Massachusetts	9	727	16,131	2,551
Michigan	17	771	13,531	6,283
Minnesota	34	2,152	33,221	8,290
Mississippi	18	890	11,836	7,855
Missouri	17	907	14,293	5,252
Montana	19	579	6,299	2,430
Nebraska	18	559	6,444	2,482
Nevada	10	286	4,433	2,172
New Hampshire	3	46	460	205

Table E. LONG-TERM CARE UNITS OF HOSPITALS 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of 2/		Cost (000's)	
	Projects	Beds	Total	Federal Share
New Jersey	16	983	16,753	3,861
New Mexico	16	572	7,124	3,229
New York	37	1,881	52,468	12,569
North Carolina	28	1,485	23,704	10,257
North Dakota	2	67	1,082	396
Ohio	23	1,112	18,679	4,758
Oklahoma	20	502	6,519	2,668
Oregon	19	598	8,906	2,704
Pennsylvania	21	1,204	24,451	6,357
Rhode Island	4	137	2,983	1,048
South Carolina	26	971	11,441	6,957
South Dakota	9	337	3,365	1,629
Tennessee	32	1,322	16,823	8,051
Texas	23	2,298	17,489	8,030
Utah	8	325	3,706	1,287
Vermont	5	222	3,101	1,347
Virginia	24	1,191	20,566	9,730
Washington	13	589	9,489	3,458
West Virginia	10	567	9,478	4,524
Wisconsin	29	1,449	19,930	7,617
Wyoming	9	203	3,589	1,693
Puerto Rico	9	925	12,520	7,139

1/ Excludes 7,109 long-term care beds built in conjunction with general and other hospital projects for which funds cannot be separated from total project costs.

2/ Includes nursing home units of hospitals.

Table F. NURSING HOMES 1/: Projects Approved, by State
July 1, 1955 - June 30, 1968

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	429	29,993	$406,969	$123,512
Alabama	7	221	2,444	1,441
Arizona	6	190	1,967	894
Arkansas	9	255	1,782	1,182
California	5	161	5,767	769
Colorado	5	556	5,231	2,392
Connecticut	8	501	9,504	1,299
Florida	15	1,211	11,509	5,388
Georgia	12	1,088	9,849	4,670
Hawaii	3	168	2,536	1,170
Idaho	2	77	443	219
Illinois	17	1,326	15,131	3,709
Indiana	9	789	14,182	2,992
Iowa	1	112	1,514	433
Kansas	7	226	3,072	1,430
Kentucky	5	307	4,268	2,245
Louisiana	5	318	3,432	1,480
Maine	3	80	1,327	399
Maryland	14	568	8,732	2,626
Massachusetts	12	933	16,144	2,879
Michigan	25	1,966	23,874	9,837
Minnesota	9	608	8,516	1,775
Mississippi	1	40	416	262
Missouri	16	1,229	12,852	3,987
Montana	7	333	4,010	1,437
Nebraska	5	162	1,883	726
New Hampshire	8	425	6,465	1,790
New Jersey	7	670	17,582	2,510
New Mexico	1	50	309	151
New York	23	2,197	38,949	7,530
North Carolina	4	395	5,184	2,500

Table F. NURSING HOMES 1/: Projects Approved, by State
July 1, 1955 - June 30, 1968 (Continued)

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
North Dakota	12	795	9,339	3,831
Ohio	37	2,924	44,720	10,019
Oklahoma	15	446	4,102	1,937
Oregon	9	428	5,111	1,675
Pennsylvania	26	3,344	46,380	12,308
Rhode Island	5	102	2,382	1,140
South Carolina	7	444	3,761	2,399
South Dakota	13	654	5,566	2,335
Tennessee	10	651	6,427	2,712
Texas	17	1,681	22,391	7,266
Utah	8	292	2,932	1,462
Vermont	4	106	1,507	636
Virginia	4	326	3,241	1,732
Washington	1	80	1,125	450
West Virginia	6	396	7,338	2,926
Wisconsin	3	128	1,668	492
Puerto Rico	1	34	105	70

1/ Excludes nursing home units of hospitals.

Table G. CHRONIC DISEASE HOSPITALS: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	84	6,197	$102,985	$30,593
Arizona	2	40	372	186
Arkansas	2	72	1,888	1,250
California	6	433	9,752	2,575
Connecticut	1	-	120	17
Delaware	3	422	4,202	1,834
Dist. of Col.	2	134	1,936	872
Florida	3	85	888	305
Georgia	1	-	58	19
Hawaii	1	-	261	94
Illinois	2	83	1,045	184
Iowa	1	50	1,268	387
Kentucky	1	173	573	374
Louisiana	1	50	1,205	315
Maine	2	47	275	98
Maryland	5	446	5,352	1,482
Massachusetts	8	536	13,499	2,027
Minnesota	2	228	2,563	769
Montana	1	80	1,315	329
Nebraska	2	82	1,093	360
New Jersey	1	78	1,968	314
New Mexico	2	166	713	357
New York	1	18	267	89
North Carolina	2	77	1,379	615
North Dakota	1	60	726	221
Ohio	3	902	13,236	2,725
Oklahoma	7	85	1,761	724
Pennsylvania	3	225	3,384	1,110
Tennessee	3	198	6,519	1,940
Texas	6	675	16,736	4,362
Utah	1	80	1,152	567
Virginia	2	217	2,267	1,207
Washington	2	226	858	181
West Virginia	1	50	735	421
Puerto Rico	3	179	3,619	2,283

Table H. MENTAL HOSPITALS: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	195	21,042	$247,225	$78,423
Alabama	2	375	1,660	1,060
Arkansas	6	500	3,128	1,043
California	10	331	7,388	2,340
Connecticut	1	66	3,993	267
Delaware	3	519	3,306	882
Dist. of Col.	1	12	697	174
Florida	1	100	739	348
Georgia	2	200	8,667	1,223
Hawaii	7	146	1,431	696
Idaho	1	150	1,388	539
Illinois	2	143	3,516	1,006
Indiana	2	169	1,317	463
Iowa	2	212	1,669	443
Kansas	2	114	3,917	1,527
Kentucky	5	793	6,403	3,216
Louisiana	16	2,070	21,406	10,833
Maine	1	-	441	116
Massachusetts	1	32	657	32
Michigan	6	422	7,680	1,995
Minnesota	1	60	1,237	553
Mississippi	1	260	1,577	1,051
Missouri	6	405	8,094	3,175
Nebraska	1	90	1,655	519
Nevada	4	210	936	182
New Jersey	13	1,838	39,526	5,844
New Mexico	2	92	949	381
New York	3	178	6,709	1,105
North Carolina	6	587	2,041	719
North Dakota	1	204	1,167	318
Ohio	5	128	3,194	987

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Table H. MENTAL HOSPITALS: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
Oklahoma	17	2,118	9,055	4,332
Oregon	4	590	9,788	1,115
Pennsylvania	4	197	5,087	1,609
Rhode Island	2	150	1,188	390
South Carolina	16	1,101	12,805	5,249
Tennessee	13	1,740	29,376	10,231
Texas	5	1,579	13,383	2,950
Utah	7	388	3,655	1,538
West Virginia	9	485	2,752	933
Wisconsin	1	240	2,823	914
Puerto Rico	3	2,048	10,825	6,125

Table I. DIAGNOSTIC OR TREATMENT CENTERS: Projects Approved, by State
July 1, 1955 - June 30, 1968

State	Number of Projects	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	927	$481,937	$157,799
Alabama	17	4,009	2,312
Alaska	2	875	379
Arizona	13	3,841	1,683
Arkansas	7	1,512	777
California	32	32,464	8,572
Colorado	14	5,614	2,066
Connecticut	25	8,470	2,046
Delaware	8	2,588	1,179
Dist. of Col.	8	7,264	2,760
Florida	29	13,267	5,769
Georgia	23	13,348	5,804
Hawaii	7	3,424	1,579
Idaho	9	1,601	725
Illinois	33	23,541	5,283
Indiana	26	16,541	3,892
Iowa	5	1,592	522
Kansas	4	1,659	717
Kentucky	11	9,439	4,678
Louisiana	15	6,186	2,637
Maine	16	7,110	1,954
Maryland	15	11,332	2,836
Massachusetts	55	20,747	3,179
Michigan	27	7,804	3,409
Minnesota	7	5,605	1,307
Mississippi	91	6,030	4,005
Missouri	15	13,413	2,854
Montana	2	486	193
Nebraska	12	4,239	1,435
Nevada	7	2,524	1,091
New Hampshire	25	4,231	1,983

Table 1. DIAGNOSTIC OR TREATMENT CENTERS: Projects Approved, by State
July 1, 1955 - June 30, 1968 (Continued)

State	Number of Projects	Cost (000's) Total	Cost (000's) Federal Share
New Jersey	40	16,949	3,704
New Mexico	19	3,022	1,307
New York	9	21,654	5,277
North Carolina	21	14,568	6,832
North Dakota	1	49	23
Ohio	59	40,653	7,320
Oklahoma	13	3,107	1,305
Oregon	6	2,288	572
Pennsylvania	29	39,063	9,535
Rhode Island	12	4,215	1,853
South Carolina	18	5,489	2,924
Tennessee	22	10,483	4,581
Texas	39	30,417	13,295
Utah	5	3,350	1,427
Vermont	11	4,286	1,737
Virginia	10	3,968	2,002
Washington	16	10,545	3,943
West Virginia	6	4,531	1,503
Wisconsin	10	8,100	2,981
Wyoming	9	2,064	1,028
Puerto Rico	10	12,144	6,875
Virgin Islands	2	236	149

NOTE: The majority of the diagnostic or treatment center projects are in conjunction with general hospitals.

Table J. REHABILITATION FACILITIES: Projects Approved, by State
July 1, 1955 - June 30, 1968

State	Number of Projects	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	454	$327,094	$106,920
Alabama	11	5,312	3,264
Arizona	5	2,885	891
Arkansas	12	4,162	2,310
California	21	29,592	8,052
Colorado	7	2,391	1,147
Connecticut	9	6,884	995
Delaware	5	1,647	539
Dist. of Col.	8	3,486	817
Florida	22	16,811	3,433
Georgia	11	8,734	4,189
Hawaii	5	2,363	631
Idaho	2	616	304
Illinois	13	16,580	4,660
Indiana	10	7,488	2,092
Iowa	8	5,054	1,609
Kansas	6	3,993	1,257
Kentucky	5	7,371	2,182
Louisiana	16	7,841	2,933
Maine	3	2,508	1,069
Maryland	7	4,599	1,201
Massachusetts	10	11,219	2,131
Michigan	13	8,760	3,351
Minnesota	11	7,036	2,447
Mississippi	2	1,118	744
Missouri	9	8,140	2,801
Montana	3	703	337
Nebraska	6	4,237	959
New Hampshire	8	2,132	702
New Jersey	14	10,932	2,174
New Mexico	7	1,747	865

Table J. REHABILITATION FACILITIES: Projects Approved, by State
July 1, 1955 - June 30, 1968 (Continued)

State	Number of Projects	Cost (000's)	
		Total	Federal Share
New York	16	24,946	5,137
North Carolina	15	7,330	3,965
North Dakota	5	2,013	917
Ohio	18	13,692	3,861
Oklahoma	7	2,805	1,285
Oregon	4	1,665	590
Pennsylvania	14	16,138	5,457
Rhode Island	6	1,325	389
South Carolina	6	2,833	1,719
South Dakota	4	1,410	608
Tennessee	6	5,286	2,452
Texas	32	13,970	6,108
Utah	3	1,884	900
Vermont	3	1,275	504
Virginia	11	10,127	4,542
Washington	8	5,725	1,763
West Virginia	11	3,229	1,394
Wisconsin	7	8,713	1,963
Wyoming	1	345	172
Puerto Rico	8	6,042	3,108

NOTE: The majority of the rehabilitation facility projects are in conjunction with general hospitals.

Table K. PUBLIC HEALTH CENTERS 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	1,189	$244,149	$84,706
Alabama	68	9,104	5,447
Alaska	3	322	161
Arizona	4	3,062	1,356
Arkansas	11	1,738	978
California	71	35,584	8,947
Colorado	12	3,005	1,246
Connecticut	6	4,728	649
Delaware	2	781	258
Florida	72	11,370	4,824
Georgia	152	18,250	7,042
Hawaii	7	2,826	807
Idaho	4	644	117
Illinois	7	1,887	537
Indiana	1	19	3
Kansas	2	1,618	723
Kentucky	90	8,091	3,964
Louisiana	72	7,443	3,192
Maryland	22	11,015	1,843
Massachusetts	3	2,514	608
Michigan	15	13,127	1,278
Minnesota	4	3,185	1,213
Mississippi	79	5,564	3,279
Missouri	16	3,453	924
Nebraska	1	379	152
New Jersey	6	1,594	478
New Mexico	7	920	454
New York	7	7,491	1,108
North Carolina	92	7,202	2,778
Ohio	20	15,071	3,458
Oklahoma	27	3,328	1,573

Table K. PUBLIC HEALTH CENTERS 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of Projects	Cost (000's)	
		Total	Federal Share
Oregon	8	1,581	405
Pennsylvania	5	5,178	1,529
Rhode Island	1	4,533	1,114
South Carolina	107	8,678	4,838
Tennessee	72	10,569	5,253
Texas	18	8,256	3,947
Utah	3	1,575	698
Virginia	61	9,875	4,943
Washington	12	3,030	791
West Virginia	6	3,892	731
Guam	7	251	167
Puerto Rico	5	1,153	749
Virgin Islands	1	263	144

1/ Excludes public health centers built in conjunction with general hospitals and not reported as separate projects.

Table L. STATE HEALTH LABORATORIES: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	38	$48,634	$11,963
Alabama	1	650	433
Arkansas	1	1,440	720
Colorado	1	1,291	268
Connecticut	1	2,050	312
Florida	5	1,922	940
Georgia	1	239	79
Idaho	1	953	238
Illinois	1	120	47
Kentucky	1	483	322
Maine	1	988	388
Maryland	2	217	67
Massachusetts	1	249	105
Minnesota	1	3,419	1,539
Mississippi	1	1,378	338
Montana	1	1,240	148
New Jersey	1	8,391	750
Oklahoma	2	236	124
Oregon	1	2,368	87
South Carolina	1	2,498	1,114
South Dakota	1	109	47
Tennessee	3	10,447	944
Texas	1	3,972	1,267
Utah	1	769	231
Vermont	1	452	84
Virginia	2	334	182
West Virginia	3	736	432
Wisconsin	1	1,683	757

Table M. STATE-OWNED FACILITIES: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	622	39,253	$838,182	$298,722
Alabama	12	521	15,568	6,918
Alaska	2	-	134	67
Arizona	5	216	5,210	1,233
Arkansas	20	922	18,039	6,524
Colorado	3	-	2,107	649
Connecticut	9	82	10,953	1,188
Delaware	17	1,105	13,109	4,382
Florida	12	1,050	20,961	4,617
Georgia	14	226	18,475	5,672
Hawaii	16	158	5,291	1,913
Idaho	5	200	3,921	1,349
Illinois	5	100	5,639	1,335
Indiana	8	249	22,433	6,453
Iowa	8	344	8,117	2,715
Kansas	6	236	7,204	2,197
Kentucky	15	1,033	26,950	11,665
Louisiana	39	3,943	53,762	22,709
Maine	3	26	1,975	614
Maryland	11	577	11,219	2,608
Massachusetts	5	380	11,059	1,214
Michigan	12	644	19,390	4,844
Minnesota	12	438	26,979	6,922
Mississippi	14	1,085	18,340	10,727
Missouri	4	221	4,370	1,321
Montana	1	-	1,240	148
Nebraska	7	90	6,605	1,416
Nevada	4	210	936	182
New Hampshire	3	22	350	141
New Jersey	7	745	36,253	3,841
New Mexico	11	310	3,100	1,469

Table M. STATE-OWNED FACILITIES: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
North Carolina	17	737	10,214	4,787
North Dakota	4	204	2,038	719
Ohio	5	109	5,850	1,436
Oklahoma	41	2,649	27,898	8,893
Oregon	9	590	13,589	1,605
Pennsylvania	1	-	497	166
Rhode Island	5	195	7,801	1,978
South Carolina	33	2,025	33,283	16,252
South Dakota	1	-	109	47
Tennessee	33	2,449	63,590	21,852
Texas	34	5,449	67,136	21,063
Utah	12	606	19,038	5,634
Vermont	1	-	452	84
Virginia	13	502	13,389	4,093
Washington	6	300	17,742	3,769
West Virginia	24	1,101	21,931	5,447
Wisconsin	4	240	7,714	2,152
Guam	9	36	730	486
Puerto Rico	73	6,858	143,605	80,117
Virgin Islands	7	70	1,887	1,109

Table N. LOCAL PUBLICLY OWNED FACILITIES 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	4,172	133,761	$2,809,341	$1,028,845
Alabama	229	6,094	106,083	56,347
Alaska	13	233	11,087	4,091
Arizona	26	676	14,593	6,610
Arkansas	124	3,469	54,692	30,479
California	205	7,705	242,178	57,900
Colorado	39	738	17,268	6,733
Connecticut	9	170	6,520	1,053
Dist. of Col.	3	308	3,757	924
Florida	194	6,221	133,231	47,338
Georgia	386	11,603	240,977	93,845
Hawaii	9	529	7,603	2,417
Idaho	49	1,287	20,727	8,036
Illinois	45	2,439	53,582	13,382
Indiana	94	4,098	100,578	27,640
Iowa	78	3,079	58,756	18,762
Kansas	56	2,000	34,745	14,655
Kentucky	149	2,295	46,567	22,199
Louisiana	162	3,306	81,998	36,923
Maine	5	120	1,631	759
Maryland	41	2,010	36,121	8,509
Massachusetts	28	1,807	45,435	6,207
Michigan	118	4,824	121,399	35,669
Minnesota	78	2,938	48,519	18,210
Mississippi	298	6,098	101,667	62,562
Missouri	82	3,247	55,081	20,715
Montana	27	764	8,782	3,103
Nebraska	36	811	11,484	4,465
Nevada	29	624	14,460	6,185
New Hampshire	8	384	5,848	1,541
New Jersey	28	2,288	30,394	6,555

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Table N. LOCAL PUBLICLY OWNED FACILITIES 1/: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
New Mexico	49	1,184	25,052	9,147
New York	47	2,496	76,090	13,408
North Carolina	249	8,162	175,303	75,213
North Dakota	2	62	1,297	581
Ohio	98	6,306	137,804	33,843
Oklahoma	128	2,913	49,249	21,238
Oregon	37	766	14,142	3,980
Pennsylvania	23	2,273	40,915	10,525
South Carolina	208	4,505	82,924	45,932
South Dakota	21	486	7,335	3,487
Tennessee	190	5,574	100,888	45,292
Texas	200	9,497	198,507	73,927
Utah	38	895	17,784	7,523
Vermont	2	40	378	177
Virginia	83	1,750	47,839	20,602
Washington	45	1,196	25,824	7,954
West Virginia	37	1,297	40,853	16,404
Wisconsin	25	1,193	31,740	8,090
Wyoming	35	1,001	17,178	6,111
Puerto Rico	5	-	2,446	1,579
Virgin Islands	2	-	30	18

1/ Represents city, county, district, and other local publicly owned facilities.

Table O. VOLUNTARY NONPROFIT FACILITIES: Projects Approved, by State
July 1, 1947 - June 30, 1968

State	Number of Projects	Number of Beds	Cost (000's) Total	Cost (000's) Federal Share
United States and Territories	4,755	240,783	$6,400,726	$1,780,849
Alabama	63	3,743	76,156	33,976
Alaska	9	257	9,843	2,326
Arizona	69	2,522	54,177	17,769
Arkansas	56	2,363	52,625	26,141
California	173	11,299	330,840	81,010
Colorado	63	3,497	80,792	22,721
Connecticut	124	4,310	157,053	19,012
Delaware	18	590	14,351	3,839
Dist. of Col.	36	417	24,156	7,721
Florida	105	5,728	117,544	38,484
Georgia	26	1,435	53,127	12,149
Hawaii	28	957	27,261	8,535
Idaho	25	886	23,883	7,557
Illinois	216	14,418	438,881	85,719
Indiana	87	5,634	143,619	38,482
Iowa	88	5,306	115,529	31,753
Kansas	60	2,931	76,862	24,405
Kentucky	106	5,883	120,416	50,855
Louisiana	60	3,750	80,123	25,668
Maine	76	2,423	60,302	20,737
Maryland	93	6,072	198,669	31,702
Massachusetts	240	9,982	292,366	55,653
Michigan	154	9,098	223,747	64,447
Minnesota	100	5,995	136,266	40,234
Mississippi	16	687	11,953	6,432
Missouri	109	5,682	163,433	50,695
Montana	49	1,435	27,193	9,682
Nebraska	81	2,778	82,343	22,322
Nevada	8	206	4,631	1,741
New Hampshire	71	1,546	45,693	13,278

Table O. VOLUNTARY NONPROFIT FACILITIES: Projects Approved, by State
July 1, 1947 - June 30, 1968 (Continued)

State	Number of		Cost (000's)	
	Projects	Beds	Total	Federal Share
New Jersey	143	8,506	226,139	48,332
New Mexico	54	1,743	35,290	12,010
New York	279	18,515	589,365	134,405
North Carolina	176	6,219	127,785	54,448
North Dakota	61	2,112	43,616	15,484
Ohio	258	14,128	403,995	90,704
Oklahoma	99	3,387	65,052	23,968
Oregon	86	4,259	96,971	23,874
Pennsylvania	297	17,776	537,866	155,861
Rhode Island	60	1,688	64,658	13,655
South Carolina	32	930	16,667	8,920
South Dakota	66	2,004	35,175	14,418
Tennessee	66	3,340	67,105	28,060
Texas	198	12,691	291,444	96,203
Utah	20	741	13,353	5,731
Vermont	46	1,487	36,676	11,568
Virginia	116	7,079	169,143	65,841
Washington	72	2,894	95,895	28,683
West Virginia	47	2,443	65,241	28,862
Wisconsin	135	5,824	172,731	52,919
Wyoming	16	247	4,817	1,751
Puerto Rico	19	940	17,908	10,107

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ABSTRACT - To investigate the institutional frameworks in which vocational, industrial, and technical training operate, and to determine the kinds of training which should be instituted in Utah, a literature review was made and data were gathered from site visits to 60 schools throughout the United States, the Utah Department of Employment Security, and Utah State University. In addition, questionnaires were sent to Utah school district superintendents, parents, and school board members. Programs were found to operate successfully in a number of institutional frameworks. Conditions contributing to the success of the program include a clear definition of the program purposes, dedicated faculty, favorable administration, high quality programs, effective and efficient organizational structure, use of advisory committees, and a public relations program. There is great need for developing new kinds of training programs for less capable students as well as a need for expanding technical training programs. This is a condensation of the full report by the same title. A chapter from that full report, concerning findings on counseling and guidance, is available as VT 005 609, also in this issue. (SB)

VT 010 995

A STUDY OF VOCATIONAL INDUSTRIAL AND TECHNICAL EDUCATION WITH SPECIAL REFERENCE TO THE STATE OF UTAH

A Utah State University Research Project

By

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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College of Engineering

Department of Industrial and Technical Education

Engineering Experiment Station

Utah State University

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January 1965

FOREWORD

This study was conducted under a University Research Grant at Utah State University as a project of the Department of Industrial and Technical Education and the Engineering Experiment Station. At the beginning of the grant period, July 1963, under University policy, the author had been granted a six-month sabbatical leave. In response to the urgency felt for this study, he devoted his leave to visiting and examining a number of vocational and technical schools and programs throughout the country; actually visiting institutions in thirty states. None of the expense of travel, meals, or lodging outside of Utah was borne by the state in any way. The findings of the study are based in part on these visits and also on extensive review of the literature, a number of special surveys, and other studies made by him or under his direction. What follows is a condensation of a much more complete report which is to be filed in the Utah State University Library and with the State Department of Public Instruction under the title:

A STUDY OF VOCATIONAL INDUSTRIAL AND TECHNICAL EDUCATION WITH SPECIAL REFERENCE TO THE STATE OF UTAH

Acknowledgement is made also to the following thesis, prepared by a graduate student under the author's direction, as part of this project.

Hawley, Jerald S., A Comparison of Aptitudes of Vocational School Students In Utah and Their Choices for Vocational Training Programs, Unpublished Master's Degree Thesis, Utah State University, Logan, Utah, 1964.

A copy of this thesis is in the Utah State University Library.

For convenience of the reader, the conclusions of the study and the recommendations are placed at the beginning of the report. These are followed by a summary of the important findings which give support to the conclusions and recommendations.

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CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The findings of this study as given in this report seem to justify the following conclusions:

The work which an individual does to earn his living is one of the most important aspects of his life because it very largely determines the life he will live, his economic status, his social standing, where he will live, the friends he will make, and it is usually through his job that he renders his greatest service to mankind.

The great technological changes that have taken place in recent years have created a new relationship between man, his education and training, and his work. In this new relationship, the kind of work a man does is dependent almost entirely upon the kind of education and training he receives. This was not always true for all occupations and all men, but it is essentially true now and will be in the future.

Technological changes have to a large degree eliminated the jobs traditionally held by untrained people.

A review of literature in the fields with which this study is concerned shows a very definite need for increased and improved offerings in vocational industrial education in the schools of this country. A similar need exists for greatly expanded offerings in technical education. Today's needs, occupations, and industrial complexity have created a real need for this new kind of education, currently called technical education. In Utah there is no exception to this need.

Programs of vocational industrial education and programs of technical education are presently operating successfully in a great variety of institutional frameworks and they can continue to operate successfully in them if the right conditions prevail. The kinds of schools in which the programs are operating and can operate successfully are as follows:

Comprehensive high schools.
Specialized vocational or technical high schools.
Area vocational schools.
Area vocational - technical schools.
Vocational and Adult schools.
Community and Junior colleges.
Technical Institutes.
Colleges and Universities.
Combinations of some of these.

In most cases these are publicly operated schools, but some are private or parochial schools.

The conditions which need to prevail in order for vocational industrial and technical education programs to operate successfully and to remain stable are as follows:

1. A clear definition of the purposes of the program or programs being operated and a thorough understanding on the part of all those concerned regarding the goals to be achieved.

2. An administration favorable to the work being offered and dedicated to the success of the entire program. Where an entire school is organized to teach this kind of work there is usually little or no problem because the administrative officers are selected on the basis of their knowledge of the programs, their understanding of the purposes for which they are offered, and their desire to see them succeed. But when occupationally oriented programs are established in schools which offer liberal arts and other academic type programs there is great danger that they will not continue to operate successfully unless the top administration is favorable to them and supports them.

3. The establishment and continuous operation of high quality programs. The programs may be of a vocational nature or they may be for the training of technicians; regardless of whichever they are, they should be operated for the intended purpose and should be of high quality.

4. A dedicated faculty. The faculty must be dedicated to high quality work, to the purpose for which the school or program was organized, to the students, and to their profession.

5. An organizational structure within the framework of the school or division which permits and promotes effective and efficient operation.

6. A public relations program planned and operated in such a way that the public is informed of what the school offers, what the purposes of the various offerings are, what kinds of students should enroll, what students may expect upon completion of each program, and any other information which will help to bring about better understanding, better acceptance, and better relationships generally.

7. The allocation of funds for operating the programs in such a way that they cannot be diverted to other purposes. This probably means the earmarking of the funds which are allocated for the operation of vocational industrial and technical education programs. There can be danger in such practices when certain programs are preserved beyond their point of usefulness, therefore, there should be enough flexibility maintained so that needed changes can be made and yet have the programs remain stable as long as they are needed.

8. The use of advisory committees made up of devoted members who have the interest of the program at heart.

9. Honesty with the students so that they know the kind of programs being offered, what is required to complete the programs, and what kinds of employment they may expect upon completion.

There is great need for developing new kinds of training programs for the less capable students. Very little attention has been given to this matter, yet there is real need to do something about it because nearly all jobs now require training and the less capable students are constantly finding greater difficulty in finding employment.

There is a distinct and recognizable difference between vocational industrial education and technical education. This difference is primarily in level and kind of training offered and not in quality. Also, the depth of the work offered and the rigor with which it is taught, the kinds of teachers used in teaching the programs, the type of students enrolled, and the amount and kind of mathematics and science involved help to distinguish between the two types of programs.

The state of Utah is providing some vocational industrial education on both the high school and post high school levels, but the total offering is very meager in terms of the total number of students served when this is compared with the number who could and should be served. An even smaller amount of training is being offered in the state in technical education.

Society needs trained workers and they must be flexible enough to adapt themselves to changing conditions and be willing to retrain themselves almost continuously so that they can keep abreast of the changing conditions. Also, society needs workers who are honest, dependable, reliable, and who are willing to give quality work commensurate with the remuneration received.

The great technological changes which have taken place in recent years have changed the nature of the labor force so that more education and training are required for nearly all jobs. Also, these changes have reduced the percentage of workers in some occupational groups and have raised the percentage of workers in other groups.

The jobs which will be most plentiful and most remunerative in the future are those jobs which require the greatest amount of education and training.

The present day school system is not adequately meeting the needs of young people. It serves well the 20 per cent who may complete college and some others, but it is woefully short of meeting the needs of nearly 80 per cent of the young people of this country. This conclusion is supported by the responses of school directors throughout the country, school district superintendents in Utah, and the school board members and parents in Utah who returned questionnaires.

Although vocational education programs have been in operation in this country for approximately a half century, there are not nearly enough persons enrolled in them. These programs must be greatly expanded in trade and industrial education, business and office occupations, distributive education, and perhaps in home economics related to career occupations. This conclusion is supported by the same groups mentioned in the preceeding conclusion.

There is great need for expansion and development of technician training programs in order to fill the need for these workers created through technological advances. The support for this conclusion is found in the responses from the same groups mentioned in the two preceeding conclusions.

If adequate programs of vocational industrial and technical education are provided in the total school system of Utah, the majority of parents and school board members are willing to accept, provide, and finance the new programs that would be needed.

There is need for vocational industrial education programs on the high school level and in general these should be operated in the local high schools.

There is need for post-high school vocational industrial education, and it is on the post high school level that most of this kind of training should be given in Utah. These programs should be operated in area vocational-technical schools, junior colleges, and in some of the colleges and universities of the state. *

There is need for the establishment of technical education programs in Utah. Actually, very little of this has been done in Utah up to the present time, but all indications point to real need in this kind of work. Perhaps a little of it as it relates to lower levels of industrial technicians could be done on the high school level, but technical education is best given on the post-high school level. This is especially true of engineering technician type programs. The work in Utah could be taught in the area vocational-technical schools, in the junior colleges, at Weber State College, and at Utah State University.

The cost of operating vocational industrial and technical education programs is considerably higher than regular high school programs, but is not greater, in general, than the cost of college training programs.

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* Note: Most of the school district superintendents in Utah believed that Weber State College should offer a good program in this kind of work and several of the superintendents thought Utah State University should also be engaged in these activities.

High quality guidance and counseling are needed to a very great extent in order to help students assess their abilities and aptitudes, to help them make realistic choices of their life's work, to assist them in planning their education programs so that they can attain their goals set, to help them attain the training required for their chosen work, and to assist them in finding satisfying and worthwhile employment. At present, guidance and counseling programs are not functioning as effectively as they should in these matters.

Counselors have too many things to do which do not contribute to the actual guidance and counseling of students. Therefore, the functions of counselors need to be much more clearly defined than they are at present and considerable planning and organizing are essential in order to improve the counseling services.

There is evidence that young people in the vocational technical field did not receive adequate quidance. There is further evidence that aptitude and other guidance tests can be effective in identifying vocational technical candidates.

Students in the public schools of Utah are not receiving enough occupational information in order to gain an understanding of the world of work and the place they might occupy in the labor force.

Democracy in education requires that more be done for the 80 per cent of the young people of this country who are not now being adequately served in educational and training programs.

Students who attend the trade-technical institutes of Utah have an average age two or three years above the average of comparable students in college. The age range of the vocational-technical students is considerably greater than that of comparable college students.

Students who attend the trade-technical schools in Utah have mean scores on all of the aptitudes measured by the General Aptitude Test Battery which are significantly lower than the mean scores of a sampling of college freshmen and sophomores. They are also lower than the mean scores of high school students in Utah. However, many of the students attending the trade-technical institutes are very capable students and would be able to do very well in college if they chose to attend college, and there are many students in college whose scores on the General Aptitude Test Battery indicate that they are not suited for college work.

Most of the students in the trade-technical institutes select training programs for which they have the necessary capabilities to succeed. Even though their mean scores are below average and considerably lower than college students, most of the trade-technical students can be trained in some kind of useful work and they can succeed in the work for which they received training. Through this they can become useful and productive citizens.

Higher education, colleges and universities particularly, have not been assuming major leadership in providing an adequate supply of well qualified teachers and administrators for vocational industrial and technical education. Neither have they been exercising outstanding leadership in establishing principles and practices for these training programs nor in pointing their direction for the future.

Recommendations

The findings of the study and the conclusions drawn from the findings prompt the following recommendations:

1. That the people of Utah, probably through their representatives in the State Legislature and in the State Board of Education, make a firm decision to promote and provide for more vocational and technical education in the state in order to meet more adequately the needs of a large proportion of young people for living today and in the future which are not now being met.

2. That the state of Utah make thorough and complete plans, both immediate and long-range, for the total educational program of the state. Included within the total program should be:

   a. An expansion of vocational industrial education in the high schools of the state with the work to be taught primarily in the local high schools.

   b. An expansion of post-high school vocational education throughout the state. Existing junior colleges should provide the needed programs and serve as area schools. The two existing trade technical institutes should be expanded as needed to accomodate more students with an even greater variety of programs than what is presently being offered. Funds should be appropriated at the earliest possible date to construct the necessary buildings for Salt Lake Trade Technical Institute on its new campus.

   c. The establishment of technical education programs for the training of technicians of various levels--especially industrial technicians and engineering technicians. These programs should be established in the junior colleges of the state and it would seem wise to establish a new junior college in the Salt Lake City area and to include technical education in the offerings. A study should be made of whether or not the present programs of technical education offered through the Division of Continuing Education of the University of Utah would be better transferred to the new junior college.

Existing technical education programs at Weber State College and Utah State University should be continued and expanded as need arises.

3. As new programs and/or schools are established they should be so planned and organized that they will remain stable in purpose and function. Therefore, attention should be given to the conditions which must prevail if this is to be the case, with special attention being given to the earmarking of funds for operating the programs. Legislation may be required in order to provide the proper conditions. Provision should be made to assure that programs remain flexible and dynamic in order to respond to the changing requirements of technology and commerce.

4. That efforts be made as soon as practicable to improve the training of public school counselors, that school districts plan guidance and counseling programs which will provide more occupational information and other needed information which will assist the young people in making more realistic choices of their life's work, that guidance services be extended into the elementary schools, and that the ratio of counselors to students be not less than one counselor to 300 students.

5. That summer workshops be held for counselors for the purpose of acquainting them thoroughly with business and industry and the many job opportunities available to young people in business and industry.

6. That counselors be hired on a 12-month basis (with time allowed for vacation) so they can have more time for working with parents and students than is allowed in the regular school year. The work done in the summers should be largely of a vocational guidance nature.

7. That adequate supervision on the state level be provided for vocational industrial education and for technical education. The dividing line for supervision should be on the basis of vocational industrial education and technical education and not high school or post-high school level. This means that there should be at least one state supervisor for vocational industrial education and a state supervisor for technical education. There should be complete cooperation between the supervisors of the different programs, but the programs themselves and their supervision should be kept separate and distinct.

8. That a study be made of what can be done for the less capable students with due consideration given to cooperative programs, and training for service type occupations.

9. That the institutions of higher education in Utah assume a major role in providing an adequate supply of well qualified teachers and administrators for the vocational and technical education programs needed in Utah. Also, that they give serious consideration to the part they should play in providing occupationally-oriented training, especially technical education, for the people of Utah.

A STUDY OF VOCATIONAL INDUSTRIAL AND TECHNICAL EDUCATION WITH SPECIAL REFERENCE TO THE STATE OF UTAH

Introduction

Statement of the Problem

One of the most important problems faced by the young people of today is that of selecting, preparing for, and finding a job. The importance of this cannot be overlooked by society because it is one's job which very largely determines the life he will live. Jobs are very significant in determining the economic status and financial security of most people and the economic factor is so fundamental that one's occupation, at least indirectly, determines where he lives, his social standing in the community, his friends and associates, his educational opportunities, his recreational pursuits, and pretty largely his contributions to mankind.

In Utah, there seem to be strong feelings that nearly all young people should attend college, yet it is a well recognized fact that not all of them can benefit from regular college training. Admittedly, many young people who start college but do not complete it receive training of some kind which will help them in finding satisfying employment. On the other hand there are far too many who do not receive training that will quilify them for employment in modern business and industry. Therefore, some kind of training to produce salable skills is essential for a large segment of the population in Utah.

The state of Utah has been and still is faced with a major problem in providing the kinds of educational programs that should be available so that all who desire employment and should be employed can obtain the training necessary for useful and satisfying work. Many educators, and others, seem now to be accepting the concept that the aim of the public schools should be to let no one leave school, either by graduation or otherwise, without reasonable preparation for what he will do next. The typical general education programs of the high schools and the liberal arts offerings of colleges have failed to meet this purpose adequately for many young people. These programs are desirable and necessary, but if essentially all young persons leaving our schools are to be really prepared for what they will do next, there is need for additional and different training programs.

Purposes of the Study

All of these things have pointed out a need to study the institutional frameworks in which vocational industrial and technical training have operated, the kinds of training most needed, those who could benefit most

from the training offered, and to evaluate all of these in terms of today's conditions, today's occupations, today's unemployment problems, and the real needs of today's people. Therefore, it was the purpose of this study to investigate as thoroughly as possible the many factors involved and to propose a program of vocational industrial and technical education in Utah.

In order to carry out this study, the major purpose was broken down into a number of specific objectives. Accordingly data were gathered in an attempt to find answers to the following questions:

1. In what kinds of institutional frameworks do vocational industrial and technical education programs operate ? What values do these frameworks have in terms of today's needs, occupations, and industrial complexity? How can the institutional frameworks in which vocational industrial and technical education programs operate successfully be made stable so that they will not drift away from their basic purposes?

2. What are the present offerings in vocational industrial and technical education in Utah?

3. What kinds of workers does society need today and in the future?

4. What do the public school district superintendents in Utah believe the solution to the training needs of youth to be?

5. What are the opinions of the public regarding the effectiveness of present school offerings and the need for additional types of training? What are their beliefs in regard to accepting, providing and financing new programs that might be needed?

6. What do school board members in Utah think about the effectiveness of present school offerings in meeting the needs of young people? What are their beliefs regarding the need for additional types of training, and accepting, providing and financing them?

7. What are the costs of operating vocational industrial and technical education programs?

8. What is the role of the guidance and counseling services in the public schools especially as they relate to vocational industrial and technical education and how may these services be made more effective?

9. What are the age and aptitude characteristics of the students who attend the trade-technical schools of Utah and how do they compare with high school and college students?

10. How can the needs for new training programs be measure against the frameworks of institutional training programs?

11. What new technical, social, and educational developments may influence the schools and their offerings and what kinds of new or modified educational programs will more nearly meet the industrial, vocational, and economic needs of industry, youth, and society?

Sources of Data and Method of Study

Because of the many phases of this study it was organized so that data could be gathered from several sources and by means of a variety of methods. In the first place an extensive review of literature in the field was made. This review included other research studies that pertained to the various phases of this study; text and reference books containing pertinent material; bulletins, pamphlets, brochures, and periodicals; and school catalogues.

Much of the data for the study was obtained by making personal visits to schools throughout the United States. Visits were made in approximately thirty states and an attempt was made to visit all kinds of schools which offered vocational industrial and technical education programs. Approximately sixty schools were visited. On these visits, an interview was conducted with the director of the school or with someone in an administrative position who possessed information about the school. At the close of the interview, a tour of the school was usually made so that the various programs offered by each particular school could be seen in operation. In conducting the visits an interview form was used so that information obtained would be as uniform as possible.

Information about various characteristics of the students who attend the trade technical schools of Utah was obtained from the trade technical institutes in Utah, The Utah Department of Employment Security, and Utah State University.

The data on guidance and counseling were obtained from visits made to schools throughout the country, from school district superintendents in Utah by personal interview, and from questionnaires mailed to all counselors in the public schools of Utah.

In order to obtain first hand information from the school district superintendents in Utah each one was personally interviewed. An interview schedule was used in order to keep the information uniform.

A sample of parents of high school students was selected in order to obtain their opinions regarding the problems with which this study was concerned. The sample included parents from nearly all communities in the State with representation of various income levels from less than $3000 family income per year to more than $16,000 per year. Hundreds of

different occupations were found among those responding. Questionnaires were received from about 1,200 parents.

Questionnaires were also sent to all of the school board members of the state in order to obtain their opinions on the problems investigated in this study. Information concerning the costs of operating vocational industrial and technical education programs was obtained from various schools that were visited throughout the country, from the published data available from various institutions, and from the Utah Coordinating Council of Higher Education.

Definition of Terms

In order to provide for clarity in this report a few important terms used herein are defined as follows:

Technician: A general term applied to a worker who assists with technical details requiring the application of mathematical and scientific principles in a trade or profession. It is sometimes referred to as a semi-profession. As used in this study it includes industrial technicians, technical specialists, engineering technicians, and other workers in different professional and technical areas where comparable work is required.

Technical Education: Education and training to prepare people to become technicians--an occupational area generally lying between the craftsman and the engineer. In such occupations success is largely dependent upon technical information and understanding of the laws of science and principles of technology as applied to modern design, production, distribution, and service. In this kind of training emphasis is placed upon the application of science and mathematics to work involved, but it is also necessary to obtain enough training in manual skills to know and appreciate what the tools, machines, and instruments used in a particular field will do.

Vocational Education: A general term whose scope embraces all kinds of vocationally purposeful education. It is usually thought of as that type of education which trains people directly for useful employment and helps in keeping them employable. It is designed to fit individuals for gainful employment as semi-skilled or skilled workers in trade and industrial occupations or comparable positions in other fields of endeavor. From the standpoint of Federal Legislation it includes the training of workers in Vocational Agriculture, Trade and Industrial Education, Vocational Home Economics, Distributive Education, and under the new Vocational Education Act of 1963, Business and Office occupations.

Vocational Industrial Education: A phase of vocational education which is planned for purposes of developing basic manipulative skills,

safety judgment, technical knowledge, and related occupational information for the purpose of preparing young persons for entry jobs in industry. A person taking training in school for these kinds of occupations is not prepared upon completing the school program to be classed as a skilled craftsman, but he is prepared for entry jobs in the occupation and in a much shorter time than without the schooling, he can become a skilled craftsman, or what is frequently referred to as a journeyman in his trade. In this kind of training, emphasis is placed upon acquiring a high degree of manual skill together with the knowledge needed to use the skill to the greatest advantage. For purposes of this study the terms vocational industrial education, vocational trade and industrial education, and trade and industrial education are used synonymously.

Findings from the Literature

Studies that have been made recently in the fields of vocational industrial and technical education show a definite need for increased offerings in these fields in the public school systems of America. They point out that the changes which have taken place in technology have created a need for more education and training on the part of everyone who intends to enter the labor force. The studies also show much greater need for continuing education because with the constantly changing technology the chances are that many persons will need to be trained for four or five different kinds of jobs during their working lives.

Other important matters stressed in the studies that have been made are the following:

Attitudes of school administrators and school board members toward vocational industrial education are more favorable in school districts offering this kind of work than they are in school districts where it is not offered.

The public image of vocational education is not as good as it should be.

Programs of vocational education need to be made better so that students will actually receive the kind of training necessary to find good employment and the public image will be improved.

The community junior college seems to offer great promise as a desirable institution in which to offer technical education programs.

The area vocation-technical school also offers excellent possibilities for the development of vocational industrial and technical education programs.

There is need for the development of more vocational education on the high school level for students who can benefit more from this type of work than they can from the regular academic-type college preparatory programs.

One of the great handicaps to the expansion and improvements of vocational and technical education is the shortage of qualified teachers.

Before new area vocational-technical schools or programs are established careful study should be made of employer support, student interest, the number of students in the area to be served, employment opportunities in the area, and voter approval.

In many cases, the public has not been sufficiently informed about the benefits students may derive from vocational industrial and technical education.

Vocational talents of students must be revealed and developed as early as possible

Technological Changes

The present day is characterized by a very rapidly changing technology. This creates many other changes in society and particularly in the labor force. Although people are gaining a greater amount of education and training than they ever have in the past, there is an abundance of evidence to show that too many young people in this country are not receiving the kind of training demanded by business and industry for the positions they have available. Although vocational education programs have been in operation for a good many years they are not held in as high repute as they should be. Also, agencies other than the schools, such as the United States Department of Labor, are engaging in programs designed to provide training which is needed so badly.

One of the significant changes in the labor force of this country is the demand for technicians in industry. There has been and probably still is, a great deal of confusion as to what the technician is and what he actually does. The technician has been held in higher regard by the public than the craftsman and training programs for technicians have been more highly regarded than regular vocational programs. For these reasons, the technician label has been attached to many programs that really cannot qualify as technical education. Therefore, it is essential to distinguish between the quality and level of training programs. The level of a program is determined by its objectives and the quality by how well it achieves these objectives. Certain criteria have been set up to identify occupations that require technical education and attention should be given to these criteria as training programs are established.

There is a prevailing understanding that there is a definite difference between vocational industrial education and technical education. The difference has not been clearly defined in the past, but the findings of this study indicate that the important things which distinguish the two programs are such things as the level of the occupational training, the depth of the work offered and the rigor with which it is taught, the nature of the programs offered, the kinds of teachers used in teaching each program, the objectives of the programs, and a greater emphasis on skills in vocational programs and emphasis on theory and applied science in the technical work.

Keeping Programs Stable

There have been many cases where occupationally-oriented programs have been established in schools where they have functioned successfully for a period of time, but eventually have drifted away from their basic purpose and have been absorbed into more academic-type programs. The problem of maintaining the function of vocational and technical programs has been one of real concern and in this study attempts were made to ascertain the policies and practices essential to keep such programs stable. The study revealed the following things to be very significant:

1. A favorable administration.

2. A high quality program.

3. A dedicated faculty.

4. A public relations program planned for the purpose of informing the public of everything regarding the schools and the programs offered.

5. A definite "earmarking" of the funds allocated so that they cannot be diverted to other purposes.

6. A proper organization within the school or division so that the programs offered can operate effectively and efficiently.

7. A clear definition of the purposes of the work.

8. The use of advisory committees consisting of interested members.

9. Honesty with the students regarding the kind of training they are receiving.

Vocational industrial and technical education programs are operating successfully in a great variety of schools with many kinds of organizational patterns. The important criteria for successful operation deal more with

the nine items listed above than they do with the actual institutional framework. In visiting schools throughout the country the author found that programs operate successfully in almost every kind of organizational pattern that exists.

Examples can be given of states or communities that have planned well for vocational industrial and technical education programs and are operating them successfully. Although many more examples could be given, some of the states visited which had good programs were Connecticut, Georgia, Wisconsin, North Carolina, and California. Some colleges and universities are offering very successful programs.

Most of the vocational and technical schools that were visited throughout the country used advisory committees to assist them. Administrators reported that advisory committees serve a very useful purpose and are essential to the successful operation of the programs.

School directors throughout the country reported that a complete continuum of education is necessary in this country in order to provide all kinds of workers needed. Special emphasis was given to the need for technical education programs because the changes in technology have actually created a gap in this area both in industry and education. This gap needs to be filled.

The author found that in the schools visited throughout the country graduates of the programs offered found no difficulty in finding employment in good jobs suited to the training received. In most cases school directors said that there were far more positions available than there were graduates to fill them.

Offerings in Utah

A report of the offerings in vocational industrial education in Utah shows that approximately twenty-five high schools are offering some kind of courses. There is a fairly varied offering in such areas as auto mechanics, building construction, metal fabrication, electronics, and drafting. There are also offerings in distributive and business education. The information available at the time of this writing showed a total of 970 students enrolled in these programs. There were 669 boys and 301 girls enrolled. Most of the courses are offered under the Act of the State Legislature commonly known as House Bill 63.

Salt Lake Trade Technical Institute has a very extensive offering in various kinds of occupationally oriented programs. The general categories into which these offerings may be classified, together with the total enrollment in each of the programs is as follows: Day school programs 552, Extended day programs 120, Apprentice training courses 662, Occupational extension courses 220, and Supervision and management courses 52. Most

of the offerings are considered to be trade programs although the electronics program is probably approaching a technician-type program.

Offerings at the Utah Trade Technical Institute are classified into three major groups. These are day school programs; the high school division program; and the evening part-time, and apprentice programs. There is good variety of offerings in each of these divisions. Enrollment figures show 463 students in the post-high school day programs and 244 in the high school division. There are 877 students enrolled in the Evening Part Time and Apprentice Programs. In many respects the offerings at the two trade technical institutes are similar, but the Utah Trade Technical Institute provides a high school program and this is not true at Salt Lake Trade Technical Institute. Also,the administration at Utah Trade Technical Institute believes that their programs of electronics, electrical technology and instrumentation, industrial science technology, and drafting and design technology would qualify as technician training.

The junior colleges of the state offer some vocational industrial and technical training. Carbon College has programs in electronics, highway laboratory technician, automobile mechanics, machine shop, welding, drafting, practical nursing and cosmetology. A total of 164 students are enrolled in the various programs. College of Southern Utah offers work in the following programs: Building construction, technical building construction, drafting technology, metal fabrication technology, electronics technology, technical agriculture, automotive, law enforecment technology, technical business, a secretarial program, and the L. P. nursing program. The total enrollment is 185 students. Dixie College is not offering extensive programs at the present time but a litte work is available. Snow College is offering some work with auto mechanics and welding being the most important offerings at the present time. Their work is classified as Industrial Technology, with 33 students enrolled; and Technical Education, with 9 students.

Utah State University offers baccalaureate degree programs in Aeronautics Technology, Automotive and Diesel Technology, and Welding Technology. There is a total of 100 students enrolled in these programs. Utah State also offers two-year programs leading to certificates of completion in Aeronautics, Automotive, Diesel, Drafting, and Welding. At the time of this writing there was a total of only 14 students enrolled in these two-year programs. The total enrollment in both two-year and four-year programs constitutes less than two per cent of all students registered at this school.

At the University of Utah there is an Institute For Technological Training which is part of the Division of Continuing Education. Through this institute, technological training is given in the following engineering technician fields: Chemical and Metallurgical Technology, Civil Technology, Computer Science Technology, Electrical Technology, Industrial Technology, Mechanical Technology, and Technical Writing and Publishing Technology.

The total enrollment in these programs is 315 students. These offerings are probably the only two-year programs offered in Utah which can definitely be classed as engineering technician training. The classes meet in the late afternoons and evenings and students are registered on a part time basis.

Weber State College has for many years offered a considerable amount of training in vocational industrial and technical education programs. Since becoming a four-year college they have instituted programs leading to the baccalaureate degree in industrial technology. The programs offered, and the time required to complete each program, are as follows:

Auto Body	2 years
Automotive Service	2 years
Automotive Engineering Technology	4 years
Cosmetology	1 year
Cosmetology	2 years
Data Processing	2 years
Diesel Technology	2 years
Electronics Maintenance	2 years
Electronics Engineering Technology	4 years
Industrial Engineering Technology	4 years
Industrial Drafting Technician	2 years
Machine Tool Operation	2 years
Machine Tool Technician	2 years
Manufacturing Engineering Technology	4 years
Welding	2 years
Practical Nursing	1 year

The total enrollment in all of these programs is 404 students. This is less than 10 per cent of the total enrollment at Weber State College.

Brigham Young University has, in recent years, initiated a number of occupationally oriented curricula. Many Utah students, as well as students from all over the country and from foreign nations, are enrolled in their programs. Of course, this school is not part of the State system of education, hence, it is not directly involved in the use of State funds.

The Labor Force

For the majority of young people age 18 is a critical time and a crucial turning point in their lives. At this time most of them graduate from high school and are faced with important decisions of what they will do next. The decisions they make at this time will be perhaps as vital as any they will ever make.

Educators and those interested in the employment of youth have concern about meeting the educational needs of the increasing number of young people reaching age 18 each year. About 2.2 million reached this age in 1955;

there are about 3.8 million at the present time and there will be about 4.1 million in 1975. Obviously these young people should be well informed about the world of work so that they can decide whether or not they should enter employment or take additional education and training before entering the labor force. They should know something about the characteristics of the labor force, the way it is classified, educational requirements and opportunities within various occupational groups, and the prospects for advancement in the different groups.

Classification by Major Occupational Groups

The distribution of the labor force in the nation as a whole and in Utah by major occupational groups is shown by per cent of total in Table 1.

Table 1 Per cent distribution of the civilian labor force in the Nation and in Utah by major occupational groups--1960

Major Occupational Group	National	Utah
Professional, technical, and kindred workers	11.8	12.7
Farmers and Farm Managers	4.1	3.4
Managers, Officials, and Proprietors, except Farm	8.8	9.2
Clerical and Kindred Workers	15.1	15.4
Sales Workers	7.4	7.0
Craftsmen, Foremen, and Kindred Workers	14.2	15.5
Operatives and Kindred Workers	19.4	15.2
Private Household Workers	2.8	1.5
Service Workers, except private household	8.9	9.1
Farm Laborers and Foremen	2.4	1.9
Laborers, except farm and mine	5.1	5.2
Occupations not reported		3.9

This table shows that there is considerable similarity between the Utah labor force and the National labor force although the distribution is sufficiently different in some occupational groups that young people should be aware of these differences.

Classification by Major Industry Groups

Another way of classifying the labor force is by industry groups. One of these groups is farming. There are eight non-farm groups as follows: Manufacturing; Wholesale and Retail Trade; Government; Service and Miscellaneous; Transportation and Public Utilities; Contract Construction; Finance, Insurance, and Real Estate; and Mining. In decreasing order of the number of workers employed in each of these groups on a National basis they would be as listed. In Utah the order is somewhat different and would be as follows: Government; Wholesale and Retail Trade; Manufacturing; Service and Miscellaneous; Transportation and Public Utilities; Finance, Insurance, and Real Estate; and Mining.

Anticipated Changes

Young people must recognize that the labor force is changing and that it will continue to change. They also need to know that because of the great technological changes that are taking place they must be prepared to go to school to some extent almost continuously throughout their lives and perhaps be prepared to retrain themselves for as many as four or five different kinds of occupations during their lifetimes.

The anticipated per cent changes in employment by major industry groups from 1962 to 1975 are as follows:

Industry Group	Millions Employed in 1962	Anticipated increase
Service and miscellaneous	7.75	61 per cent to 11.9
Contract construction	2.7	51 per cent to 4.4
Government	9.0	50 per cent to 13.0
Finance, insurance and real estate	2.8	43 per cent to 4.0
Wholesale and retail trade	11.5	38 per cent to 15.5
Manufacturing	16.75	22 per cent to 20.0
Transportation and public utilities	4.0	13 per cent to 4.5
Mining	.65	No change
Agriculture	5.2	30 per cent decrease to 4.0

When the labor force is classified by occupational groups the anticipated changes from 1960 to 1975 are as follows:

Professional, technical, and kindred workers	65 per cent increase
Managers, officials, and proprietors except farm	32 per cent increase
Clerical and kindred workers	45 per cent increase
Sales workers	35 per cent increase
Craftsmen, foremen, and kindred workers	30 per cent increase
Operatives and kindred workers	18 per cent increase
Service workers	50 per cent increase
Laborers, except farm and mine	No change
Farmers and Farm managers, Laborers, and foremen	30 per cent decrease

Age and Type of Jobs

An examination of the age distribution of workers in Utah shows that many young people are employed as operatives, service workers, and farm and non-farm laborers. Older workers are employed more as farmers, managers, officials and proprietors and craftsmen. In the middle-age groups there are more in professional and technical occupations and in the craftsmen and operative groups. The evidence is clear that the jobs into which the high school dropouts and some high school graduates go require little training, the salaries are low, and there is little promise for advancement.

Educational Attainment

A study of the educational attainment of the civilian labor force of the United States 18 years of age and older is shown in Table 2. It is significant to note that in March of 1962, 11.0 per cent of the labor force had four years or more college and 27.0 per cent had eight years or less schooling. There is considerable increase in educational attainment over the nearly ten-year period from October 1952 to March 1962.

Estimates show that by 1975 there will be more than eight million students in college and more than sixteen million in high school. These numbers are so large that effective planning and strenuous efforts will be necessary to prepare the teachers and provide the facilities that will be needed. During the 1960 decade it is estimated that seven out of ten young workers entering the labor force will have a high school education or better as compared with six out of ten in the 1950's.

In 1956, for the first time in the Nation's history, white-collar workers out numbered blue-collar workers. Indications are that this will continue and the ratio will probably increase. One of the fastest growing groups in the labor force is that of technicians who assist and support engineers and scientists. Predictions for the future present very favorable prospects for these kinds of workers.

Table 2 Educational Attainment of the Civilian Labor Force 18 years old and over, 1952-62

	Per cent distribution by years of school completed	
	October 1952	March 1962
Elementary		
Less than 5 years	7.3	4.6
5 to 8 years	30.0	22.4
High School		
1 to 3 years	18.5	19.3
4 years	26.6	32.1
College		
1 to 3 years	8.3	10.7
4 years or more	7.9	11.0

The fastest growing occupations will be those which require the greatest amount of education or specialized training. Obviously a young workers's chances for good employment will be substantially less if he does not have adequate education and training. As new automated equipment is introduced on a wider scale in business and as automation increases in industry, the skill requirements for all workers will rise and there will be greater demand for employees who have the necessary skills. This means that there will be increased competition for young people with higher levels of education and training and the boy or girl who does not prepare for work through adequate education and training will find increasingly difficult employment problems in the years ahead. The unskilled jobs that once absorbed many of the untrained workers will continue to decrease in numbers. The young people who have acquired a skill and a good basic education will have a much better chance at interesting work, good wages, steady employment, and greater satisfaction in life.

Findings From School Board Members, Parents, and Superintendents

There seems to be general agreement that the present public school system is serving relatively well the needs of those young people who graduate from high school and continue through college. It also does

well in providing general educational background for all who attend, but in varying degrees, depending largely upon the individual. However, many questions have been raised about how well the present program serves a large segment of the population who do not or should not go on to college. Therefore, ascertaining the beliefs of school board members and parents about the adequacy of present school offerings in meeting the needs of present day young people was thought desirable. They were asked to answer "yes" or "no" to the question: "Do you believe that our present school offerings are adequate to meet the needs of our young people in today's society and for the future?" Eight per cent of the school board members and 27.5 per cent of the parents answered "yes" while 89.7 per cent of school board members and 69.6 per cent of the parents answered "no". A few from each group did not answer or were uncertain.

Closely associated with the idea of whether or not present school offerings are meeting the needs of young people is whether or not all of the young people of Utah should attend college after completing high school. School board members and parents were asked about this and 14.8 per cent of the school board members and 28.0 per cent of the parents answered that all young people should attend college. The percentage who thought that all young people should not attend college was 82.9 of the school board members and 68.7 of the parents. When the superintendents were asked what percentage of young people should attend college, most of them answered in terms of the percentage of high school graduates of their districts who presently start college. When asked if they thought this was realistic, the answer given most frequently was that it was probably too high. However, in districts where 20 per cent to 40 per cent started college the superintendents believed this was quite reasonable.

The superintendents were asked if they thought it would be better for young people to enter college and drop out before completion or to encourage them to enter some kind of occupationally-oriented training which they could complete and thereby have a marketable skill. The expressions were unanimous in favor of the occupationally-oriented training for many young people, but the question was raised as to whether or not it would be feasible to induce them to enter this kind of training. Superintendents also emphasized the importance of informing students and their parents about education and training programs other than college work which might be available to students.

It was desired to know whether or not parents and school board members would be in favor of having some kind of vocational industrial training programs in the high schools of Utah. The responses show that 94.3 per cent of the school board members and 84.2 per cent of the parents were in favor of having more vocational training in the high schools. Of importance is the fact that the percentage of school board members favoring this was significantly greater than the percentage of parents. All of the superintendents were in favor of having some of this kind of vocational work in high school, but they recognized many problems in establishing it.

One of the major problems mentioned by the superintendents was the difficulty of establishing vocational programs in small high schools. Some wondered if certain elements common to a number of trades could be identified and organized into a training program that could be offered to students having a variety of interests. They suggested that further study be given this problem so that small high schools which could not establish vocational programs in specialized areas might still be able to do something for their students who need vocational training.

Many superintendents expressed a need for considerable help from the State Department of Public Instruction, or some other agency as vocational education programs might be planned and established in their schools.

Need for Vocational Industrial Education

School board members were asked whether or not they would want vocational industrial education in the schools of their own districts and 90.9 per cent of them said they would. This is slightly lower than the 94.3 per cent who said it was needed in the state as a whole. The reason for the lower percentage is because some of the school board members in districts with small high schools believed it would not be very feasible to establish it in ther school although they felt the need for it in the state.

The same groups were asked about providing vocational industrial courses for young people who have completed high school. Nearly 98 per cent of the school board members and 93.4 per cent of the parents believed it should be provided. All of the superintendents were in favor of it; in fact, the superintendents were much more favorable toward providing this work at the post-high school level than they were toward providing it in the high school.

Need for Technical Education

In regard to the need for technician training in the total educational program in Utah, nearly 97 per cent of the school board members and approximately 86 per cent of the parents answered that it was needed. The school district superintendents held just about the same beliefs and the school directors throughout the country who were interviewed held a very firm belief that every state in the Nation needed to provide this kind of education.

In regard to the level at which technical education should be taught, there were a few in the different groups who thought some of it might be done in high school, particularly in laying the proper foundation for additional work after high school; but by far the large majority of those responding or interviewed believed that technical education should be given after completion of high school work.

Suggested Training Programs

The various groups involved in this study were asked to express themselves regarding the kinds of training programs they thought should be offered in high school and post-high school vocational education.

School district superintendents offered the following suggestions:

Metals
Drafting
Electronics
Business courses, especially for girls
Auto Mechanics
Woodwork and Carpentry
Distributive Education for both girls and boys
Basic Electricity
Service Trades such as Service Station attendants and Motel Maids
Secretarial
Machine Shop
Welding
Cosmetology

School board members added to the above list the following suggestions:

Architectural Drawing
Cabinet Making
Brick laying
Medical technicians
Diesel Mechanics
Data Processing
Sheet metal
Plastics
Cement work
Plumbing
Painting
Office machines
Nursing
Vocational Agriculture
Laboratory Assistants
Clerical
Barbers
Printing and Lithography

Suggestions made by parents included a total of 64 different types of occupations. Many were suggested by only a very few parents and provision of training programs in all of the areas suggested would be quite unrealistic. The programs suggested most frequently by parents were very much in line with those suggested by superintendents and school board members.

It was realized fully by all of those involved in the study and making suggestions for training programs that most schools could not possibly offer very many of the programs suggested. Small schools would have an especially difficult time to provide extensive offerings, but large schools could give considerably more. Also, the various groups believed that most of the vocational industrial training should be given on the post-high school level and that schools like the trade technical institutes should provide extensive offerings.

A list of the programs suggested for the training of technicians is as follows:

Drafting
Electrical
Mechanical
Electronics
Radio
Radiology
Chemical
Medical Technology
Dental Technology
Architectural Drafting
Nursing
Accounting
X-Ray Technician
Hospital Administration
Salesmanship
Laboratory Technician
Data Processing
Computor Operation
Rocketry

These suggestions are in line with the technical education offerings of many schools throughout the country.

Education For the Future

The school board members and parents were asked to express themselves in regard to the kinds of education and training they thought the youth of Utah should have in the next five to ten years. A few of those responding listed specific training programs such as electronics, auto mechanics, etc., but most of the respondants wrote statements expressing their views. They pointed out the necessity of having a good general education program, but improved over what is being offered at present and suggested that emphasis be given to helping the students gain a deeper appreciation of the Constitution of this country and the freedoms people enjoy under it. Students should acquire the qualities and characteristics necessary to be good citizens and to be willing to produce high quality work.

After the basic education has been acquired the schools should provide opportunity for young people to acquire the education and training necessary to make a living in whatever kind of worthwhile work they might choose. Those responding would provide vocational and technical training as well as regular college work.

Kinds of Schools in Which Vocational Industrial and Technical Education Should be Taught

One of the very important problems associated with offering vocational industrial and technical education programs has to do with the kind or kinds of schools in which the work should be offered. Information was obtained from parents, school board members, and superintendents on this problem as it relates to high school and post high school vocational industrial education and post high school technical education.

The following three tables show the responses of the parents and school board members on this problem. There was almost unanimous agreement among the superintendents that high school vocational industrial offerings should be taught in the local high schools. They favored offering post-high school vocational and industrial education in the presently existing trade technical institutes, in junior colleges, and in Weber State

Table 3 The kinds of schools in which parents and school board members think high school vocational trade and industrial education should be taught

	Regular High School		Vocational High School		Technical High School		Area Vocational School	
	No.	Per cent	No.	Per cent	No.	Per cent	No,	Per cent
School Board Members	69	78.4	24	27.3	21	23.9	34	38.6
Parents Total	589	54.0	321	29.4	222	20.4	246	22.6

College. Some of them also suggested the possibility of having it offered at Utah State University. The superintendents also favored these same schools for technical education. Reasons given by the superintendents for their choices were (1) students should remain in their local high schools in order to get the best general education possible, (2) high school

Table 4 The kinds of schools in which parents and school board members think post-high school vocational trade and industrial education should be taught.

	Area Vocational School		Technical Institute		Junior College		Four-Year College		University	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
School Board Members	60	68.2	43	48.8	41	46.6	27	30.8	20	22.7
Parents Total	616	56.5	417	38.3	306	28.1	157	14.4	117	10.7

Table 5 The kinds of schools in which parents and school board members think technical education should be taught.

	Area Vocational School		Technical Institute		Junior College		Four-Year College		University	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
School Board Members	40	45.6	49	55.5	37	42.0	31	35.2	32	36.3
Parents Total	413	37.9	532	48.8	257	23.6	11	19.4	179	16.4

activities are important to young people and these are best provided in the local high schools, (3) parents prefer to keep their children at home until after high school graduation and it is cheaper for them to do so, (4) the establishment of new schools creates the need for an administrative super-structure which is expensive, and (5) there is more prestige attached to post-high school vocational industrial education and to technical education if it is offered on a college campus. A few superintendents suggested

the possibility of establishing a very few additional schools throughout the state in locations where they would be most beneficial, but most of them were not in favor of having very many new schools because they believed better use could be made of the existing ones.

Status of Vocational Industrial and Technical Education

Realizing that the matter of status or the prestige of vocational industrial and technical education programs is a serious problem, a thorough investigation was made on this matter. Several questions relating to it were included in the questionnaires to school board members and parents and it was thoroughly discussed with school superintendents in Utah and with school directors throughout the country. A summary of the responses from school board members and parents on various questions relating to status or prestige is shown in Table 6.

One half of the forty superintendents in Utah said there was a serious problem regarding the status of these programs, fourteen said there was a problem but that it was not serious, and six of them said there really was no problem or that it was not serious enough to cause any concern. Some of those who thought that the problem was not serious, especially in their geographical area, said this was because of the type of work done by the parents as many were engaged in manual work. The opinion was also expressed that the problem is not really as serious now as it was a few years ago.

Suggestions given for overcoming the problem are as follows:

1. Provide for more public relations programs and activities. Give good programs adequate publicity.

2. Educate students, parents, and other educators to the new kinds of programs.

3. Provide more adult education classes in vocational and technical work.

4. Provide post-high school work in these fields on college campuses.

5. Start new programs on a small scale and work into more programs as they are needed.

6. Provide high quality programs.

7. Give college degrees for the work regardless of whether it be in automotive, machine work, or any other field.

8. Make the vocational and technical work available and it will not be difficult to overcome the problem of status.

Table 6 Summary of Responses from School Board Members and Parents on Matters Relating to the Prestige of Vocational Industrial and Technical Education

	School Board Members		Parents	
	Per cent "yes"	Per cent "no"	Per cent "yes"	Per cent "no"
Do you believe that courses which train young people to become skilled craftsmen have as high a prestige as our regular academic school offerings?	20.5	77.3	35.2	60.2
Do you think that courses which train skilled craftsmen should have as high a prestige as our regular academic school offerings?	84.6	15.4	78.1	21.9
Do you believe that courses which train people to become technicians have as high a prestige as our regular academic offerings	45.5	47.7	48.2	43.3
Would you be happy to have some of your own children or grandchildren take courses which would prepare them to be skilled craftsmen?	95.5	2.3	92.4	4.5
Would you be happy to have some of your own children or grandchildren take courses which would prepare them to be technicians?	97.8	1.1	93.2	3.1
Do you believe that there would be any kind of stigma attached to your child if he attended a vocational school?	23.9	73.9	17.6	73.9
Do you believe that there would be any kind of stigma attached to your child if he attended a school for training technicians?	12.5	84.1	13.5	78.0

9. Work through the counseling program.

10. Start with the colleges and universities in overcoming the problem.

School directors throughout the country indicated that there was a status problem, but that it was not nearly as serious now as formerly. As programs have been improved and as students completing training programs have received good jobs with high salaries, prestige has improved.

School board members and parents were asked if they thought industry should train its own workers rather than to have the schools do it. Well over 50 per cent of both groups believed that the schools should assume the major responsibility for training, but they also recognized that industry would need to share in it by providing the highly specialized training necessary for the worker to fit into a specialized occupation or a specific company.

Providing Financial Support

In regard to providing financial support for any new training programs which might be provided, school board members and parents were asked this question: "If you believe that an expanded educational system including more vocational and technical training would serve the needs of more of our young people, would you be willing to pay more school tax in order to support the new school offerings." School board members answered "Yes" in 82.9 per cent of the cases and "No" in 5.7 per cent. Parents answered "Yes" in 69.4 per cent and "No" in 19.4 per cent. In both groups there were quite a number who were undecided or did not answer the question. This shows that most of those responding would be favorable to giving financial support to the needed programs. Many comments were made on this matter especially to the effect that the money should be spent wisely and that everything should be done to use existing facilities more efficiently before new taxes were assessed to provide additional facilities, staff, or other needed items.

There was general agreement that technical education is a post-high school program and that secondary schools would not have much responsibility in providing it. However, a large percentage of school board members thought that secondary schools should assume some responsibility in this field especially in providing adequate background so students would be well prepared for technical education after high school graduation.

Financing Programs of Vocational Industrial and Technical Education

There seems to be no doubt in the minds of most people that the greatest problem associated with vocational industrial and technical

education is how to finance the work. Finance is also the number one problem facing all education and possibly the problem is no more critical for vocational and technical education than it is for other phases of education. There is another matter which enters in, however, which is that there are strong beliefs that the costs of vocational and technical education are prohibitive and that they cost so much more than regular academic type education that it is almost impossible to finance such programs. Accordingly some study was made of the financing of these programs in other states and of the comparative costs of education beyond the high school in Utah.

Inquiry was made at the schools visited throughout the country about the manner in which the various schools were financed. A great variety of methods were reported. The major sources of funds were from local school districts, which in many cases might be a county or part of a county; state funds; and federal funds. In some cases, a number of school districts had joined together on a cooperative basis to provide a school which would serve a relatively large geographical area. Where federal funds were used, they were matched by state and local funds according to law. In most cases the state and local funds far exceeded the federal funds, the ratio ranging from about 4 to 1 to as high as 14 to 1.

The various kinds of post-high school institutions were supported largely by state funds. This was especially true for area vocational schools, technical institutes, and junior colleges. Four-year colleges and universities were usually state-supported institutions except in a few cases where they were private or parochial schools.

A practice found in a number of states, particularly in regard to post-high school vocational technical schools, was for a local district or districts to provide the building and maintain it in terms of heat, light, other utilities, custodial service, and general repair and maintenance. The state would then furnish the money to pay all instructional and administrative costs. The directors in these schools seemed to think this was a very satisfactory manner for financing and operating the schools.

Most of the schools that were eligible made extensive use of federal funds from Smith-Hughes, George-Barden, and the National Defense Education Acts. A number of schools also obtained considerable money under the Manpower Development and Training Act.

Most of the school directors were asked regarding cost to operate their programs. Some of them reported on the basis of student credit hour and on this basis were approximately $10 to $12 per student credit hour. Most of the schools operated on a semester basis. Other schools reported their costs on a per capita basis for an academic school year, and these varied from about $650 to about $900 per year. The school reporting the

cost of about $650, a vocational high school, said this was about $150 a year more than regular high school costs in their area.

Costs in Utah

The cost of post-high school education in Utah is shown in Table 7. A study of the table shows that in 1961-62 the lowest expenditure per year

Table 7 Expenditures for Educational and General Purposes Amount per Full Time Equivalent Student. [1]

Institution	1961-62[a]	1963-64[a]	1964-65[b]
University of Utah	$946.92	$1005.30	$1046.50
Utah State University	797.03	832.73	960.23
Weber State College	604.95	640.54	679.07
College of Souther Utah	746.91	794.13	729.27
Carbon College	673.30	732.60	739.43
Snow College	763.29	817.65	844.30
Dixie College	655.46	859.35	607.25
Salt Lake Trade Technical Institute	537.33	580.68	752.70
Utah Trade Technical Institute	754.20	775.89	886.63
Total for Colleges and Universities	835.87	881.43	932.77
Total for Trade Technical Institutes	628.01	662.35	809.37

a Actual
b Budgeted

for full time equivalent students was the Salt Lake Trade Technical Institute. At Utah Trade Technical Institute the cost was somewhat higher, in fact, a little higher than for most of the junior colleges. In terms of

1 Adapted from Biennial Analysis of the Budgets of Utah, State supported institutions of higher Education, Utah Coordinating Council of Higher Education, November, 1964

averages for the trade technical institutes compared with the average for all colleges and universities the cost is considerably less in the trade technical institutes.

Another way to look at the costs of vocational industrial and technical education is to see what it costs to produce one student hour of credit. This has been worked out by the Utah Coordinating Council of Higher Education for the two trade technical institutes and for the colleges and universities of the state. The costs are calculated on a quarter credit hour basis because this is the way the state institutions of higher education in Utah give credit. Although the trade technical institutes do not give credit this way, their credit has been equated to the quarter hour basis so that the costs in the various institutions are comparable. These costs are shown in Table 8. A study of this table shows the cost per student

Table 8 Instructional Salary Cost Per Student Credit Hour in all Subjects Combined, Utah Institution of Higher Education--Academic Year 1962-63.[2]

Institution	All Levels Combined	Lower Division	Upper Division	Graduate
University of Utah	$ 9.83	$ 5.36	$ 5.40	$ 32.92
Utah State University	8.10	5.03	9.93	40.32
Weber State	6.63	6.29	8.60	
Southern Utah	7.61	6.80	12.58	
Carbon College	8.93	8.93		
Snow College	8.09	8.09		
Dixie College	7.88	7.88		
Salt Lake Trade	7.86			
Utah Trade	8.26			

credit hour at the trade technical institutes to be very close to that at the state operated colleges and universities when all levels are combined. However it should be pointed out that on the lower division level the cost per student credit hour at Salt Lake Trade Technical Institute is more than

2 Adapted from Curriculum Analysis 1962-63, Utah Coordinating Council of Higher Education, January 1964, p. 105

the cost at the colleges and universities except Carbon College, Snow College, and Dixie College. At Utah Trade Technical Institute the cost is more than the lower division cost at any of the colleges and universities except Carbon College. The lower division costs are probably the best ones to use for comparative purposes because nearly all of the work offered at the trade technical schools is one or two years beyond high school.

Programs for retraining workers under the Manpower Development and Training Act show that it costs a great deal to get them ready for employment again. Projects approved and presently underway in Utah show an average cost of about $2,000 per person. Projects approved but not yet underway will cost about $3,000 per person. These costs include subsistence allowances for the persons enrolled in the retraining programs. [3]

The foregoing analysis of costs shows that vocational industrial and technical education programs are not prohibitive or unreasonable in cost. The investment in people is probably more productive in the vocational industrial and technical education programs than it is for those college students who drop out without acquiring marketable skills.

Guidance and Counseling

In nearly every phase of this study, as the work progressed, the investigator found that great emphasis was placed upon the importance of guidance and counseling in getting young people to stay in school, in helping them to make a wise selection of their life's work, and in assisting them to obtain training for the occupation of their choice. Along with this there was criticism of present counseling programs. Therefore, counseling and guidance were studied from the point of view of school directors throughout the country, from school district superintendents in Utah, and the counselors themselves in Utah.

The study showed that counselors have many duties which relate directly and properly to their work, but they also have many other duties which have little or no relationship to the counseling or guidance of students. Some counselors reported so many things to do other than counseling that very little time was left to do the things for which they were presumably hired. When the counselors were asked what duties and responsibilities they should have as compared with what they actually have assigned to them, those mentioned were much fewer in number and much more closely related to counseling and guidance matters.

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3 Minutes of the Meeting of Governor's Council On Employment And Training Held Novermber 17, 1964, Room 418, State Capitol Building

The school district superintendents were quite concerned about counselors and counseling programs. They recognized the need for good counseling and guidance but believed that the programs were not functioning nearly as effectively as they should. The duties and responsibilities they thought counselors should have are as follows;

Helping students in choosing a vocation and in selecting an educational program to help them toward their vocation.

Helping students with personal problems.

Understanding students better in order to give them better help in planning for the future.

Organizing and administering a testing program and using the results properly in counseling with students.

Helping students evaluate themselves in terms of their academic and vocational potential.

Working with parents in an honest apprasial of where the student is going.

Working with teachers to assist them in their part of the guidance program.

Helping students to adjust to school.

Giving the student orientation to a school which he or she might attend after finishing the one where presently enrolled.

Counselors listed many administrative duties as part of their assignment, however the superintendents did not list any administrative responsibilities for counselors and they stressed the fact that counselors should not be disciplinary agents.

The responsibility for planning and organizing the total guidance program seemed to be primarily the responsibility of the director of pupil personnel. Counselors, themselves, apparently had considerable responsibility in this as did some assistant superintendents and school principals. Of course, the superintendents had responsibility in this matter, but this was not mentioned very frequently.

Occupational Information

Counselors were asked to report on the procedures used to help students obtain occupational information and they were asked to rate the importance of the various procedures used, Individual conferences

with the counselors was the most commonly used method and this also received the highest rating in terms of importance. The author believes this method to be quite unrealistic in terms of giving occupational information needed by the students because of the limited amount of time a counselor is able to spend with each student.

Effectiveness of Counselors in Helping Students To Select a Vocation

Counselors, superintendents, and school directors were asked concerning the effectiveness of counselors in helping students select a vocation. About three fourths of the counselors responding believed they were effective in this regard, but only 12.5 per cent of the superintendents expressed this belief. About 50 per cent of the superintendents believed the counselors were not effective and 35.0 per cent believed they were partly effective. The beliefs of the counselors and the superintendents are far apart. In the schools visited outside of Utah which had counselors there was a belief on the part of the directors that within their own school the counseling and guidance programs were quite effective, but they expressed the belief that the programs in most of the schools from which they drew students were not very effective.

Counselors' Information About the World of Work

The idea has been expressed on many ocasions that most counselors do not know enough about the world of work to give students the help they need in selecting an occupation. Table 9 shows the responses of the counselors and superintendents on this matter.

Table 9 Beliefs of Counselors and Superintendents Regarding the Adequacy of Counselors' Information About Occupations

	Adequate		Not Adequate		Partly Adequate	
	Number	Per cent	Number	Per cent	Number	Per cent
Counselors	80	54.4	55	37.4	12	8.2
Superintendents	3	7.5	25	62.5	11	27.5

The counselors were also asked if they thought they could be more effective in giving vocational guidance if they had a greater understanding of occupations. Although slightly more than one half of them reported that they felt adequately prepared to give information about occupations, nearly 90 per cent of them said that they could be more effective if they had a

greater understanding of occupations. Only 2.7 per cent of the counselors said they could not improve themselves in this regard.

Teaching Experience and Counseling

Over 90 per cent of the counselors believe they should have teaching experience before becoming counselors. A number of them were uncertain on the matter and nearly seven per cent said that teaching experience should not be required. Superintendents believed strongly that counselors should have teaching experience before they become counselors.

There have been problems in the past as to whether or not classroom teachers should participate in counseling and guidance and in this study 96.5 per cent of the counselors reported that teachers should be involved. However, many of them made it clear that the responsibilities of the teacher were not exactly the same as those of the counselor and that each should work in his own sphere and not try to take on the responsibilities of the other.

Counseling on Problems of Personal Adjustment

In some cases there have been strong feelings about counselors spending too much time dealing with students' personal problems and that because of this not enough time is left to handle other problems of guidance including vocational guidance. The counselors were asked about this and one-third of them reported that they were concerned primarily with personality adjustment problems. There were 63.3 per cent of the counselors who said this was not their primary responsibility although they did handle such problems. There were a few who did not answer the question. The responses show that a significant part of the counselor's time is spent in dealing with personality adjustment problems. At the present time there does not seem to be an answer as to how much time should be spent on these problems. The counselors were asked whether or not they thought greater emphasis should be placed on vocational guidance and 85.0 per cent of them answered that there should be.

Students' Understanding of the Work of the Counselor

Another criticism of counseling which has frequently been expressed is that students do not understand the work of the counselor and they they do not make effective use of the counselors' services. The next two tables show the responses of the counselors and superintendents on these items.

The counselors were asked whether or not they counseled with students individually regarding their test-indicated aptitudes, interests, and abilities, and 96.6 per cent of them reported this was being done.

Table 10 Opinions of Counselors and Superintendents Regarding Students' Understanding of the Work and Purposes of Counselors

	Students Understand		Students do Not Understand		Uncertain	
	Number	Per cent	Number	Per cent	Number	Per cent
Counselors	87	59.2	45	30.6	15	10.2
Superintendents	13	32.5	19	47.5	7	17.5

Table 11 Beliefs of Counselors and Superintendent Regarding Effective Use of Counselors' Services By Students.

	Effective		Not Effective		Partly Effective	
	Number	Per cent	Number	Per cent	Number	Per cent
Counselors	75	51.0	49	33.3	23	15.7
Superintendents	16	40.0	15	37.5	7	17.5

Involving Parents in the Guidance Program

The belief has been expressed that parents should be involved in counseling and guidance to a greater extent than they are at present. Nearly 80 per cent of the counselors said they should be, 13.0 per cent said they should not be and nearly eight per cent had mixed beliefs on this matter or did not answer the question. Most of the school superintendents believed that parents should be involved in many phases of the school program including counseling and guidance. However, there were two or three who expressed the belief that parents are involved about as much now as they should be and that educators should have enough training to do the job they are supposed to do and should do it without involving parents any more than is absolutely necessary. A serious problem pointed out by a number of superintendents was that too many parents are simply not interested either in the school or in their children and that involving them accomplishes no useful purpose,

Certification of Counselors

Some of the superintendents suggested that the certification requirements for counselors need to be improved. Two points made by the superintendents in this regard were that teaching experience should be required and also that some kind of experience or training which would help them gain a better understanding of the work of the world should also be included. The counselors were aksed whether or not the present requirements for a Utah Counselor's Certificate are satisfactory and 81.7 per cent of them answered "yes, they are satisfactory." Suggestions for improvement were requested and some of the counselors offered the same suggestions made by the superintendents. Others suggested that the training be better suited to the level in which the counselor would work, such as elementary, junior high school, or senior high school. They also suggested more courses outside of the field of psychology and that more testing experience would be desirable. The recommendations made by the counselors seem to suggest that perhaps there is need for more than one counselor in many of the schools and especially in the large ones. One person might specialize in personality adjustment problems, another in vocational guidance, and so on.

Full Time or Part Time Counseling

A few of the counselors thought that it would be better if they had some teaching assignment to go along with their counseling work. They believed this would keep them in closer contact with the students and give them a better understanding of students' problems. However, 87.1 per cent of the counselors believed that counseling should be a full time job and that a counselor could do better if he were not involved in problems which teachers have with students.

Ratio of Counselors to Students

In recent years there has been considerable discussion about the number of students for whom a counselor should be responsible. It was found that in the 40 school districts of Utah there were 24 in which the ratio was about 400 students to one counselor, 8 where the ratio was 300 to 400 students per counselor, 7 where the ratio was 200 to 300 students per counselor, and one district where the ratio was less than 200 students per counselor. Where the ratio does not exceed 400 students per counselor, the number comes within the recommendations of the Northwest Accrediting Association, but counselors and superintendents thought that the counseling services could be much more effective if there were not more than 300 students per counselor.

Improving Counseling Services

In the visits made to schools throughout the country, in the interviews with superintendents, and in the questionnaires sent to

counselors, requests were made for suggestions dealing with the improvement of the total program of counseling and guidance. Many excellent suggestions were made. They may be summarized in the following points:

(1) Have enough counselors to do the work expected of them, (2) provide adequate training for counselors, (3) provide proper screening and selection of persons to become counselors, (4) provide counselors with a better understanding of occupations and vocational guidance, (5) define counseling and guidance more clearly and set forth its real purposes, (6) extend counseling services into the elementary schools, (7) make use of the summer months for guidance sessions with parents and students.

Age and Aptitude Characteristics of Students'

In order to plan programs of vocational industrial and technical education in an intelligent manner something should be known about the characteristics of the students who likely will enroll. It is also well to know how they compare with other students in certain characteristics, particularly in age and aptitude.

In this phase of the study data were gathered in an attempt to find answers to four major questions, as follows:

1. What are the aptitudes of the students attending the trade technical institutions of Utah as revelaed by the General Aptitude Test Battery?

2. How do the aptitudes of the vocational group compare with the aptitudes of a sampling of college students?

3. How do the aptitudes of the vocational group compare with the aptitudes of Utah high school students?

4. Is there any relationship between the aptitudes revealed by the General Aptitude Test Battery and the vocational choice of the student?

In order to carry out this part of the study, data were obtained from Salt Lake TradeTechnical Institute, Utah Trade Technical Institute, Utah State University, and the Utah State Department of Employment Security in Salt Lake City, and branch offices throughout the state. Information concerning aptitudes was in the form of test scores from the General Aptitude Test Battery (hereafter referred to as GATB) which is administered each year to many high school students in Utah by the Department of Employment Security. The GATB measures nine different aptitudes as follows:

G - Intelligence
V - Verbal Aptitude
N - Numerical Aptitude
S - Spatial Aptitude
P - Form Perception
Q - Clerical Perception
K - Motor Coordination
F - Finger Dixterity
M - Manual Dexterity

Cut-off scores are provided for the aptitudes measured by the GATB which may be helpful in guiding persons into particular occupations. For example, the cut-off scores indicate the aptitudes considered necessary for work in refrigeration, auto mechanics, machine work, or a variety of other fields, and the scores on these aptitudes which a student should make in order to be successful in the particular occupation.

It was found in this study that most of the students enrolling in training programs in the two trade technical schools in Utah have the necessary aptitudes to succeed in their chosen occupation. A few students have scores below the cut-off scores, but these are relatively few in number.

Comparisons were made between the aptitude scores made by students who had graduated from trade technical programs and those who were enrolled in the Fall Quarter of the 1963-64 school year. The study showed that there were very few differences in the two groups, that is, those who had completed training programs and those who were enrolled were very similar and in general their scores were within the cut-off scores.

Comparisons were made between 968 vocational technical students and 351 college freshmen and sophomores for all of the nine aptitudes measured by GATB. In all aptitudes the college group had higher mean scores than the vocational group and they were enough higher that the difference was significant.

A study of the range of the scores for each aptitude shows quite a variation in both the college group and the vocational group. It shows that many young people in the vocational groups are capable of doing college work if they were to select this type of training. It also shows that there are many young people enrolled in college who do not have the aptitude to be successful in this type of education. It is in this area of overlap that the problems arise because of the status symbol of college education and this is also an area in which adequate counseling might make a greater contribution than it is doing at the present time.

The vocational group was classified into sub-groups according to their major interest such as refrigeration, electronics, welding, etc.

Comparison of the mean scores of these sub-groups were made with the college group and in nearly all cases the college group had mean scores significantly higher than the different sub-groups.

Some information was gathered concerning the age range of the vocational students and it was found that the ages ranged from a minimum of 16 years to a maximum of 64 years. In most of the sub-groups the mean age was about two to three years higher than the freshman and sophomore groups in college. This is evidence that these vocational students likely did not receive adequate vocational guidance in the secondary schools, probably entering vocational training only after failing to find satisfactory employment or success in college. The highest mean age was for the practical nursing sub-group where it was nearly 27 years of age.

A comparision was made between the mean scores for the nine aptitudes of the vocational students and a large group of high school students who took the test as juniors in 1960-61. The high school group had higher mean scores for every aptitude than did the total vocational group and they were lower for every aptitude than the college group.

Statistical analysis of the differences among the various vocational sub-groups on the nine aptitudes showed that for every aptitude differences exist somewhere among the sub-groups which are great enough to be significant.

Visits to schools throughout the country shows that many schools are rather selective in the choice of students to enter their school. Many technical institutes will not accept students with intellingent quotients less than about 110. Vocational schools, including those on the high school level, are becoming much more highly selective of the students they will admit. This practice has many advantages, but it does not do very much to solve the problem of what should be done with the less capable students, since 50 per cent of the population has less than median ability.

Because of technological change, society is changing and will continue to change. As one problem is solved another will arise and technological changes will continue, either as the master of all or as a servant for all. Although education is not the only means, at the present time it seems to be the best means by which the individual and society can adjust to the changes constantly taking place. The great values of general education to the individual and to society cannot be overemphasized, however it is not enough for the great majority of youth and adults who work in today's society and occupational education must become an integral part of the total program of education. The public seems to recognize this fact, they want this type of education and training, and most of them are willing to pay for it. All education, and especially higher education, has a deep responsibility to provide leadership in it and to establish the programs needed.

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Hamel, Paul V.
A Follow-up Study of a Search for Clues to the Reasons for Dropouts at Spaulding High School in the City of Rochester, New Hampshire.

New Hampshire Research Coordinating Unit of Vocational-Technical Education, Concord
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ABSTRACT - Questionnaires were sent to all dropouts leaving Spaulding High School from September 1964 to June 1969 to learn their reasons for leaving. Findings from the 38 percent of usable responses were supplemented by interviews when necessary. On the basis of the dropout characteristics and attitudes which the study disclosed, recommendations were made for improved guidance, vocational education, and programs for the handicapped. (BH)

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A LOOK AT THE DROPOUT PROBLEM IN SPAULDING HIGH SCHOOL ROCHESTER, NEW HAMPSHIRE

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A FOLLOW-UP STUDY OF A SEARCH FOR CLUES TO THE REASONS FOR DROPOUTS AT SPAULDING HIGH SCHOOL IN THE CITY OF ROCHESTER, NEW HAMPSHIRE

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Preface

An enormous amount of material is already available about the dropout problem across the nation. No facts, however, were available concerning Spaulding High School's particular problems in Rochester, New Hampshire. It was felt that a clear picture of the problems as they exist in Rochester was needed. For that reason a followup study was undertaken to get the opinions of recent school leavers on this subject.

A proposal was submitted to, and accepted, by the U.S. Office of Education, Division of Comprehensive and Vocational Education Research through the New Hampshire Research Coordinating Unit, and the required funds were made available to the city of Rochester, New Hampshire.

A project such as this is impossible without the cooperation of a great many people. From the start, the project personnel received the encouragement and cooperation of many people from school administrators to young dropouts.

The project personnel wish to acknowledge the assistance and encouragement of the following persons: Dr. Harry Grierson, Principal of Spaulding High School; Mr. Paul E. Seavey, Assistant Principal of Spaulding High School; Mr. Alfred W. Thomas, Superintendent of

Schools; Dr. Richard L. Barker, Director N. H. Research Coordinating Units, Division of Vocational Technical Education; Mr. Howard Kimball, Consultant, Secondary School Services, State Department of Education; Mr. George J. Putz, Liaison Officer, Bureau of Educational Research and Testing Service; and out Advisory Committee, Joseph Buslovich, personnel manager at Spaulding Fibre; Rev. Waldon Corbett, Baptist Church; Charles Grassie, member of the Rochester School Board; James Hatton, Director of YMCA; Roland a Jenkins, managing editor of Foster's Daily Democrat; James Lawrence, social worker; Rev. Hubert Mann, St. Mary's Church; Rev. Donald H. Marsh, Church of the Redeemer; Terrence R. McGarghan, WWNH radio station; Alden Mendler, Rochester Trust; Wesley Sayer, Dollars for Scholars; Mrs. Barbara Thompson, Representative to the General Court. A special acknowledgement is given the project secretary, Mrs. Ann Richey, for her dedicated work.

CHAPTER I

INTRODUCTION

Rationale

In recent years considerable attention has been given to the school dropout problem on both national and local levels. Educators have proposed various plans to retain the potential dropouts and train them in a skill. These programs have experienced varying degrees of success.

Before Rochester, New Hampshire, begins any program of its own to encourage stayins and improve educational opportunities, it was deemed necessary to evaluate the problem so that logical recommendations could be made based on an understanding of the local problem. It was the feeling of those who proposed this study that the best way to fathom the problem was to question those who had left Spaulding High School to see if any common pattern of behavier existed among these pupils. With first-hand knowledge of their problems and attitudes, any interested group should be able to look at the matter from a realistic point of view.

The Problem in Rochester, New Hampshire

Little is known about the students who leave Spaulding High School before graduating. At the time of their departure administrators make a judgment as to the reason for leaving based on comments by the student, his teachers and guidance personnel. This reason is then recorded in the permanent record and kept on file at the office of the Superintendent of Schools. No actual record, however, exists concerning the dropout's feelings about the school and what he considers his reason for leaving. Furthermore, there are no procedures by which a dropout is requested or encouraged to see his guidance counselor before he leaves.

Through this study, a search for clues was undertaken to discover possible patterns in what the dropouts would say about the school and their reasons for leaving it. The hope is that an understanding of some of these causes might prompt corrective procedures that would reduce the number of students who do leave before graduation and make more relevant the education of those who would remain.

Objectives

A. To contact all the students that have terminated their high school education in the past five years before graduation.

B. To identify the various dropout problems and obtain pertinent data for use in making curriculum changes.

C. To evaluate the significant correlation between the many factors found and leaving school.

D. To investigate the reasons given for leaving school to determine if any pattern is common.

E. To determine if any specific environmental or subject deficiency influenced the student to leave.

F. To read and review in depth the various reports on school dropouts in other cities and states.

G. To maintain an inventory of vocational and business educational facilities at Spaulding to help us determine the need for more facilities in Rochester. (Gr. 9 - 12)

H. To determine if there is a need of programs for both physically and mentally handicapped students.

I. To disseminate the findings to all Rochester professional educators to have them recognize the equal worth of the Vocational and Business Educational programs.

J. To involve a Citizens' Committee to investigate findings, curriculum, and instructional facilities at Spaulding High School.

Basic Assumptions

A. No two students leave school for the same combination of circumstances.

B. Because the dropout represents a real cost factor the public (through welfare agencies, crime prevention and punishment, unemployment, etc.), it would seem advisable to use tax dollars to slow down the dropout rate.

C. Dropouts in the Rochester, N. H. area do not differ significantly from dropouts in other areas either in number or characteristics.

D. Dropouts will respond truthfully to a survey instrument; although they may not be consciously aware of the complexity of their motives and rationalizations.

Method of Investigation

The four major facets of this study will be discussed separately, and the details of each facet will be covered in Chapter III.

Phase One: The Advisory Committee

A group of interested citizens was organized to discuss the proposal, review the progress of the project in mid-course, and assimilate the findings at completion of the project. This committee would represent a vanguard force in the community for closer study of the problems that the schools are facing.

Phase Two: The Survey Instrument

A questionnaire was developed and reviewed by several authorities in different branches of the educational system. After several drafts a six page instrument was completed.

Phase Three: The Population

A list od 243 students was obtained by searching and cross checking school registers, class lists, permanent records, and guidance files.

Phase Four: Evaluation of Findings

The information on the questionnaire was transferred to an optical scanner coding sheet by the project secfetary. The scanner sheets were then delivered to the Bureau of Educational Research and Testing Service at the University of New Hampshire for conversion to punch cards by means of automatic processing. Tabulations were reviewed by the project director and investigator and then discussed with the Advisory Committee.

Limitations of the Study

This study was not designed to give all the answers about dropouts. It does not give a pupil profile. It does not include the student's complete scholastic record. His attendance record, discipline problems, the schools he attended, his proximity to school are all factors that have an influence on the reason for dropping out. None of these factors were tested. The findings of this report are limited to only those students who responded to the questionnaire. Their answers might be considered very subjective. The survey was restricted to dropouts from Spaulding High School in Rochester, N. H., who had left during the period from September, 1964, to June, 1969.

Definition of terms

Dropout: One who leaves high school voluntarily or is expelled before graduation. This excludes those who are deceased or who have been institutionalized because of a disability.

Follow-up study: A study in which school leavers are contacted and questioned or interviewed.

Holding power: "The ratio of the number of graduates from a single class in a secondary school, to the potential number of graduates from that class, expressed as a per cent." 1.

Vocational Education: A program through which people are trained for profitable employment.

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1. The University of the State of N. Y., REDUCING THE DROPOUT RATE, A Report on the Holding Power Project, The State Education Dept., Bureau of Guidance, Albany, N. Y. 1968.

CHAPTER II

RESEARCH MATERIAL ABOUNDS

A great deal of literature is available on the problem of the dropout in American schools. It would seem that this bounty would satiate the most voracious researcher. The writer of this report has used many of the works disclosed in the bibliography as background material for this project. There are, however, a few exceptional sources that should be prerequisites for any study undertaken on the subject.

A work that should appear on the top of any list for research on the subject is Sherrell E. Varner's School Dropouts "A Research Summary," National Education Association, Washington, D.C., 1967. This work is a complete report on studies that have been completed in all areas of study concerning the dropout. Varner points out that there have been many studies made which cover a vast spectrum of topics on the problem at hand. Before any study is undertaken, he suggests that the researchers should select carefully, the particular area that will be investigated.

Sherrell Varner cautions researchers and readers to be aware of "the influence of the investigator's academic background on data sought and interpretation of results," suggesting that "their inclinations are reflected in their writing." 1.

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1. Sherrell E. Varner, School Dropouts "A Research Summary 1967 - S1," p. 12

Working from a division mentioned in Varner's report, this project staff has presented the following list of types of dropout studies.

Types of Dropout Studies

1. A study of the dropout rate or holding power.
2. A study of the dropouts characteristics or a profile.
3. A study of the potential dropout or how to recognize him.
4. A follow-up study to discover what happens to dropouts.
5. A follow-up study to discover the reasons for dropping out.
6. A study to examine ways of preventing dropouts.
7. A study to discover ways of rehabilitating dropouts.

This project is primarily concerned with the type of study mentioned in number five (5). That is, it was the main objective of this study to examine some of the reasons given by dropouts for leaving school.

A second work that should head the list of any researcher is Lucius F. Cervantes' The Dropout, "Causes and Cures." In this most interesting book, Cervantes reports on a very elaborate study of a group of dropouts compared to a matched set of stayins. The result is a complete and accurate report on case studies that give the readers deep insight into the lives and thoughts of these youngsters. The members of this project's staff realize that, unless they emulate Cervantes' complete and thorough study of each individual case, they will not be

able to help dropouts in their community. Furthermore, without this kind of in-depth study of each dropout, researchers can only pose questions and make educated guesses at the real causes of leaving school. This is fully realized by the members of the staff, and it is the intention of those involved to do a closer study of the dropout. The project has merely opened the door to the study that must be conducted if the problem is ever to be mimimized.

Another interesting work is a pamphlet printed by Public Affairs of N.Y. entitled School Failures and Dropouts by Edith G. Neisser, (#346, 1963), which served to motivate many members of the staff of this project to view the many aspects of the problem before them. The substance of this pamphlet has become part of the philosophy of most of the people working on the project. Some of the ideas adopted are now quoted from the above mentioned pamphlet.

> Unless America cares enough about its schools to invest in preventive programs, taxpayers will be paying more heavily than ever for the treatment of delinquents, the support of unemployables, and the care of those who sink into a state in which they cannot fend for themselves. 2.

This study group also adopts the concept of the "psychological dropout" who is recognized as a person who:

> is present in body, but far away in mind. The perpetual dreamer who rarely becomes actively involved in what is going on around him, or the one who cannot concentrate, may be lost because he never mastered the fundamentals of reading or number work. With each passing semester he sinks deeper into his scholastic quagmire. Or the cause of his withdrawal may be that he feels so acutely the scorn of his class mates that he takes refuge in his private world for comfort. 3.

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2. Edith G. Neisser, School Failures and Dropouts, p. 28
3. Ibid. p. 15

Other meaningful sources have affected the outlook of the staff with remarks such as these:

> A real need for the expansion of educational opportunities is clearly indicated. This expansion can come, but it will be brought about by the community only when the citizens are awakened to the need for a better program. Consequently, it is most important that the school department make every effort to keep the public informed and to enlist the aid of the many local organizations in bringing about more realistic ties between the school and the community which is serves. 4

It will not suffice, however, to merely change the names of existing courses or add new courses to the curriculum. The courses that may be altered or added must be meaningful to the potential dropout. A meaningful improvement in the status quo cannot be expected until courses are made revelant, not only for the college bound student, but also for the student who may be less academically inclined. On the other hand...

> No matter how much educators revamp, psychologist counsel, parents love and encourage...in the end it is the student who must act responsibly by completing his education. 5

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4. Helping Youth Pursue Opportunities, "Guidelines for the Prevention of School Dropouts," State of Maine, Department of Education, Augusta 1964, p. 21
5. Ibid. p. 22

Finally, a note from the particular work that cautioned the staff of the pitfalls of the kind of study they were conducting. This work was very instrumental in setting the tone of the report itself.

> The trend in research seems to be to term what were first considered "reasons" for dropping out as "factors associated with dropping out." Instead of one simple cause, there seems to be a cluster of factors associated with dropping out. What may be the major reason for one child's withdrawal may be only incidental to another. The reported "reason" may be only the last of a long list of precipitating causes. It is difficult to group factors associated with early school withdrawal into neat, mutually exlusive classifications. Though usually studied separately, factors are so interrelated (e.g., parents education and family income, feelings of not belonging and non-participation in school activities) that categorization may be artificial and meaningless. However, because of the mass of research data, some sort of classification is necessary. 6

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6. Varner, op. cit., p. 12

CHAPTER III

METHODOLOGY

In this chapter, a four phase system of relating the project is used in order to simplify and clarify the procedures followed by the staff. These phases are not to be considered as separate stages of the procedures, but they were different facets of the overall operation.

Phase One The Advisory Committee

A group of interested citizens who were willing to participate in discussions on the local dropout problem were identified by the project personnel during the initial stages of the project. In the second month of the project a group was formed and a meeting called for the purpose of discussing the project. Present at this meeting were the Advisory Committee: Joseph Buslovich, personnel manager at Spaulding Fibre Co.; Rev. Walden Corbett, Baptist Church; Charles Grassie, member of the Rochester School Board; James Hatton, Director of YMCA; Roland A. Jenkins, Managing Editor of Foster's Daily Democrat; James Lawrence, social worker; Rev. Hubert Mann, Pastor of St. Mary's Church; Rev. Donald H. Marsh, Church of the Redeemer; Terrence McGarghan, WWNH Radio; Alden Mendler, Rochester Trust; Wesley Sayer, Dollars for Scholars; Mrs. Barbara Thompson, Representative to the General Court; and personnel of the project staff and administrators of the school.

The advisory Committee were presented with the following objectives:

1. To become acquainted with the work being done at Spaulding High School on the subject of school dropouts.
2. To provide a source of public opinion concerning the study.
3. To supply opinions and suggestions on the project from a personal or professional point of view.
4. To be a sounding board for ideas and to give constructive criticism during the development of the report and its findings.
5. To review the structure and organization of the report and its findings.
6. To review the report in order to study its possible implications.

A second meeting was called for mid-August to keep the committee abreast of the progress of the staff and the problems that were being encountered. At this meeting the committee offered to help the staff acquire responses from school leavers that were acquaintances of the committee. They also offered directional advice to the staff.

In the late fall of the year, a third meeting was held to review the findings, and the committee made certain recommendations that will be covered in Chapter V. At this time they were requested to give their opinions of the project and its objectives. These statements are presented in the Appendix of this report.

At the time of this report the committee represented a vanguard force for further community action on the problems faced by the Rochester School system.

Phase Two The Questionnaire

Early in June, the Project Director drafted a proposed survey instrument, which was subsequently tested on a sample of school leavers. A need for some modifications were noted and the instrument was revised. During July, the Principal Investigator worked with Dr. Richard Barker of the New Hampshire Research Coordinating Unit in condensing, modifying, and revamping the instrument. During this period, Mr. Howard Kimball of the State Department of Education was interviewed and his suggestions were used in modifying the instrument. Finally, Mr. George Putz of the Bureau of Educational Research and Testing Service of the University of New Hampshire was contacted and his advice sought on the instrument's workability in relation to computer programming. Each of these authorities suggested that the instrument be reduced in length so that it would not be a great task for the respondent. By mid-July, the instrument had undergone a series of changes in wording and layout, but it still contained twenty-five items. The project staff compensated for the length of the instrument by using a personal approach in making contacts. Since the Project Staff knew many of the dropouts and their families, it was felt they could urge them to fill out the instruments.

The first mailing of the instrument and a form letter occurred on July 29. Replies began coming in almost immediately. By August 8th, 25% were returned completed. On August 19th, a second form letter was mailed to non-respondents. (see appendix for letters and instrument.) The second mailing was successful, and

a total percentage of 32% returns were received by August 19th. In late August and early September, the staff contacted the remaining non-respondents by telephone and mailed a second instrument when requested. When school re-opened in the fall, a last drive for responses was made, and the help of friends and relatives of the dropouts was sought in acquiring a greater number of answers. A cut-off date was set for the end of September, at which time the staff would begin the tally. Forty percent of the dropouts contacted had responded at the time of the closing. At the time of this writing, forms are still arriving but will not be included in the figures of this report.

Phase Three Population

Before the project began, Guidance personnel at Spaulding High School had accumulated the names of dropouts who had left in the last two years. The project staff then continued the search for names and addresses over a five year period. Through the month of July, school registers, permanent records, and class lists were checked and cross checked for the names of bonafide dropouts. Many names originally on the list were stricken because the students were later found to be enrolled at other schools, or imprisoned, or in one case, deceased. At the end of the effort to locate names, the staff had listed 243 names.

The list of dropouts was taken from records dating back five years. No dropouts whose date of departure was prior to September 1964 or after June 1969 were included in this list. The project

secretary used the telephone directory, the city directory, and personal referrals to locate the address of the dropouts on the list. After this information was obtained, the first mailing went out.

During the month of August, the staff received many phone calls from parents who were pleased by the interest shown by the school. In many cases these parents were calling to inform the staff that they were forwarding the instrument to their children who had moved out of town or had joined the services. Many dropouts requested interviews with the staff. Many of these interviews were for the purpose of discussing the possibilities of returning to school, or entering night school, or taking a high school equivalency test. Some dropouts, who seemed to have adjusted to their situation, wanted to discuss their reasons for leaving in greater detail than they were able to through the instrument.

When the study began, the population included 243 dropouts who had left Spaulding High School during the period beginning September 1964 and ending June 1969. By the end of August, this number had been cut to 238. Three were stricken from the list because they had actually transferred and not dropped out. One was taken off the list because his date of departure was actually the year before the time covered by this report. A final name was stricken because no school records could be found on the student.

Of dropouts contacted by mail, phone, or in person, one-hundred responded by filling out the instrument. This represented 40% of the dropouts over a period of five years. Because of

difficulties in coding and interpreting some of these returns, nine had to be excluded from the findings. The usable returns were 91 or 38.2% of the total population.

Phase Four Evaluation of Findings

As the project staff received completed instruments, each form was read and adjustments made as needed for coding. Since some forms contained requests, the staff continued correspondence with the dropout. The information on each instrument was then coded and transferred to a standard optical scanning form. Information added to the coded form were I.Q. scores, number of failures of subjects in high school, the year of departure, and the sex of the dropout. Once this coding was completed, the scanning forms were taken to the Bureau of Educational Research and Testing Service at the University of New Hampshire. There the information was transferred to IBM punch cards by electronic scanner for computer tabulation and correlation. The results are discussed in Chapter IV.

The findings were discussed by the staff of this project, the project committee, the Director of RCU, and other interested people. Their comments and recommendations will be covered in Chapter V.

CHAPTER IV

FINDINGS

Spaulding High School in Rochester, N.H., was constructed in 1939 and was considered adequate to handle an enrollment of 950 students. In subsequent years, as the enrollment grew, the existing plant was renovated and redesigned to accommodate more students. In the interim, the enrollment of the school had increased to approximately 1,250 students. Room for the increased population had been made available through a re-assignment of space and not by any additional building. In many cases, therefore, a loss of services or facilities and benefits was incurred.

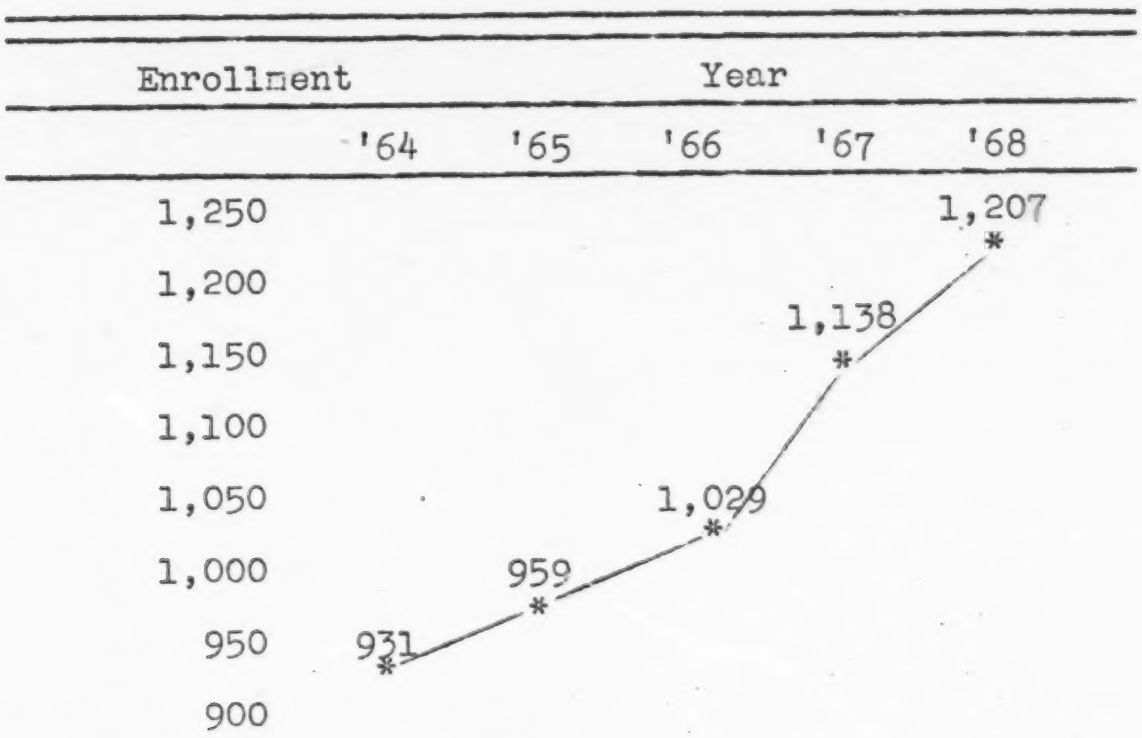
Some consider this "re-assignment" of space a more economical use of available plant, but this judgment must be considered in closer perspective. For example, each of several large classrooms was divided into two smaller class-rooms. In another case, the original room was a shop room and is now two math rooms. Rooms that were originally allocated as a teachers'room, a music room, a storage area,

a conference room, and two gym-locker rooms have been converted into classrooms. In addition, the original auditorium cannot be used to benefit the entire student body; therefore, in order to give the students the benefit of any presentation, split assemblies must be held. Since its size is so restraining, the library, which has been immensely improved by additional volumes and services in the past years, must be restricted to a limited number of students at a time. The gymnasium is faced with similar overcrowdedness. Neither of the latter facilities has been enlarged since the construction of the school in 1939. To dramatize the problem, it would be well to point out that the original cafeteria, designed for 950, is now required to service over 1,200 students in three periods lasting twenty-eight minutes each.

Table I illustrates the increase in enrollment over the period covered by the present study. It may be noted that between 1964 and 1968 there was a 29.6% increase in enrollment. Since 1965, the enrollment at Spaulding High School has exceeded the original recommended figure of 950 students. In the present school year (1969), the growth in enrollment has been proportionate.

TABLE I

ENROLLMENT DURING THE YEARS 1964 - 1969



By the most conservative estimate, Spaulding High School must be considered overcrowded. It is the advisory committee's concerted opinion that many services and facilities have been curtailed because every inch of available space is now being used as a classroom. The only exception is the possible use of the auditorium and its stage as classrooms. The advisory committee and the staff of the present project consider it important to note that many complaints by students in school, or those who have dropped out, may have had their origins in the overcrowded conditions of the school.

One intangible aspect of the growth within the school is certainly obvious in the guidance department. While the school enrollment has grown steadily, there remain to date only two counselors in the department, and these work without help of secretaries. In the writer's opinion, many problems go by unseen and certainly untreated by the staff of the guidance department. The writer would go one step further and suggest that a discouraging number of problems exist in the school that never become a matter discovered by anyone in authority.

The previous facts were stated to inform the reader of the status quo under which this study was performed and under which the dropouts made their reply. The cited weaknesses, although overt, might be so obvious that most students, parents, or interested citizens would overlook them. These situations cannot be bypassed if the intention of this report, to identify dropout problems, is to be served.

It was the purpose of this study to discover what a segment of the school population (i.e. those who had left) thought of the school and its available facilities. The following statistics were compiled from the responses of school dropouts who had answered the questionnaire mailed to them during the summer

of 1969. The data reported is an attempt to express their views and opinions on the reasons for leaving school before graduation.

The instrument was mailed to all dropouts who had left Spaulding High School between September 1964, and June, 1969. The total population was 238: 124 boys (52.1%) and 114 girls (47.9%). Of this total population, 91 valid questionnaires were received and included in the findings of this study. This number represents 38.2% of the original 238 dropouts. The 91 respondents included 43 boys (47.2%) and 48 girls (52.8%).

It is interesting to note the similarity of the percentage of boy dropouts who responded to responding female dropouts. The slightly larger number of girls responding could reflect a natural tendency of girls to comment in this fashion.

Judging by similar responses the staff has received since the termination of its findings, the previously mentioned responding group seems representative of the whole population. The staff feels, however, that one exception is a segment of hard core dropouts (those who were discipline problems or who were totally maladjusted in the school situation and were probably expelled from school) may not be included in the findings. A certain number who are known to be hostile toward the school have not responded, and all efforts of the staff to encourage them to do so have failed.

TABLE II

NUMBER OF DROPOUTS CONTACTED AND
NUMBER RESPONDING

	Dropouts contacted		Dropouts responding	
	Number	Percentage	Number	Percentage
Boys	124	52.1%	43	47.2%
Girls	114	47.9%	48	52.8%
Totals	238	100%	91	100%

In all following figures and tables in this report, the number of students represented is 91 referring to those who responded to the questionnaire.

The dropouts were asked if they had re-entered school, received a diploma, or taken an equivalency test since dropping out. No student said he had returned; one said he had taken the high school equivalency test. According to current records, 8 of the original population of this study had returned to Spaulding High School in September, 1969. Of this number 6 still remain. Furthermore, the evening school division at Spaulding (the only accredited evening high school in the area) had recorded that two dropouts from the original population had enrolled in its classes in September, 1969, yet at the time of this writing only one still remained. All this seems to indicate that very few dropouts succeed in re-entering high school or completing their education.

TABLE III

EDUCATIONAL PROGRESS OF DROPOUTS

	Returned to school	Taken equivalency test	Entered Eve. school
According to response on questionnaire	0	1	0
According to school records	8	0	2
Remained in school	6	-	1

It is important to note that the data in Table III is presented partially through observations of the project staff. It was not an objective of this project to discover what percentage of dropouts return to school, and that information is not known. If a student had dropped out during the period covered by this project and had returned to school in that same period, his name would not have been included on the original list of 238 dropouts considered by this study. Therefore, it is possible that some dropouts did return to school and completed their high school during the period considered. In the writer's opinion, however, the small number from the studied population who did return minus those who once again dropped out illustrates a tendency of the dropout. Their efforts to continue seem almost futile.

The dropout's plans for the next three years, as illustrated in Table IV, seem to corroborate the observations stated above. 24% of the respondents stated that they have no plans for the next three years. Ten percent hope to get a diploma, and another 7.6% hope to take a high school equivalency test, while 4% plan to enter evening school. 8.7% include the service in their plans, while 4.3% expect to change jobs. It would seem that the dropouts from Spaulding High School are aware of the opportunities available to them for furthering their education, but they are not actually taking advantage of them.

TABLE IV

DROPOUTS' PLANS FOR THE NEXT THREE YEARS

Responses	Percentage
Have no plans	24.0%
Will get high school diploma	10.0%
Will go in the service	8.7%
Will take equivalency test	7.6%
Will go to evening school	4.0%
Other than the above	32.0%
Gave no reply	9.4%

Table V depicts the marital status of the dropouts at the time of the study. It may be noted that 58.2% remained single, 36.2% married, and 5.6% had already been divorced.

TABLE V

PRESENT MARITAL STATUS OF DROPOUTS

SINGLE	//////////////////	58.2%
MARRIED	///////////	36.2%
DIVORCED	////	5.6%

Dropouts who did marry did so at an early age as indicated in Table VI. Representing the greatest number, 3 boys and 6 girls married at the age of seventeen. 1 boy and 4 girls married at 18; 3 boys and 3 girls married at 19, and 1 boy and 5 girls did so at 16 years of age.

TABLE VI

AGE AT WHICH DROPOUTS MARRIED

AGE	BOYS	GIRLS
21	1	0
20	1	2
19	3	3
18	1	4
17	3	6
16	1	5
15	0	2
Other	1	0
Total	11	22

Number married representing 36.2% of 91 respondents

Table VII indicates that three quarters of the dropouts from Spaulding High School were living with both parents at the time of their departure from school. There is no way of knowing, however, what the climate was in these homes. Since the stereotype of the

dropout is that he comes from a broken home, this table would seem to indicate an exception to that picture. This "exception" was noted in a report of a study performed in North Dakota[1] and another in Minnesota[2], in which 80% and 75.5% respectively, of the dropouts questioned had been living with both parents while in school.

TABLE VII

MARITAL STATUS OF THE PARENTS
OF DROPOUTS AT TIME OF DEPARTURE

MARRIED	DIVORCED OR SEPARATED	DECEASED
76.9%	20.8%	2.3%

Table VIII supports a commonly held concept of peak seasons for dropouts. It has been observed that, at Spaulding High School, a certain number register each year that seems destined to drop out almost immediately. That number leaves after attending only a few days. Another peak occurs in March soon after report cards are sent out at the conclusion of the second marking period. The summer season seems to

1. Gary E. Boyles, A Report on Dropouts from North Dakota Public High Schools, p.16.
2. Charles V. Randall et al., A Study of Early School Leavers and Significant Causes, p.18.

be a natural peak at the end of which many students never return to classes. In most cases little or nothing is known of the summer dropout.

This study has found the two peaks at Spaulding High School to be: September - 13.2%, March - 13.2%, totalling over one quarter of the annual dropout rate. A third peak was impossible to determine because the months of December, February, and summer showed that 9.9% of the respondents had left during each of those months. Other than June the dropouts left at a consistent rate each month ranging from 6.6% in October to 8.8% in November and January.

TABLE VIII

MONTH DURING WHICH STUDENTS LEFT SCHOOL

September	//////////////	13.2%
October	///////	6.6%
November	/////////	8.8%
December	//////////	9.9%
January	/////////	8.8%
February	//////////	9.9%
March	//////////////	13.2%
April	////////	7.7%
May	////////	7.7%
June	////	4.3%
Summer	//////////	9.9%

The figures in Table IX show the age at which dropouts left school. They are what one would expect since the state requires that each child attend school until his sixteenth birthday. 37.1% left at the age of sixteen; 36.2% left at seventeen, and another 15.1% left at eighteen. Smaller numbers of 6.5%, 4.1%, and 1% left at the ages of fifteen, twenty, and nineteen respectively.

TABLE IX

AGE AT WHICH DROPOUTS LEFT SCHOOL

15	///////	6.5%
16	//	37.1%
17	//	36.2%
18	///////////////	15.1%
19	/	1.0%
20	////	4.1%

The figures above correspond with those shown in Table X. Most students of sixteen and seventeen are in the tenth or eleventh grade, and responses showed that 31.6% left during their tenth year, and 36.2% left during the eleventh year. During the ninth year, 19.2% left and another 13.0% left in their last year of high school.

TABLE X

GRADE LEVEL AT WHICH STUDENTS DROPPED OUT

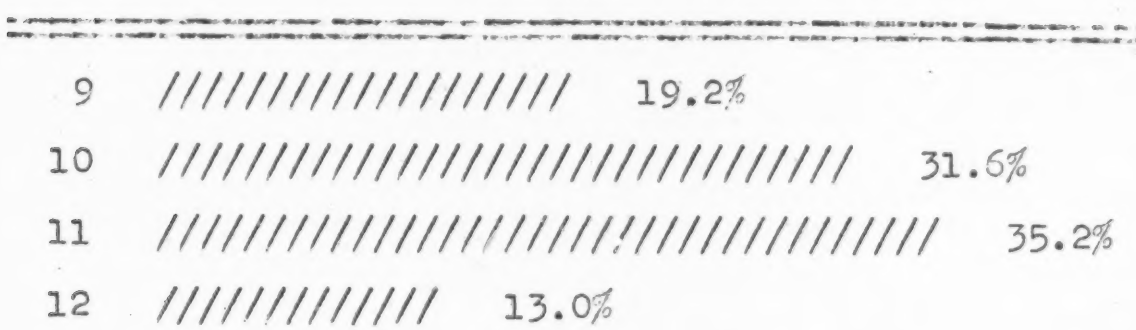


Table XI illustrates the course of studies in which the dropouts were enrolled. 61.6% of the dropouts responding were taking the General Course. The number following other courses were: 14.2%, Business; 12.3%, Industrial Arts; 8.7%, College; and 3.2%, Home Economics. It is interesting to note that in some subjects such as English, social studies, and a few sciences, all students are grouped together, with the exception of college preparatory. In many cases the students would be taking subjects in which no consideration has been made of the course they would be following. Therefore, for these subjects, the number taking a "general" course represents 91.3% of the dropouts responding. The mixture of courses being followed by the various students in these subjects could lead to a curriculum that would seem irrelevant to many in that subject.

It is worthy of note that a small number of dropouts were enrolled in home economics, business, or industrial arts courses. On the other hand, it should be pointed out that a relatively small number of students can be enrolled in these courses because of the limited space available in these areas. For example, there are presently four shop areas available to the industrial arts program with one teacher for each area. Given six periods a day and an absence of scheduling conflicts, this program could handle fewer than 500 properly supervised students. Of course, that would mean that the present industrial arts teachers would each carry a teaching load of six periods a day.

In the business area there exist two rooms equipped with machinery to give students business machine practice during a six-period day. A similar situation exists in the home economics area which consists of two rooms with a limited number of appliances.

Hypothetically, the rooms in these three areas could handle a larger number of students during a school day, but since the equipment is limited and supervision necessary, classes are restricted to a maximum of twenty to twenty-five students per period. Furthermore, course selections in the shop areas

and home economics area are limited to one credit per year in the field. Generally, that would mean that the students in these courses would be spending most of their school day in academic classes. This is especially true in the first two years of high school where the dropout rate is high.

Turning one's attention to the largest percentage of dropouts mentioned in Table XI, one must keep in mind that most dropouts indicated that they had been taking a course nebulously called "general", evidently indicating no specific training was being sought. It would seem that this "general" area is the place to begin any study of curriculum needs. It is also the area wherein one should begin a search for potential dropouts.

The high rate of dropouts in this area confirms a study performed in North Dakota.[3] It was reported that 63% male and 62% female dropouts in that state had been taking a general course before dropping out. It is true that this high rate could be caused by a weakness in the curriculum of this course, but it could also be caused by the caliber of students placed in the courses called "general".

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3 Boyles, op. cit., p.8.

TABLE XI

COURSE FOLLOWED BY DROPOUT

Title	Percentage
General	61.6%
Business	14.2%
Industrial Arts	12.3%
College	8.7%
Home Economics	3.2%

In the present survey, the dropouts were asked to check off the extra-curricular activities in which they had participated while in school. The results demonstrated in Table XII uphold the suspicion that most dropouts do not participate in extra-curricular activities. In fact, two thirds (65.9%) of the respondents were found not to have participated in school functions. Only 16.4% had participated in sports, 5.4% in clubs, and less than 4% in chorus or drama.

Through interviews and comments written on the questionnaire, the writer of this report found that the dropouts either had no interest in the more social aspects of school life, or that they felt extra -

curricular activities were enjoyed by only a selected few within the school system. A Minnesota report[4] showed the level of nonparticipation as high as 85.1% among dropouts. It is felt that this "asocial" attitude contributes greatly to making the departure from school an easier step for the dissatisfied student.

TABLE XII

PARTICIPATION IN EXTRA-CURRICULAR ACTIVITIES

None	////////////////////// /////////	65.9%
Sports	////////////////	16.4%
Clubs	/////	5.4%
Chorus	///	3.2%
Drama	/	1.0%
Band		0
Others	/	1.0%
No response	///////	7.1%

The dropouts were asked what their parents' attitude was about their leaving school. Table XIII illustrates that most dropouts (61.6%) felt that they were disappointing their parents by leaving school. Another 8.7% said that their parents were "unhappy"

4 Randall, op. cit., p.28.

about their leaving. Since the two responses are quite similar, they can be combined to a total of 70.3%, representing almost three fourths of the respondents. Taking this figure at face value, one might suggest that the dropouts responding to the questionnaire felt that their families were interested enough in them to voice some objection. Notice also that only 1% felt that their parents did not care, and another 1% said that the parents worried.

On the other hand, 13.1% felt that their parents agreed and understood; 2.1% of parents felt that they should learn a trade; 1%, earn money; 5.4% felt that the student was doing what was best for him.

Members of the staff who had interviewed dropouts received the impression that dropouts felt they had made a good decision in leaving, but regretted the disappointment they had given their parents. There were no occasions where the parents were blamed for the condition leading up to withdrawal from school.

TABLE XIII

REPORTED PARENTAL ATTITUDE AT TIME OF DROPPING OUT

Disappointed	////////////// ////	61.6%
Agreed and understood	//////////////	13.1%
Unhappy	/////////	8.7%
Best for me	/////	5.4%
Might as well learn a trade	//	2.1%
They could care less	/	1.0%
Thought I could help by earning money	/	1.0%
Were worried	/	1.0%
Thought I was hopeless	-	0

Table XIV presents material that gives insight concerning the background of the dropout at Spaulding High School. Generally, he claims not to have felt loneliness while in school (69.2%); he lived with his parents (91.2%); did not own a car (83.5%) is not sure if he will finish high school or not (43.9%,yes). It is interesting to note that when asked what future plans they had in the next three years, only 10% stated that they would finish high school, (see Table IV). Yet in Table XIV, when asked if they will finish school later,

almost half said they would. Three years seems to be too little time for the dropout to accomplish this goal.

In addition, the dropout would not recommend that others leave school; although, in many cases he remarked that if a student should feel the same way he did about school, then he should leave. 63.7% of those responding to the questionnaire stated that they did not discuss withdrawal with school counselors. 60.3% had repeated a grade while in school. Finally, 68.1% were working part time while in school.

These statistics tend to blend the individual dropout into a homogeneous mass. Because of the interviews and the various responses on the questionnaire, the staff has received the impression that each case was distinct and reactions to various circumstances in school were individual and unique.

One thing is certain; whatever the circumstances leading up to the dropout's withdrawal, it was a complex series of causes and reasons. The complexity is made obvious in the following tables which illustrate what the dropout has said about his reasons for leaving school and what he felt about school as he looks in retrospect.

TABLE XIV

DROPOUT RESPONSE TO VARIOUS QUESTIONS

Question	Yes %	No %	No reply %
Did you live with your parents while in school?	91.2	6.5	2.1
Did you repeat a grade while in school?	60.3	35.1	4.3
Will you finish high school later?	43.9	28.5	27.5
Did you have a part time job at the time of separation from school?	29.6	68.1	2.1
Did you discuss withdrawal from school with your school counselor?	27.4	63.7	8.7
Did you ever feel lonely at Spaulding?	20.8	69.2	9.8
Did you own a car while in school?	13.1	85.5	3.2
Would you recommend to friends to leave school?	10.9	80.2	8.7

The major objective of the project herein reported was to discover what dropouts thought about the school they had left. The dropouts were asked to state their reasons for leaving school. Table XV illustrates the responses received on the questionnaire

The largest number of dropouts (40.6%) stated that one of their reasons for leaving was a lack of interest in school. (Note that 61.6% were taking a general course. See Table XI.) 17.5% had also checked the response indicating that they did not like school. Marriage was given as a reason for 17.5%. Other reasons given were: failure in courses, 13.1%; reading difficulty, 8.7%; to support self, 7.6%; health reasons, 6.5%; pregnancy, 3.2%; transportation, 3.2%; too much reading, 2.1%. 36.2% marked "other", commenting in detail about their individual situations and complications.

The large number of dropouts indicating a dislike or disinterest in school would seem to indicate that more consideration should be given to the kind of subjects potential dropouts take.

Similar results were discovered in other reports wherein dropouts were asked about their reasons for leaving school. Once again in the Boyles report[5], it was stated that 29% boys and 12% girls indicated that they "disliked the school experience." In that report, however, 24% boys and 12% girls stated that they were having academic difficulties. In a study in Iowa[6], 46.2% boys and 15.9% girls stated that they

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5 Boyles, op. cit., p.18.
6 Trevor G. Howe and Kermit Buntrock, Occupational Problems and Vocational Training Needs of High School Dropouts from Rural Areas in Iowa, p.B-22.

left because of a "loss of interest or a dislike of school and courses." Once again in this Iowa report, 12.8% boys and 4.8% girls stated that they had had academic difficulties and an additional 10.3% boys and 6.3% girls added that they had teacher difficulty. Therefore the writer concludes that a large percentage of dropouts leave because they have reached a stage in their education when they feel they are wasting their time.

TABLE XV

REASONS FOR DROPPING OUT OF SCHOOL

Lacked interest	////////////////// ////	40.6%
Didn't like school	//////////////////	17.5%
Marriage	//////////////////	17.5%
Failure in courses	//////////////	13.1%
Reading difficulty	/////////	8.7%
To support self	////////	7.6%
Health	///////	6.5%
Needed at home	/////	5.4%
Transportation	///	3.2%
Pregnancy	///	3.2%
Too much reading	//	2.1%
Other	////////////// //////	36.2%

Table XVI illustrates the dropouts' response when asked where they felt school had failed them. The response checked most frequently (34%) was that school had not provided individual help. 30.7% also showed dissatisfaction with guidance services. This response seems to indicate that the dropout feels he faces his problems alone.

In further response to this question, 24.1% stated that school had failed them because of course programming. The writer feels that this reply reflects the general disinterest in school and the subjects offered.

It is interesting to note that, in spite of this dissatisfaction, very few indicated that school had failed them in providing job training (12%), or shop training (4.3), or preparing for a career (0), or supplying business courses (0). In other words, the dropouts responding (61.6% had been taking a general course) are not satisfied with present courses, but they do not think their future careers are affected.

Interestingly enough, the respondents did not reply to this question in many cases or they marked "other" (31.8% in Table XVI). Some indicated in interviews or by comment on the questionnaire that they felt the school did <u>not</u> fail them at all. They either blamed themselves for the difficulties they had had in school, or they simply repeated that they had had

no interest in school. They felt that they could do themselves more good out of school.

TABLE XVI

DROPOUT'S RESPONSE TO THE QUESTION:
Where did school fail you?

Individual help	//////////////////////	///34.0%
Guidance	////////////////////	//// 30.7%
Programming different courses	//////////////////////////	24.1%
Job training	////////////	12.0%
Developing as a better citizen	//////////	9.8%
Teachers' help	////////	7.6%
Shop courses	////	4.3%
Home economic classes	////	4.3%
Help with handicap	//	2.1%
Providing little expense	//	2.1%
Discipline	//	2.1%
Providing study halls	-	0
Preparing for career or job	-	0
Business courses	-	0
Other	//////////////////////	/// 31.8%

Of interest to the staff of this project is the response in table XVI indicating that 2.1% of the respondents felt that the school failed them in not providing help with a handicap. There is no way of indicating in school records who are the handicapped in the dropout population. It was, however, the impression of this staff that there were no physically handicapped students in the dropout population; only 5.4% might be considered mentally handicapped because of emotional problems or because they were considered slow learners.

It is important to note that at Spaulding High School, there is no special class for any group of students. In some rare cases, additional attention is given by individual teachers to a very few chronically handicapped. Some who are considered slow learners are placed in slower groups and are not graded; i.e., they are given "satisfactory" or "unsatisfactory" on their report cards. Of course, this adjustment cannot be made without the consent of parents, guidance, and administration.

Practically speaking, the only means of recognizing the mentally handicapped in permanent records is by referring to I.Q. scores. The breakdown of scores received on I.Q. tests by the respondents to the questionnaire are illustrated in Table XVII. It is interesting that almost half of the respondents had

IQ scores between 90 and 109 (42.8%). 21.9% had scores that ranged between 80 and 89, while 19.6% had scored above 110 and 6.5% below 80. Scores were not available for 9.2% of the respondents.

TABLE XVII

I.Q. RANGE OF RESPONDENTS

Score	Percentage
Below 80	6.5%
80 to 89	21.9%
90 to 109	42.8%
110 and above	19.6%
No records available	9.2%

The attitude of dropouts toward specific areas in school is illustrated in Table XVIII. One certainty is that the dropouts are not unanimous in their specific criticisms of various areas of the school experience. The most striking response indicates that 58.2% enjoyed mathematics, while 31.8% did not enjoy it. 40.6% enjoyed science and 41.7% did not. Another 36.2% checked that they enjoyed social studies and 23% said they did not. Industrial arts was selected as an enjoyed course by 35.1% and

was not enjoyed by 12%. Other areas that were enjoyed were art 21.9%, sports 17.5%, study halls 16.4%, business courses 13.1%, and English 12%. (19.6% indicated that they did not enjoy English.)

TABLE XVIII

ATTITUDE OF DROPOUTS TOWARD SPECIFIC AREAS IN SCHOOL

Areas	Enjoyed %	Not enjoyed %
Math	55.2	19.6
Science	40.6	41.7
Social Studies	36.2	23.0
Industrial Arts	35.1	12.0
Art	21.9	5.4
Sports	17.5	8.7
Study halls	16.4	3.2
Business Course	13.1	4.3
English	12.0	19.6
Clubs	9.8	8.7
Guidance	4.3	2.1
Languages	3.2	4.3
Library	3.2	1.0
Homework	2.1	9.8
Other	20.8	23.0

Table XIX depicts the dropouts' opinions about the ways in which school has been a help to them. When comparing this table with Table XVI, one finds some contradiction. Once again this only emphasizes the individuality of the dropouts whose attitudes and tastes differ as widely as any other heterogeneous group.

One contradiction is that in Table XVI, 30.7% stated that Guidance had failed them, yet in Table XIX, 31.8% indicated that Guidance had helped them. One should keep in mind that these comments were made in a situation in which the ratio of student to counselor was around 600 to one.

A curious response illustrated in Table XIX is that 24.1% said that school helped them by providing study halls. The writer feels this response could indicate that students wanted time to do homework in school rather than at home, or perhaps the response was made in jocular manner.

A very important item indicated here is that once again a large number (21.9%) contradicted those in Table XVI by stating that the school helped by providing individual help. Others indicated that they received help in programming courses, 17.5%; job training, 16.4%; providing development as a better

citizen, 16.4%; and in providing shop courses, 13.1%; and business courses, 9.8%.

TABLE XIX

DROPOUT'S RESPONSE TO THE QUESTION:
How has school helped you?

Guidance	//////////// //////////	31.8%
Providing study halls	//////////////////////////	24.1%
Individual help	//////////////////////////	21.9%
Programming different courses	//////////////////	17.5%
Job training	//////////////////	16.4%
Developing as a better citizen	//////////////////	16.4%
Shop courses	//////////////	13.1%
Business courses	//////////	9.8%
Providing little expense	///////	6.5%
Teacher' help	/	1%
Preparing for a career or job	/	1%
Discipline	/	1%
Home Economics classes	-	0
Help with handicap	-	0
Other	////////////////////	18.6%

In an attempt to find out what effect the student/counselor ration had on the dropout, he was asked what effect guidance had on his stay in high school. Table XX indicates that 26.3% felt that guidance had not affected them at all. On the other hand, 64.8% stated that guidance provided scheduling assistance (21.9%), conferences (18.6%), information on careers (7.6%) and jobs (4.3%), and testing (2.1%).

TABLE XX

THE DROPOUT'S EVALUATION OF GUIDANCE

No help provided	//////////////////////////	26.3%
Scheduling	//////////////////////	21.9%
Conferences	//////////////////	18.6%
Information on careers	////////	7.6%
Information on jobs	////	4.3%
Testing	//	2.1%
Explanation of scores	-	0
Other	//////////	10.9%

The dropouts were asked to state the areas in which they felt Spaulding High School could have been more helpful. They indicated once again that they wanted more individual help (30.7%). This seems to be an area that calls for some attention. The staff wondered just how many of these did seek help.

An item that should be noted is that 28.5% stated that vocational training would have been of help. This significant number should provide a suggestion for planners within the school system. Going along the same trend, 20.2% stated that a better choice of courses would have been helpful. Counseling was again noted as a need by 14.2% of the respondents. 9.8% stated that they would have wanted more help in industrial machine operation, and 7.6% wanted job preparation.

TABLE XXI

AREAS IN WHICH DROPOUTS FELT SPAULDING COULD HAVE BEEN MORE HELPFUL

Individual help	////////////// ///	30.7%
Vocational training	//////////// ///	28.5%
Better Choice of courses	//////////////////	20.8%
Counseling	//////////////	14.2%
Industrial machine operation	//////////	9.8%
Recreational activities	////////	7.6%
Job preparation	////////	7.6%
Sex education	//////	6.5%
Business machine operation	//////	6.5%
Social studies	/////	5.4%
Music appreciation	/////	5.4%
Better scheduling	////	4.3%
Work-study program	////	4.3%
Home management	///	3.2%
Agricultural training	///	3.2%
Help for handicap	///	3.2%
More shop courses	//	2.1%
Social activities	//	2.1%
Character development	//	2.1%
Business education	/	1.0%
Languages	/	1.0%
Civic duties	/	1.0%
Art	-	0
Other	////	4.3%

An interesting postscript to the comments by the dropouts responding is that, when asked if the changes suggested in Table XXI would have changed their minds about leaving school, half of them (50.5%) said "NO". 34.0% said "yes", and 15.5% did not respond. This reply would indicate that it is necessary to do more than change the school; an effort would have to be made to change the attitude of the potential dropout.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Statement of the Problem and the Objectives

This is the first time a study has been made of the school dropout problem in Rochester, N.H. For some time, local school officials and administrators have wondered about the dropouts in this community. School records showed a reason why students left school. Frequently, these reasons were merely assumptions. No actual statement by the dropout existed. It was felt that, in order to better prepare authorities for coping with the problem, some attempt ought to be made to discover how the dropout felt about his separation. Therefore, through this study, a search for clues was undertaken to discover possible patterns in what the dropouts had to say about Spaulding High School and their reasons for leaving it.

At the same time, it was proposed that the research staff take a closer look at the facilities at Spaulding that were available for students who

were interested in vocational and business education. It was also intended that this staff become familiar with the problems of the handicapped in the school. After researching the problem in Rochester and reviewing the studies done in other communities, the staff was expected to spearhead a committee of interested citizens who would continue to seek ways of improving the quality of education in Rochester, N.H.

Method of Investigation

In the beginning of this study a group of interested citizens was organized by the staff of this project to act as an advisory committee. The main function of this group was to discuss the proposal, review the progress of the project in mid course, and assimilate the findings at the completion of the project. This committee was to represent a vanguard force in the community for closer study of the problems the school is facing.

With the help of the advisors and many authorities in the field of education, a survey instrument was drawn up and prepared for mailing to dropouts. In the meantime the staff worked on a list of dropouts to be contacted. The period covered by the study was a five year period between September 1964, to June, 1969. The list was obtained by searching and cross checking school registers, class lists, permanent records and

guidance files. The original list contained 243 names. Addresses were sought and the survey instrument was mailed in mid-summer of 1969.

By early fall the staff had responses from over 40% of the dropouts contacted. Further attempts were made to increase the number of respondents by telephoning them or their parents. In some cases interviews were sought and held with dropouts who were eager to give more information than the questionnaire requested.

The information on the survey instrument was transferred to an optical scanner coding sheet by the project secretary. The scanner sheets were converted to punch cards by means of automatic processing at the Bureau of Educational Research and Testing Service at the University of New Hampshire. Tabulations were reviewed by the project director and investigator and then discussed with the Advisory Committee. The workable number of responses was 91, or 38.2% of the original population.

Summary of Findings

An important thing to remember about the findings presented here is that they are based on comments made by the dropouts, and, therefore, they may represent only one point of view. In addition, the dropouts were asked to evaluate a situation that held complex emotional involvement for each of them.

1. Only 7.6% of the dropouts considered in this study returned and remained in school. (see Table III)

2. A fourth of the dropouts had no plans for the immediate future. (3 years) (see Table IV)

3. A fourth plan to continue their education in the next three years. (see Table IV)

4. Over half of the dropouts are not married. (see Table V)

5. Twice as many female dropouts married as male dropouts. (see Table VI)

6. Three fourths of the dropouts' parents were still married while the dropout was in school. (see Table VII)

7. Dropouts left most frequently during the months of September or March. (13.2% each. see Table VIII)

8. 37.1% of the dropouts left school during the 16th year of age, and 36.2% during their 17th. (see Table IX)

9. 36.2% left during the 11th grade, 31.6% during the 10th grade. (see Table X)

10. 61.6% of the dropouts were taking a General Course. (see Table XI)

11. Two thirds of the dropouts did <u>not</u> participate in extra-curricular activities. (see Table XII)

12. Over two thirds of the dropouts stated that their parents disapproved of their leaving school. (see Table XIII)

13. 91.2% of the dropouts lived with their parents while in school. (see Table XIV)

14. Almost two thirds had repeated a grade at one time during school years. (see Table XIV)

15. 63.7% did not discuss leaving with school counselors. (see Table XIV)

16. Two thirds of the dropouts did not work on part time jobs while in school. (see Table XIV)

17. 85.5% did not own a car while in school. (see Table XIV)

18. 80.2% of the dropouts would not recommend that others leave school. (see Table XIV)

19. More than half of the dropouts left school because they lacked interest in school or just did not like school. (see Table XV)

20. 34% indicated that they lacked individual help from teachers and guidance department. (see Tables XVI, XX, and XXI)

21. Facilities for the handicapped are virtually non-existing at Spaulding.

22. Almost a half of the dropouts have IQ scores ranging between 90 and 109. (see Table XVII)

23. Math, Science, social studies, and industrial arts were subjects enjoyed by the largest percentage of dropouts. (see Table XVIII)

24. Dropouts indicated that they wanted more help in vocational training, and wanted improved courses. (see Table XXI)

25. 50.5% of the dropouts would not have remained in school regardless of changes in the status quo.

Conclusions

The following conclusions were reached after discussions with the project staff and the Advisory Committee. They are the product of close examination of the findings and comments on the questionnaires received from the dropouts.

1. Very few dropouts return to school and remain.
2. Dropouts are undecided about their future.
3. Dropouts are aware of the various options available to them for continuing their education.
4. Dropouts from Spaulding are not generally from "broken homes", and most lived with their parents while they were in school.
5. The largest percentage of dropouts occur during the months of September and March.
6. Most dropouts leave school during their sixteenth or seventeenth year of age.
7. Most dropouts leave school during the tenth or eleventh grades.
8. The largest number of dropouts were taking courses classified as general or were taking subjects that were academic in nature.
9. Dropouts did not participate in extra school functions.
10. Dropouts left school in spite of parental disapproval.
11. Dropouts did not blame their parents for the situations that led up to their leaving.
12. Dropouts frequently have a record of failure in school.
13. After-school jobs are not a major factor in the decision to drop out of school.

14. Dropouts did not discuss leaving with school counselors.

15. Most dropouts did not own cars while in school.

16. Dropouts feel they made the right decision in leaving school, but they would not recommend that others do the same.

17. Dropouts left school because they did not like school or lacked interest in it.

18. Dropouts felt that they lacked attention from teachers and guidance personnel.

19. The handicapped are not given adequate attention in school.

20. The IQ scores of most dropouts indicate an ability to cope with academics.

21. In general dropouts were critical of subjects that were available to them in school.

22. Dropouts want vocational training and a better choice of courses.

23. Even if the school situation had been improved, dropouts said they would still have left.

The dropout problem is a difficult and complex one. It cannot be solved by any single act or innovation. The first prerequisite is a sincere interest in individuals who have dropped out or who are potential dropouts. Any program that is initiated to help young students to acquire a good and relevant education must consider the whole individual. The program should not be concerned with shaping the individual to a system, but should concern itself with shaping a system that would suit the needs of the individual.

The ambivalence demonstrated by the dropout in his answers to the questionnaire, his attitude toward a completion of high school and his own failure to take steps to accomplish that end, should alert those interested in helping to the fact that the dropout needs more than on open door. If he is going to succeed in his bid for a high school diploma, he will need programs that will enable him to visualize the relevance of his studies to his successful future. He will need constant encouragement and guidance. He will have to feel that he is a part of the school community. Much of this will necessitate his helping himself, but the dropout must be made to feel hope of accomplishment, trusting that the school will give him the help he will need.

The dropout will never fade from the school scene. There will always be some who will not complete their education regardless of the programs offered. This writer is not convinced that this truth is "bad". Some people are just not suited to the academic situation. They can live profitable and happy lives in spite of the fact that they do not have a diploma. They do not even consider this lack a failure, and in some cases they are very right. Most important, the onus of being a "failure" or "dropout" should

be lifted from their shoulders for it is an unjust and false charge, since many of these people are capable and ambitious.

The fact that the dropout will always exist does not eliminate the necessity for educators to continue striving for a reduction of the dropout rate through initiation of programs that will prepare young people for a new and ever-changing society. The challenge to provide a meaningful learning experience for a greater number of youngsters must be faced. This is a necessity, not only to help the dropout or the potential dropout, but to eliminate entirely the psychological dropout who attains a diploma that means nothing in terms of education.

Recommendations

1. Dropouts should be provided with counseling services.
   a) An all-out effort should be made to encourage dropouts to continue their education at evening school or at least by taking the quivalency test.

   b) An effort should be made to change the image of the dropout so that he might be more receptive to approaching the school once again. (One way of doing this would be to provide a generally accepted certificate for students who complete nine years of school.)

   c) A dropout should be made to feel that he can return to school for advice and counseling even if he doesn't return to continue his education.

d) A system for mandatory exit interviews should be devised so that all dropouts would have contact with counselors before leaving. This would provide an opportunity to inform the dropout of alternatives open to him.

2. Potential dropouts should be provided with counseling services.

   a) Work should begin on the dropout problem long before high school. The potential dropout should be discovered before he establishes an attitude that will "sour" him on education.

   b) Parental assistance should be requested and provided before the student becomes alienated.

   c) Increased efforts to encourage potential dropouts should be made during during peak seasons and during crucial years.

   d) Consideration should be given to expanding extra-curricular activities to allow greater participation and more universal involvement. Efforts should be made to bring the potential dropout into this area of activity.

3. Before any of the above can be put into practice, it is of immediate importance that the Guidance Department be expanded. This is not only to service the dropout or the potential dropout, but to provide essential guidance services to the whole school population. Counselor/student ratio should be reduced immediately.

4. Immediate attention should be given to services provided for the handicapped.

5. An immediate investigation should be made of the present curriculum:

   a) to provide a meaningful course of studies for all students.

   b) to give attention to the "average" student.

   c) to improve subjects labeled "general".

   d) to expand areas available to the non-academic student.

6. Serious consideration should be given to expanding the curriculum to include vocational training.

It was the concensus of opinion of the advisory committee that this report not be considered a final step. It seems that the people of this community have begun to investigate the reasons for the troubles they know exist in the school system. This report should be considered only an instrument for initiating further study, dialogue, and action. This project has uncovered a need for more discussion of what is lacking in our schools.

This committee also felt that the community needs a vocational program, and that it should be made available to a larger portion of the school populace. This program should be originated in grades much lower than is presently customary. It seems that students are being "turned-off" by school long before they reach high school and high school students are being asked to sit passively awaiting a future that they are not being prepared for. Not only that, but they are asked to overcome hurdles that make it impossible to reach the goals set up by the system.

It was suggested that the student be given a curriculum in which he could begin to work toward a tangible vocational goal at an age when he begins to realize his life will depend on his ability to compete in the labor market. At the very least, the committee felt that a high school freshman should be given the hope that he will not have to spend four years doing the same thing he had failed to do for the past eight years. It was felt that the high school underclassman could survive a curriculum that adheres to present requisites if he had the hopes that in the last two years of his high school career he could look forward to working in an area that would help him compete for jobs when he leaves school.

The committee wondered if despair more than anything else causes the high school dropout rate in our schools. The findings in this study did not reveal this fact but it is questioned whether the dropout would fully realize his motives or be expressive enough to put the feeling into words.

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APPENDIX

Dropout Study
Spaulding High School
Rochester, New Hampshire

July 24, 1969

Dear

We are concerned about the large number of students who, for their own reason, have left Spaulding High School before graduation. For this reason we are conducting a survey to find out what the problems are.

The enclosed form is set up to give you a chance to tell us what can be done to improve the school. We would appreciate your frank and prompt reply so that others might benefit from your experience.

For your convenience we have enclosed a self-addressed stamped envelope.

If you have any questions or would like to talk with me in person, please call 332-3822. Many thanks for your cooperation and efforts.

Very truly yours,

Paul V. Hamel
Project Coordinator

PH:ar
Enclosures

Survey Project
Spaulding High School
Rochester, N. H.

August 8, 1969

Dear

A few days ago, we mailed a questionnaire to you concerning your reasons for leaving Spaulding. Our return mail has been interesting and very helpful, but it was not as heavy as we had hoped.

Won't you take a few minutes of your time to fill out the questionnaire and return it to us? We'll keep your answers confidential.

If you have already returned your questionnaire, disregard this letter. If you have lost the questionnaire, call us and we'll send another.

Your answers are very important in shaping future policies and your cooperation will be greatly appreciated.

Very truly yours,

Paul V. Hamel
Project Coordinator

PH/ar

A SURVEY OF SELECTED STUDENTS
FROM SPAULDING HIGH SCHOOL

Your help is needed in making improvements at Spaulding High School. Because you have decided to leave Spaulding, you are best qualified to tell us what we need to know about the school. Please understand that this is not meant to pry into your private life but to help us collect facts. The specific information that you supply will be kept confidential. Many thanks for your cooperation.

Please return in the provided stamped envelope to:

Mr. Paul Hamel
Spaulding High School
Wakefield Street
Rochester, N. H. 03867

1. Your name (optional)_____

2. If you have returned to school or have taken the High School Equivalency Test for a diploma, will you tell us where:_____

when:_____

3. What jobs have you held since leaving school? List most recent job first.

	Employer	Job	Your duties
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____

4. Are you married ___ single ___ divorced or separated ___

5. If married, at what age did you marry?

__15 __16 __17 __18 __19 __20 __21 __22 __ specify other

6. What are your plans for the next three years?

__To go in service
__To change jobs
__No plans
__Other (explain)_____

_____

__To take equivalency test
__To get high school diploma
__To go to evening school

7. While you were in school, were your parents

_____Married

_____Divorced or Separated

_____Deceased (specify __Father __Mother)

8. During what month did you leave school?

___Sept. ___Jan. ___May

___Oct. ___Feb. ___June

___Nov. ___March ___Summer

___Dec. ___April

9. How old were you when you left school? __13 __14 __15 __16 __17 __18

10. What grade were you in when you left school? __8 __9 __10 __11 __12

11. What course were you taking?

___General ___Industrial Arts ___Business

___College ___Home Economics

12. Did you participate in:

___Sports ___Chorus ___Clubs

___Band ___Drama ___None

___Other (specify)_____

_____

13. What was your parents' attitude when you left school? (check all that apply)

___Disappointed ___Thought I was hopeless

___Best for me to do ___Thought I could help by earning money

___Might as well learn a trade ___Unhappy

___Parents agreed and understood ___They worried

___They could care less

___Other (explain)_____

_____

_____

14. Were you ever lonely at Spaulding?

Did you live with your parents while in school?

Did you own a car while in school?

Will you finish high school later?

Would you recommend friends to leave school?

Did you discuss withdrawal from school with your school counselor?

	yes	no

15. Did you repeat a grade while in school? __yes __no

Which one? __1 __2 __3 __4 __5 __6 __7 __8 __9 __10 __11 __12

16. Did you have a part time job at the time of separation from school? ___yes ___no

If yes, how many hours did you work per week on the average?
__8 __10 __14 __16 __over 20 __over 30

17. What were some of the reasons you left school?

(Check all that apply.)

___Didn't like school

___Reading difficulty

___Needed at home

___Marriage

___To support self

___Transportation

___Other (explain below)

___Too much reading

___Lacked interest

___Health

___Failure in courses

___Pregnancy

_____

_____

_____

_____

18. Where did the school fail you? (check any that apply.)

___Programming different courses
___Job training
___Individual help
___Guidance
___Developing you as a better citizen
___Shop courses
___Home economic classes
___Other (explain below)
___Help with handicap
___Providing little expense
___Teachers'help
___Providing study halls
___Preparing for career or job
___Discipline
___Business courses

_____

_____

19. Which, if any, of the following did you not enjoy? (Check all that apply)

__English
__Math
__Industrial Arts
__Science
__Soc. Studies
___Art
___Business Course
___Sports
___Clubs
___Languages
___Study halls
___Guidance
___Homework
___Library
__Other (explain) _____

_____

20. Did you enjoy any of the following while you were in school?
(Check all that apply.)

___English
___Math
___Industrial Arts
___Science
___Soc. Studies
___Art
___Business Course
___Sports
___Clubs
___Languages
___Study halls
___Guidance
___Homework
___Library
Other (explain) _____

_____

21. In what ways was school a help to you? (Check any that you think are important)

__Programming different courses

__Job training

__Individual help

__Guidance

__ Developing you as a better citizen

__Shop courses

__Business courses

__Providing little expense

__Providing study halls

__Teachers' help

__Preparing for career or job

__Discipline

__Home economic classes

__Help with handicap

__Other (explain) _____

_____

22. In what way did Guidance affect you most? (select one)

__Scheduling

__Conferences

__Information on jobs

__Information on careers

__Testing

__Explanation of scores

__Not at all

__Other (explain) _____

_____

23. Could Spaulding have been more helpful in any of these areas?

__Vocational training

__Recreational activities

__Better choice of courses

__Better scheduling

__Art

__More shop courses

__Business education

__Sex education

__Languages

__Social studies

__Music appreciation

__Counseling

__Character Development

__Home management

__Social activities

__Work-study program

__Business machine operation

__Civic duties

__Job preparation

__Industrial machine operation

__Agricultural training

__Help for handicapped

__Individual help

__Other (explain)_____

_____

24. Would the changes suggested in question 23 have kept you in school?

___yes ___no

25. If you could have the kind of educational program you wanted at Spaulding, what would it be?

_____

_____

_____

_____

Return by August 4th to:

Mr. Paul Hamel
Spaulding High School
Wakefield Street
Rochester, N. H. 03867

VT 011 084

Prediger, Dale J.

Manual for Interpretation of Results from the Penta-County Vocational Test Battery.

Toledo Univ., Ohio.

Office of Education (DHEW), Washington, D.C. Bureau of Research

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ABSTRACT - To determine the effectiveness of certain vocational tests as an aid in occupational guidance, a sample of approximately 1,500 students were given the General Aptitude Test Battery, the Differential Aptitude Tests--Mechanical Reasoning Section, and the Kuder-Vocational, Form C preceding their entrance into vocational programs. Statistical procedures were used to judge the success of these students in their programs, and a post-high school followup is planned. Results of analysis so far completed are presented in: (1) A Student Similarity Report, (2) Centour Score Profile Charts, and (3) Single and Double Entry Experience Tables. Present data indicate these tests are of value in choosing vocations, but the summary of analyses was not completed in time for inclusion in this manual. (JS)

VT 011 084

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WARNING: CONTENTS DANGEROUS UNLESS PROPERLY USED!

MANUAL FOR INTERPRETATION OF RESULTS

from

THE PENTA-COUNTY VOCATIONAL TEST BATTERY

Scene 137 from "A Developmental Guidance Program"

Time: Early fall

Place: High School Counselor's Office

Student (S): What vocational program should I take at Penta-County?

Counselor (C): That's a question only you can answer.

S: But what do the tests say I should do?

C: The tests only provide you with information you might want to consider in making a choice.

S: They won't tell me which program to enter?

C: That's right. But the test results, along with alot of other things you know about yourself and Penta-County, might help you make a choice when that time comes around.

S: I get the picture. And I guess the test results are just part of it.

C: A small part. (To himself) If I have done my job right.

VT011084

MANUAL FOR INTERPRETATION OF RESULTS

from

THE PENTA-COUNTY VOCATIONAL TEST BATTERY

Dale J. Prediger

Director, PC-TU Project

University of Toledo

September, 1969

The research and development work reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Full project title: Validation of Counseling-Selection Data and Evaluation of Supplementary Programs for Vocational School Students
Contract No. OE-3-60051169-0379 Project No. 5-1169

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A Point of View

The primary focus of the PC-TU Project over the past three years has been to develop objective and validated data which can be used by Penta-County District counselors in helping students select an appropriate vocational education program. By taking a close, statistical look at what happened to a large number of students who were tested prior to entry, we have attempted to determine just what the tests can tell us about potential Penta-County students. We wish to emphasize that we are not promoting tests as the panacea for educational and vocational guidance. We are promoting efforts to find out how well the tests counselors use do the job they want them to do. The package of computer programs being developed as part of the PC-TU Project should make it possible for counselors in other schools to take a close look at the effectiveness of their tests in achieving the objectives they have in mind.

This manual does not contain "all the answers." The reports that are presented will in no sense "tell Johnny what he ought to be." Neither will their proper use somehow make counseling cold and impersonal. Test results, whether or not they have been subjected to elaborate statistical analyses, are still only information, nothing more--nothing less. Although information can vary in accuracy and value, it can not make decisions. Neither can it substitute for the day-to-day vocational development that students experience in ongoing guidance programs. If properly used, however, test information can play an important role in such programs.

Timing has been identified as a crucial factor in the use of test data in vocational guidance. Test interpretations that are presented immediately before a decision point often have little positive value for a student. Hence, in working with a potential Penta-County student, district counselors making last minute use of the information in this manual may find that either (a) the student has already identified with a vocational program--made a personal commitment--and is not open to additional information; or (b) he is looking for something, anything, that will help him make a choice. In this latter instance, the information can become an electronic straw to be grasped in a last minute scramble for a decision. Counselors are urged to be aware of and guard against this possibility. The best safeguard would appear to be the use of test information early in the decision making process--when it is much more likely to take its place along with other information forming the basis for choice and commitment.

How (or whether) the information contained in this manual is used in working with students is a matter for professional judgment by each Penta-County District counselor. There is no backlog of interpretive experience with the types of reports presented here.

Indeed, one of the major purposes of the PC-TU Project is to get counselor and student reaction to the potential usefulness of these reports. There is no doubt that this manual contains a large amount of information about the relationship between test data and choice of and/or performance in Penta-County vocational programs. Whether this information is usable in its current form, or at all, remains to be determined. We think that it is.

Grist for Penta-County's Validity Mill

The PC-TU Project officially began in January of 1966. Since that time, test data and other information has been collected on more than 1500 students entering Penta-County in the fall of 1966, 1967, and 1968. Progress of these students in their vocational programs has been noted and plans for a post-high school follow-up initiated. Tests in the Penta-County Vocational Test Battery (PC VTB) were generally administered during the fall of the year preceding a student's enrollment at Penta-County. However, the actual time of testing was left to the discretion of the district school counselors. In all cases, testing was completed by mid winter. Several schools elected to give the PC VTB in the spring of the year preceding a student's application to Penta-County. This would be slightly less than a year and one-half before entrance. Make-up testing involving approximately 15% of the sample was completed in the fall following student enrollment.

Tests in the PC VTB include the General Aptitude Test Battery (GATB), the Differential Aptitude Tests--Mechanical Reasoning section (DAT-MR) and the Kuder-Vocational, Form C (Kuder). The nonverbal section of the Lorge-Thorndike Intelligence Tests had originally been included in the battery but was dropped after preliminary analyses indicated that its contribution to the battery did not justify continued administration. One additional measure, a student's grade point average prior to entering Penta-County (pre-PC GPA), was used as a predictor in this study. Typically, information on students entering Penta-County as juniors included grades received during their freshman year and the first semester of their sophomore year. Grades for an additional year were available for students entering Penta-County as seniors.

Three different kinds of interpretative reports are presented in this manual.

1. Student Similarity Report for Penta-County Vocational Programs.

2. Centour Score Profiles for Penta-County Vocational Areas.

3. Single (and Double) Entry Experience Tables.

The information contained in each of these reports is discussed in the next section of this manual. The Student Similarity Report and the Centour Score Profiles represent unique developments of the PC-TU Project. They are based on an analysis of the degree to which test data obtained prior to enrollment at Penta-County can differentiate students who have entered various vocational programs and who have experienced success and satisfaction in these programs. Success is

defined as obtaining a cumulative GPA in vocational courses of 18 or above (C = 20). Dropouts and students expressing dissatisfaction with choice of program were not included in the analyses on which the first two reports are based. For fall of 1967 entrants, satisfaction ratings were obtained at the end of the senior year. For fall of 1968 entrants, end of junior year ratings were obtained. Unfortunately, no satisfaction data was available for fall of 1966 entrants. A one-year, post-high school follow-up of these students was in progress at the time this manual was written.

In order to make the analyses, reports of results, and the interpretation of these reports more manageable, Penta-County vocational programs were organized into twelve areas--four enrolling almost all boys, four enrolling almost all girls, and four having a substantial enrollment of both boys and girls. The Penta-County counseling staff and vocational supervisors participated in the grouping. Similarities in program content and student characteristics thought to be required in the programs served as the subjective criteria.

The Student Similarity Report and the Centour Score Profiles are based on the results of analyses run separately on the male and mixed groups combined and the female and mixed groups combined. Multiple discriminant analysis (Rulon, Tiedeman, Tatsuoka, and Langmuir, 1967), a family of little-used statistical procedures which appear especially suited to the vocational counseling situation, were used for this purpose. Basically, discriminant analysis serves to organize test data into the smallest number of factors or dimensions needed to achieve the maximum possible differentiation of the groups included in the analysis. The statistical procedures also enable one to determine the nature of these factors (often only two or three) and to label the factor dimensions represented by the data. Thus it is possible to obtain some insight into the basis for group differentiation. Finally, the position of the groups on the factors can be determined. Once this is done, it is possible to estimate a student's similarity to members of various groups by comparing his factor scores with those of the group members. The result of this comparison is often called a similarity score or centour score.

Similarity scores give the percent of students in a group whose factor scores are further away from the group average than a particular set of scores. Thus, if a student's similarity score for Vocational Horticulture were 95, he would be very similar to the "typical student" in the Horticulture criterion group since 95% of these students scored further away from the average than he did. On the other hand, a "similarity" score of 01 would actually represent considerable dissimilarity. An overview of the statistical analyses is given in the appendix of this manual.

The similarity scores for potential Penta-County applicants are reported on labels which can be attached to the Student Similarity Report. For an example of this report, see the section on report forms. The manner and degree to which the Penta-County vocational groups are differentiated by the two most powerful factors is shown by the Centour Score Profiles in the same section. Thus, from Chart IA, it can be seen that students in group B (Auto and Ag. Mechanics, Machine Trades) score toward the mechanical and outdoor interest end of Factor 1. This would indicate that scores in these two interest areas tend to be higher for group B students than for students in some of the other areas, particularly G, F, C, and H. At the same time, group B students tend to have relatively low scores on clerical interest and pre-PC GPA since these anchors are on the opposite end of the Factor 1. Students in group H (Data Processing, Account Clerk) tend to do well on the latter two measures. Their average score on Factor 1 is approximately 40, almost one standard deviation below the closest group. Distribution of the groups on Factor 2 can be discussed in a similar manner.

It is immediately obvious from an inspection of the ellipses on Chart IA that there is considerable overlap among the vocational groups. This overlap is also characteristic of the other charts in the series. Although the differentiation of vocational areas that is achieved by the PC VTB is highly significant statistically, it certainly is far from complete. This is a fact of life that lends ambiguity to the interpretation of test results. As any experienced counselor knows, there are no certainties in the test interpretation business! At the same time, it is professionally healthy to be aware of the degree of uncertainty involved.

Two sets of Centour Score Profiles are provided in this manual.

1. Set IA and IB, which are based on an analysis of PC VTB scores plus pre-PC GPA.

2. Set IIA and IIB, which are based on the PC VTB results alone.

These two sets of profiles were developed even though summary statistics showed that group differentiation achieved by inclusion of pre-PC GPA in the analyses was substantially greater than when it was omitted. This was done because it may be difficult for district counselors to provide the project staff with pre-PC GPA data in time for an early report of student similarity scores. Thus it will still be possible to report results based on the PC VTB alone.

The third set of reports in this manual consist of the Single (or Double) Entry Experience Tables. Experience or expectancy tables have long been used to give a counselee a picture of his chances for success in a given endeavor. They represent a graphic means of showing the relationship between two measures and, thus, are closely related to correlation analysis. The tables presented in this report involve those measures which were shown to be most closely related to cumulative GPA in Penta-County vocational courses. Separate correlation analyses followed by multiple correlation analyses were conducted for each of the 12 vocational areas represented in this report. For each area, all predictors and all students--regardless of dropout status, level of Penta-County vocational GPA, satisfaction with program placement, etc.--were included. The only requirement was the availability of a complete set of scores for each student.

Double entry tables were formed only when the increase in correlation obtained by use of the two best predictors rather than the one best predictor appeared to be of practical importance. Each of the two predictors also had to make a statistically significant contribution to the level of correlation achieved. Score categories in the experience tables were formed in such a manner as to divide the total number of students in a vocational area into halves, thirds, or fourths. The number of categories depended on the number of students in the vocational area. It was not always possible to set up intervals that included exactly 25%, 33 1/3%, etc. of the students in a group because "tied-scores" at the category boundaries would have required allocating students with the same score to different categories.

Experience tables can be used to obtain a picture of how well one can predict course grades in each of the vocational areas from the data at hand. In addition, a student's scores can be entered into the appropriate experience table categories in order to obtain information on how he might perform in a given vocational area. This should not be done, however, if the student appears to be dissimilar to students in the vocational group involved. For example, one can enter a girl's scores into the carpentry experience tables, but the results are likely to be very misleading. For the same reason, experience table data for a student having a low similarity score for a given vocational area may also be misleading. Hence, experience table data should be used in conjunction with a student's similarity scores.

The two types of reports, similarity scores and experience table data, provide the counselor with different kinds of information about his students. The similarity scores do not,

in any direct sense, give predictions of performance. At the same time, performance estimates based on experience table data must be considered in light of a student's similarity to students in the group involved. Thus, the two types of reports support each other.

Reference

Rulon, P. J., Tiedeman, D. V., Tatsuoka, M. M., & Langmuir, C. R. Multivariate statistics for personnel classification. New York: Wiley, 1967.

Interpretation of Reports

The discussion that follows will concentrate on the meaning and interpretation of the reports contained in this manual. No attention is given to the various ways in which the information can be used with individuals or groups since the same principles that apply to the use of any test data in vocational counseling are appropriate here. The suggestions on interpretation of the Student Similarity Report are largely based on experience gained in the use of this report during the 1968-69 school year. As a result of the reactions of four Penta-County District counselors who participated in the try-out of a preliminary version, the Centour Score Profiles were developed. These profiles constitute a major addition to the reporting procedure and should serve to clarify the meaning of the similarity scores. The Student Similarity Report, the Centour Score Profiles, and the Single (and Double) Entry Experience Tables can all be used together in working with students.

To facilitate explanation, the test results of a fictitious student, Fred Cartesian, will be used. Assume that Fred is a sophomore who is thinking about attending Penta-County. Fred's similarity scores were reported on each of two labels, one of which we will assume has been pasted on the sample report form on the following page. Please read this form before proceeding.

Fred's similarity scores indicate that he is most similar to successful and satisfied students enrolled in Vocational Horticulture (area E). Approximately 87% of the students in this area scored further away from the group average than he did. Fred's second highest area was Carpentry (area A). His scores in three other areas, G, D, and F, are all about the same. The difference of three points between the scores for areas F and G certainly is of no practical importance. It would appear that the most appropriate points of departure for discussion with Fred would be Horticulture and Carpentry. Fred's results show very little similarity to students in areas H and C. This does not mean he should dismiss these areas from consideration. As noted on the report form, however, they may not be as well-suited to his abilities and interests as the other areas.

At the bottom of the label, Fred's factor scores are listed along with the Centour Score Profile Chart (IA) to which they apply. The factor scores have been plotted on the sample profile chart on the page following the Student Similarity Report. Inspection of this chart shows that Fred's scores do place him quite close to the typical student in Vocational Horticulture (represented by the capital E on the chart). Fred also scores close to the ellipse enclosing 50% of the students in Carpentry.

E X A M P L E

STUDENT SIMILARITY REPORT FOR PENTA-COUNTY VOCATIONAL PROGRAMS

If you are thinking about entering Penta-County Vocational School you probably face a difficult decision--the choice of which vocational program you wish to enter. This report won't tell you what to do. However, it will provide some information that might help you make a decision. The information can be helpful only if you, with the help of your counselor, CONSIDER IT ALONG WITH ALL THE OTHER THINGS you know about yourself and Penta-County programs.

Your scores are based on the aptitude and interest tests you took in the Penta-County Vocational Test Battery. Each score gives a rough estimate of your similarity to successful students in one of the vocational program areas at Penta-County. The 24 programs at Penta have been grouped into 12 areas which are listed to the left and right of the box below. Notice that mostly boys enroll in areas A-D, in areas E-H a number of boys and girls enroll, and in areas I-L mostly girls enroll.

THE KEY POINT IS THIS: The higher your score for an area, the more similar you are to students in the vocational programs represented by that area. The highest score you can get is 100. The lowest score is zero. A zero score for area G would indicate that your test scores are quite different from those students who have "made it" in the commercial art, printing, or drafting programs at Penta. Please follow the steps below in order to prepare your report.

1. Paste the small, white label which has your name and eight scores on the large box shown below.
2. Rank your eight scores from highest to lowest. Give the highest score the rank of 1, etc. Enter the ranks on the line below your scores.

Vocational Areas

A. Carpentry
B. Auto & Ag. Mechanics, Machine Trades
C. Radio & TV, Electronics
D. Auto Body, Welding
E. Vocational Horticulture
F. Distributive Education
G. Commercial Art, Printing, Drafting

381034 FRED CARTESIAN 09/10/69

STUDENT SIMILARITY SCORES FOR P-C VOC. PROGRAM

AREA =	A	B	C	D	E	F	G	H	I	J	K	L
SCORES =	41	14	03	26	87	25	28	01	0	0	0	0
RANK =	2	6	7	4	1	5	3	8				

FACTORS: 56, 36 IA

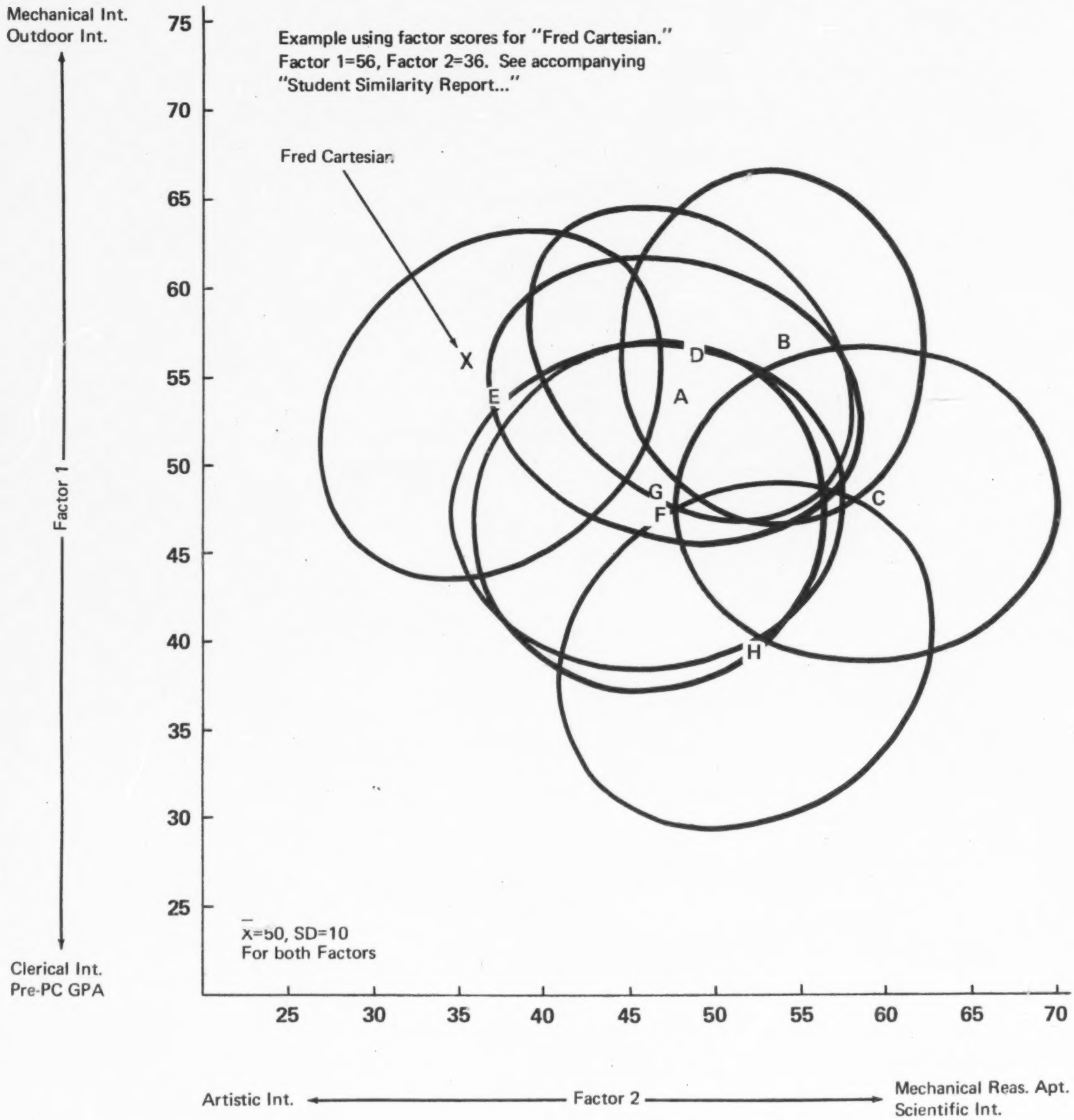
Vocational Areas (contd)

H. Data Processing, Account. Clerk
I. Child Care Aide or Ass't., Community & Home Service, Dietary Aide
J. Cosmetology, Dental Assistant
K. Co-op Office Education, Office Machines
L. High Skill Steno

SO HOW DO YOU USE THIS KIND OF INFORMATION? As a start, take a look at how your scores rank. Put a check beside the name of the areas ranking 1st, 2nd, and 3rd. These are areas that you might want to give special attention. Next, look at the areas in which you rank low. These may not be as appropriate for you as some other areas. Your counselor will help you figure out why your scores may have come out the way they did.

In order to judge how successful you might be in a given program, you must also consider whether you have the course preparation, specific aptitudes, and personal desire that is needed. This report does not tell you that. However, it does provide useful information for you to consider, with the help of your counselor, before making a choice.

CENTOUR SCORE PROFILES FOR PENTA-COUNTY VOCATIONAL AREAS
CHART IA: MALE AND MIXED GROUPS



The vocational areas represented by the letters on this chart are defined by the "Student Similarity Report for Penta-County Vocational Programs." About 50% of the factor scores of students falling in each of the indicated areas is enclosed by the ellipses. The aptitude and interest dimensions represented by the factors are labeled at the ends of the factor scales. This chart can be used to plot a student's factor scores in order to facilitate interpretation of the similarity scores given on the "Student Similarity Report..."

RF 20 969 1C

By noting the anchors on the Factor 1 dimension, one can see that Fred probably has higher than usual scores in the mechanical and outdoor interest areas. At the same time, his score in the clerical interest area and his pre-PC GPA may be somewhat lower than usual. On Factor 2, Fred scores well toward the artistic interest end of the dimension. This may also reflect a relatively low level of mechanical reasoning aptitude and/or scientific interest since students scoring high on these measures typically get much higher factor scores. Of course, one can go to Fred's test score reports and high school record to check out these possibilities.

Fred may wonder why his similarity scores were so low for the Data Processing area (area H). A look at the chart shows that these students are typified by relatively high clerical interests and pre-PC GPA (i.e., they typically score toward that end of Factor 1). At the same time they do not typically show the same level of artistic interest that Fred expressed. (See Factor 2.) A similar approach can be used with other students to gain some understanding of the reasons for high or low similarity scores. Whether-or-not the Centour Score Profiles are shown to the student will have to be a matter for counselor judgment.

In order to gain additional information on Fred's chances for success in various vocational areas, the Single (or Double) Entry Experience Tables can be consulted. We already know that Fred looks alot like the typical student in Horticulture. This, alone, would indicate that he might make about the same grades as the typical Horticulture student. However, the similarity scores and centour profiles were not developed to provide predictions of success. The experience tables presented in the report section of this manual are more appropriate for this purpose. The single-entry table for Horticulture gives a picture of the relationship between pre-PC GPA and vocational grades at Penta-County. This relationship is summarized by a Pearson-product-moment correlation coefficient of .55 as shown in the table. Assume that Fred's pre-PC GPA was 16 (C = 20) or about a C- or D+. Entering the table in the middle row, we see that in the past, 69% of the Horticulture students with a similar pre-PC GPA obtained a Penta-County vocational GPA which was higher than a straight C. On the other hand, reference to the single-entry table for the Data Processing and Account Clerk areas shows that, of the 40 students falling in Fred's score category, 49% plus 3% (or 51%) obtained a GPA which was higher than 20. One must remember, however, that the test information we have about Fred indicates that he is <u>not similar</u> to Data Processing and Account Clerk students. Hence, use of the experience table for that group is probably not appropriate.

The Double-Entry Experience Table for Horticulture requires the use of two measures--GATB-M scores and pre-PC GPA. The multiple correlation between these measures and PC vocational GPA was .60 as indicated in the table. Thus, the level of relationship is somewhat higher than when pre-PC GPA is used alone. Suppose that Fred's GATB-M score is 93. Reference to the double entry table for Horticulture shows that Fred's pre-PC GPA and GATB-M scores place him with students in the lower right-hand quadrant of the table. In the past, 60% of the Horticulture students in this "cell" obtained a PC vocational GPA of 21 or better. However, a special note of caution is warrented since fewer than 10 students had scores falling in this cell. Horticulture was the smallest group for which analyses were run. The number of predictor categories and cell frequencies was greater for every other group. Nevertheless, a definite trend that makes good sense from a measurement standpoint can be seen in the data.

Much more can be said about the interpretation of the data presented in this manual. However, it is difficult to anticipate all questions that may be raised. For this reason, it is the intention of the project staff to hold meetings with small groups of district counselors as the reports for their students become available. Questions and feedback from these counselors will have a major influence on the nature of future editions of this manual.

REPORT FORMS

Page

1. Student Similarity Report for Penta-County Vocational Programs 14

2. Centour Score Profiles for Penta-County Vocational Areas

   Chart IA: Male and Mixed Groups 15
   Chart IB: Female and Mixed Groups 16
   Chart IIA: Male and Mixed Groups. 17
   Chart IIB: Female and Mixed Groups. 18

   Note.--Charts IA and IB are for use by district schools that include pre-PC GPA in their PC VTB reports. Charts IIA and IIB are based on the PC VTB alone.

3. Single Entry Experience Tables 19

4. Double Entry Experience Tables 22

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STUDENT SIMILARITY REPORT FOR PENTA-COUNTY VOCATIONAL PROGRAMS

If you are thinking about entering Penta-County Vocational School you probably face a difficult decision--the choice of which vocational program you wish to enter. This report won't tell you what to do. However, it will provide some information that might help you make a decision. The information can be helpful only if you, with the help of your counselor, CONSIDER IT ALONG WITH ALL THE OTHER THINGS you know about yourself and Penta-County programs.

Your scores are based on the aptitude and interest tests you took in the Penta-County Vocational Test Battery. Each score gives a rough estimate of your similarity to successful students in one of the vocational program areas at Penta-County. The 24 programs at Penta have been grouped into 12 areas which are listed to the left and right of the box below. Notice that mostly boys enroll in areas A-D, in areas E-H a number of boys and girls enroll, and in areas I-L mostly girls enroll.

THE KEY POINT IS THIS: The higher your score for an area, the more similar you are to students in the vocational programs represented by that area. The highest score you can get is 100. The lowest score is zero. A zero score for area G would indicate that your test scores are quite different from those students who have "made it" in the commercial art, printing, or drafting programs at Penta. Please follow the steps below in order to prepare your report.

1. Paste the small, white label which has your name and eight scores on the large box shown below.
2. Rank your eight scores from highest to lowest. Give the highest score the rank of 1, etc. Enter the ranks on the line below your scores.

Vocational Areas

A. Carpentry
B. Auto & Ag. Mechanics, Machine Trades
C. Radio & TV, Electronics
D. Auto Body, Welding
E. Vocational Horticulture
F. Distributive Education
G. Commercial Art, Printing, Drafting

PASTE LABEL HERE

Vocational Areas (cont'd)

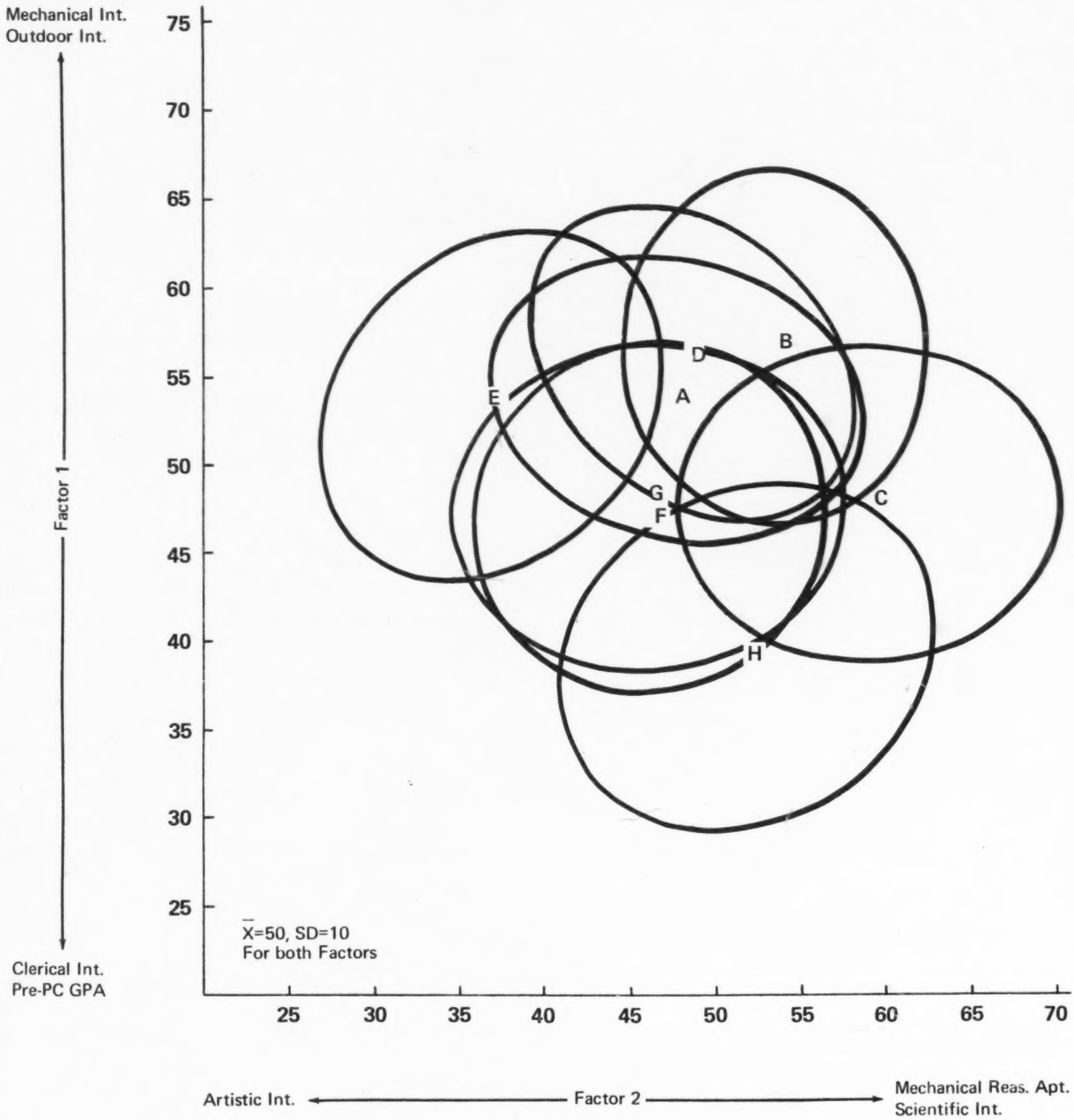
H. Data Processing, Account Clerk
I. Child Care Aide or Ass't., Community & Home Service, Dietary Aide
J. Cosmetology, Dental Assistant
K. Co-op Office Education, Office Machines
L. High Skill Steno

SO HOW DO YOU USE THIS KIND OF INFORMATION? As a start, take a look at how your scores rank. Put a check beside the name of the areas ranking 1st, 2nd, and 3rd. These are areas that you might want to give special attention. Next, look at the areas in which you rank low. These may not be as appropriate for you as some other areas. Your counselor will help you figure out why your scores may have come out the way they did.

In order to judge how successful you might be in a given program, you must also consider whether you have the course preparation, specific aptitudes, and personal desire that is needed. This report does not tell you that. However, it does provide useful information for you to consider, with the help of your counselor, before making a choice.

PC-TU Project
University of Toledo
Dr. Dale J. Prediger
September, 1969

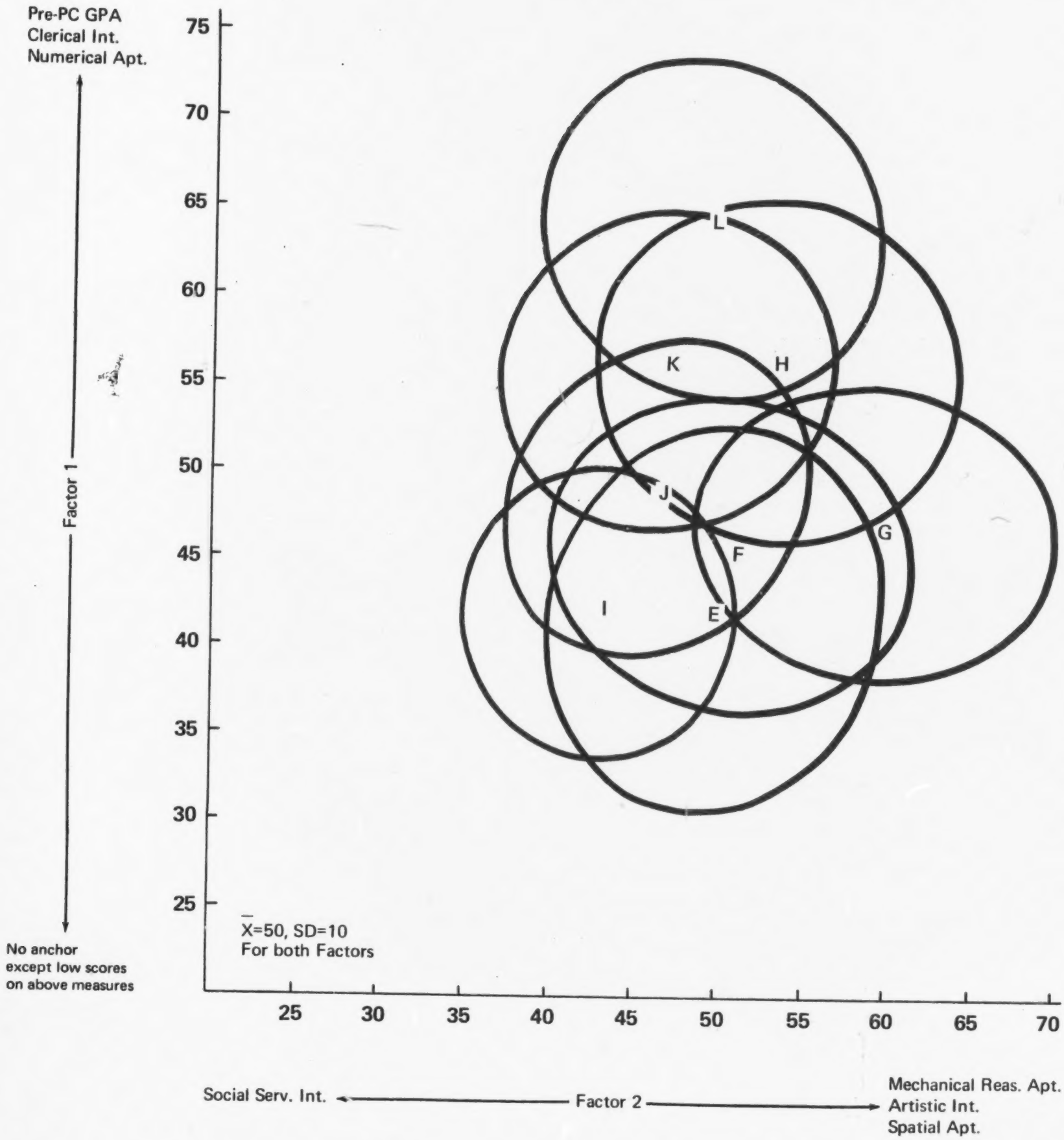
CENTOUR SCORE PROFILES FOR PENTA-COUNTY VOCATIONAL AREAS
CHART IA: MALE AND MIXED GROUPS



The vocational areas represented by the letters on this chart are defined by the "Student Similarity Report for Penta-County Vocational Programs." About 50% of the factor scores of students falling in each of the indicated areas is enclosed by the ellipses. The aptitude and interest dimensions represented by the factors are labeled at the ends of the factor scales. This chart can be used to plot a student's factor scores in order to facilitate interpretation of the similarity scores given on the "Student Similarity Report..."

RF 20 969 1C

CENTOUR SCORE PROFILES FOR PENTA-COUNTY VOCATIONAL AREAS
CHART IB: FEMALE AND MIXED GROUPS



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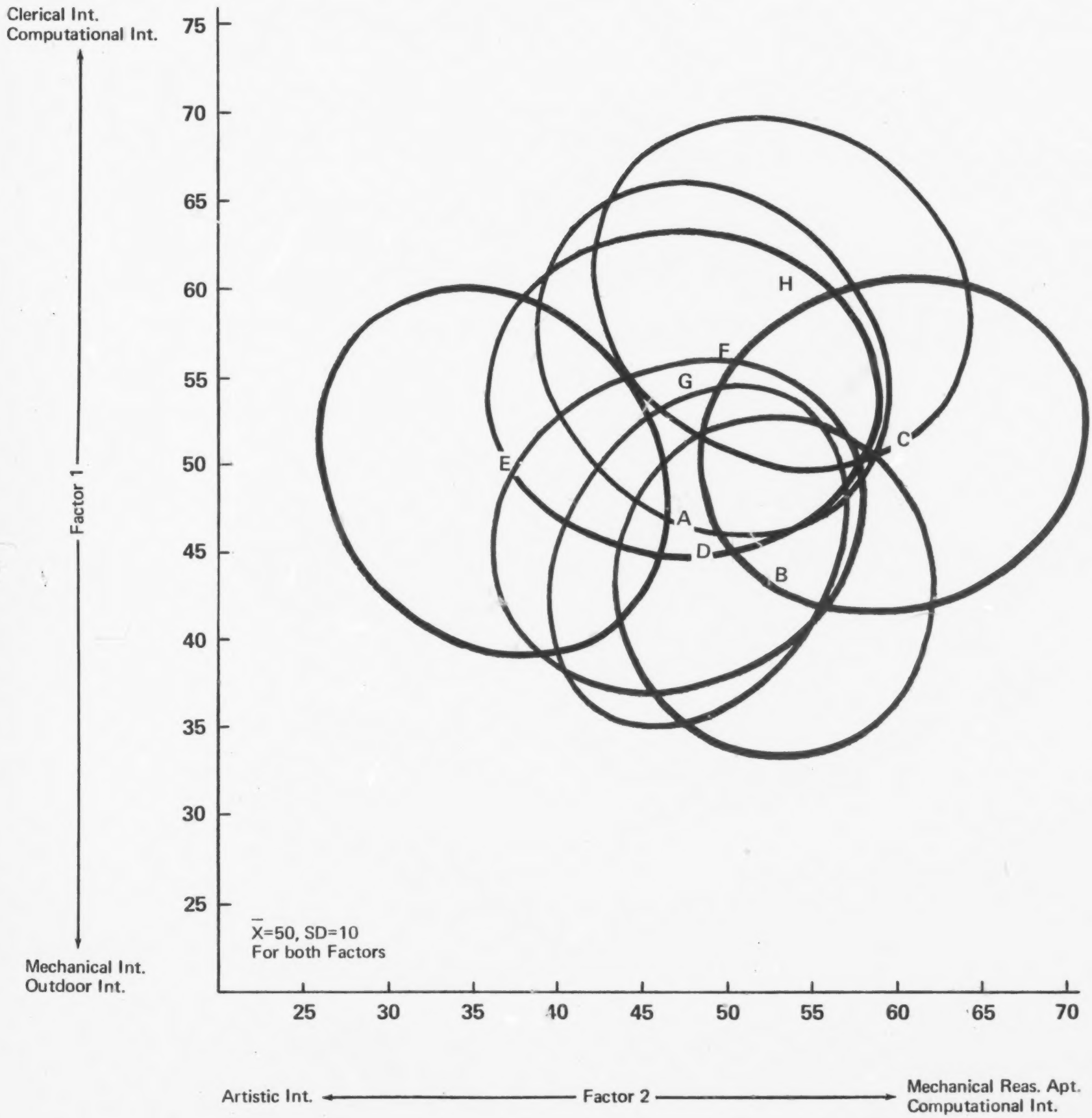
RF 20 969 1C

CENTOUR SCORE PROFILES FOR PENTA-COUNTY VOCATIONAL AREAS
CHART IIA: MALE AND MIXED GROUPS



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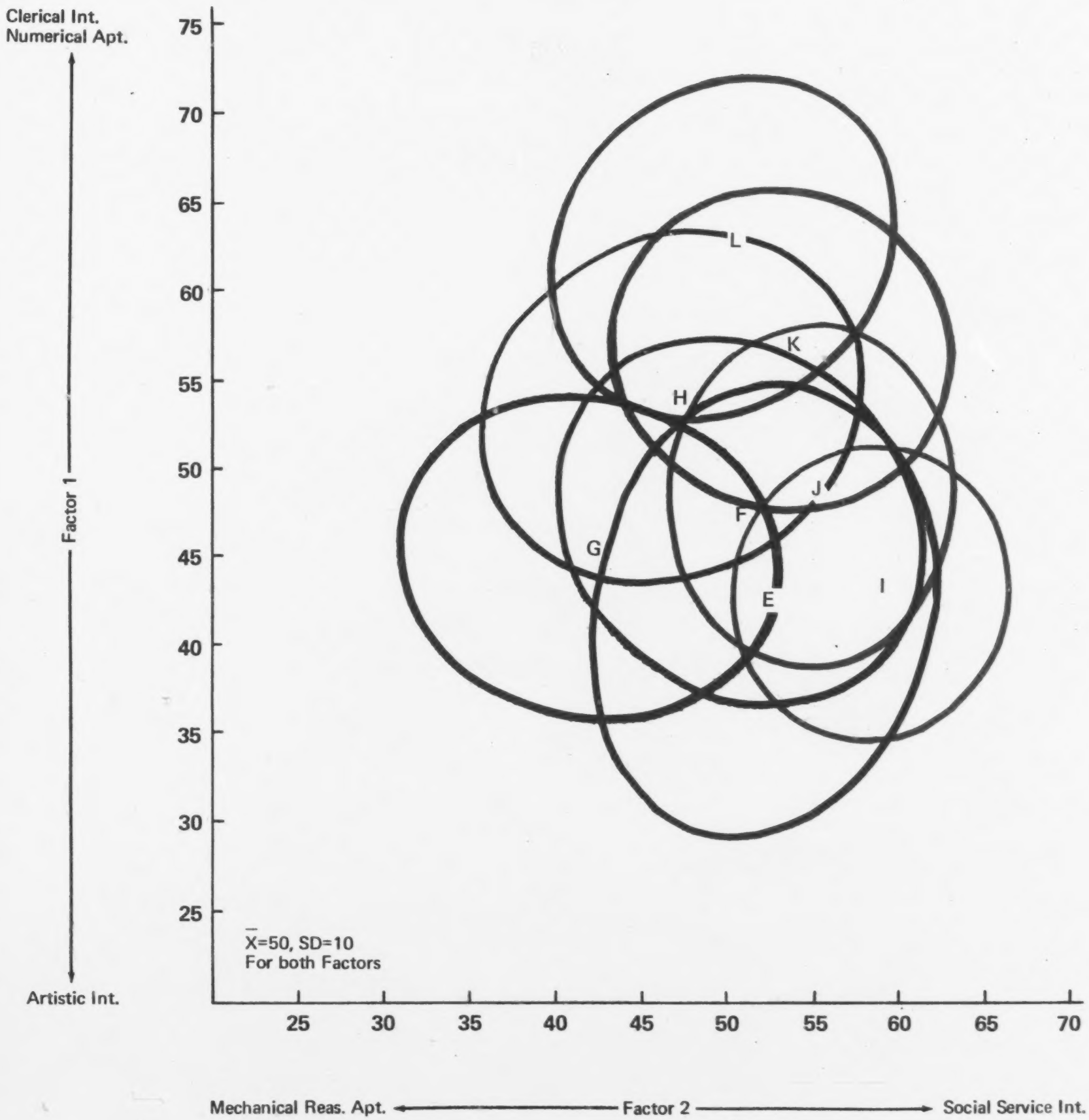
RF 20 969 1C

CENTOUR SCORE PROFILES FOR PENTA-COUNTY VOCATIONAL AREAS
CHART IIB: FEMALE AND MIXED GROUPS



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RF 20 969 1C

SINGLE ENTRY EXPERIENCE TABLES (9/69)

Part 1

Students in each of the groups listed below entered Penta-County in September of 1966, 1967, and 1968. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout. For each predictor category (row) in the table, the percent of students whose grades at Penta-County fell into each of the PC-GPA categories (columns) is shown.
A = 40, B = 30, C = 20, D = 10, and F = 00.

A. CARPENTRY

Predictor: Pre-PC GPA, r=.30, N=52

		PC Vocat. GPA F-C 00-20	C-A 21-40	Freq.
PREDICTOR	22-40	40%	60%	15
	18-21	17%	83%	18
	00-17	37%	63%	19

B. AUTO & AG. MECH., MACHINE TRADES

Predictor: Pre-PC GPA, r=.37, N=225

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	22-40	15%	50%	35%	60
	18-21	48%	42%	9%	66
	16-17	61%	34%	5%	41
	00-15	53%	34%	12%	58

C. RADIO & TV, ELECTRONICS

Predictor: Pre-PC GPA, r=.33, N=82

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	25-40	38%	58%	4%	24
	18-24	53%	37%	10%	30
	00-17	64%	36%	0%	28

D. AUTO BODY, WELDING

Predictor: Pre-PC GPA, r=.38, N=108

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	20-40	26%	48%	26%	31
	16-19	46%	39%	15%	41
	1-15	50%	42%	8%	36

SINGLE ENTRY EXPERIENCE TABLES (9/69)

Part 2

Students in each of the groups listed below entered Penta-County in September of 1966, 1967, and 1968. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout. For each predictor category (row) in the table, the percent of students whose grades at Penta-County fell into each of the PC-GPA categories (columns) is shown.
A = 40, B = 30, C = 30, D = 10, and F = 00.

E. VOCATIONAL HORTICULTURE

Predictor: Pre-PC GPA, r=.55, N=41

		PC Vocat. GPA F-C 00-20	C-A 21-40	Freq.
PREDICTOR	19-40	14%	86%	14
	15-18	31%	69%	13
	1-14	93%	7%	14

F. DISTRIBUTIVE EDUCATION

Predictor: Pre-PC GPA, r=.38, N=79

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	20-40	36%	57%	7%	28
	15-19	67%	33%	0%	24
	1-14	70%	30%	0%	27

G. COMMERCIAL ART, PRINTING, DRAFTING

Predictor: Pre-PC GPA, r=.56, N=185

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	24-40	7%	57%	36%	44
	21-23	24%	57%	20%	46
	17-20	37%	54%	9%	46
	1-16	71%	27%	2%	49

H. DATA PROCESSING, ACCOUNT CLERK

Predictor: Pre-PC GPA, r=.52, N=113

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	27-40	20%	31%	49%	35
	21-26	18%	61%	21%	38
	1-20	50%	48%	3%	40

SINGLE ENTRY EXPERIENCE TABLES (9/69)

Part 3

Students in each of the groups listed below entered Penta-County in September of 1966, 1967, and 1968. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout. For each predictor category (row) in the table, the percent of students whose grades at Penta-County fell into each of the PC-GPA categories (columns) is shown.
A = 40, B = 30, C = 20, D = 10, and F = 00.

I. CHILD CARE AIDE OR ASST., COMMUNITY & HOME SERVICE, DIETARY AIDE

Predictor: Pre-PC GPA, r=.42, N=128

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	20-40	13%	50%	38%	32
	17-19	30%	50%	20%	30
	14-16	40%	57%	3%	30
	1-13	58%	33%	9%	36

J. COSMETOLOGY, DENTAL ASSISTANT

Predictor: Pre-PC GPA, r=.47, N=171

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	25-40	11%	33%	57%	46
	22-24	18%	66%	16%	38
	18-21	31%	52%	17%	48
	1-17	44%	49%	8%	39

K. CO-OP OFFICE EDUCATION, OFFICE MACHINES

Predictor: Pre-PC GPA, r=.56, N=124

		PC Vocat. GPA F-C 00-20	C-B 21-30	B-A 31-40	Freq.
PREDICTOR	26-40	19%	52%	29%	31
	22-25	10%	68%	23%	31
	19-21	29%	58%	13%	31
	1-18	55%	45%	0%	31

L. HIGH SKILL STENOGRAPHY

Predictor: Pre-PC GPA, r=.70, N=61

		PC Vocat. GPA F-C 00-20	C-A 21-40	Freq.
PREDICTOR	31-40	0%	100%	18
	25-30	13%	87%	23
	1-24	40%	60%	20

DOUBLE ENTRY EXPERIENCE TABLES (9/69)

Part 1

Students in each of the groups listed entered Penta-County in September of 1966, 1967, and 1968. Table cells represent various combinations of scores on two predictors. The percent of those students falling in a given cell who obtained a Penta-County Vocational GPA of 21 or better (20 = C) is shown for each cell. An asterisk is used to indicate fewer than 10 cases in a cell. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout.

Data for column and row totals appear as follows: J/K with L% given underneath. K = number of students with scores falling in the column (or row) indicated. J = the number of these students obtaining a GPA of 21 or better (20 = C). L% = (J/K) X 100.

A = 40, B = 30, C = 20, D = 10, and F = 00.

A. CARPENTRY: N=52

A double entry experience table not warrented by the results of a multiple correlation analysis.

B. AUTO & AG. MECHANICS, MACHINE TRADES: N=225

Predictors: Pre-PC GPA (vertical axis) and DAT-MR, R=.44

	DAT-MR Raw Scores 10-45	46-50	51-54	55-68	Total
22-40	64%	80%	94%	94%	51/60 85%
18-21	37%	45%	71%	57%	34/66 52%
16-17	33%*	36%	40%	50%*	16/41 39%
00-15	39%	25%*	40%	71%	27/58 47%
Total	23/54 43%	29/59 49%	35/55 64%	41/57 72%	

DOUBLE ENTRY EXPERIENCE TABLES (9/69)

Part 2

Students in each of the groups listed entered Penta-County in September of 1966, 1967, and 1968. Table cells represent various combinations of scores on two predictors. The percent of those students falling in a given cell who obtained a Penta-County Vocational GPA of 21 or better (20 = C) is shown for each cell. An asterisk is used to indicate fewer than 10 cases in a cell. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout.

Data for column and row totals appear as follows: J/K with L% given underneath. K = number of students with scores falling in the column (or row) indicated. J = the number of these students obtaining a GPA of 21 or better (20 = C). L% = (J/K) X 100.

A = 40, B = 30, C = 20, D = 10, and F = 00.

C. RADIO & TV, ELECTRONICS: N=82

Predictors: Pre-PC GPA (vertical axis) and GATB-F, R=.41

	GATB-F Stand. Scores 30-85	86-170	Total
25-40	60%	64%	15/24 63%
18-24	36%	56%	14/30 47%
00-17	24%	55%	10/28 36%
Total	15/41 37%	24/41 59%	

D. AUTO BODY, WELDING: N=108

A double entry experience table not warrented by the results of a multiple correlation analysis.

DOUBLE ENTRY EXPERIENCE TABLES (9/69)

Part 3

Students in each of the groups listed entered Penta-County in September of 1966, 1967, and 1968. Table cells represent various combinations of scores on two predictors. The percent of those students falling in a given cell who obtained a Penta-County Vocational GPA of 21 or better (20 = C) is shown for each cell. An asterisk is used to indicate fewer than 10 cases in a cell. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout.

Data for column and row totals appear as follows: J/K with L% given underneath. K = number of students with scores falling in the column (or row) indicated. J = the number of these students obtaining a GPA of 21 or better (20 = C). L% = (J/K) X 100.

A = 40, B = 30, C = 20, D = 10, and F = 00.

E. VOCATIONAL HORTICULTURE: N=41

Predictors: Pre-PC GPA (vertical axis) and GATB-M, R=.60

	GATB-M Stand. Scores 30-76	77-170	Total
27-50	67%*	87%	17/21 81%
10-26	13%	60%*	5/20 25%
Total	6/21 29%	16/20 80%	

F. DISTRIBUTIVE EDUCATION: N=79

Predictors: Pre-PC GPA (vertical axis) and GATB-Q, R=.45

	GATB-Q Stand. Scores 30-101	102-170	Total
20-40	67%	63%	18/28 64%
15-19	21%	50%	8/24 64%
00-14	20%	42%	8/27 30%
Total	14/41 34%	20/38 53%	

DOUBLE ENTRY EXPERIENCE TABLES (9/69)

Part 4

Students in each of the groups listed entered Penta-County in September of 1966, 1967, and 1968. Table cells represent various combinations of scores on two predictors. The percent of those students falling in a given cell who obtained a Penta-County Vocational GPA of 21 or better (20 = C) is shown for each cell. An asterisk is used to indicate fewer than 10 cases in a cell. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout.

Data for column and row totals appear as follows: J/K with L% given underneath. K = number of students with scores falling in the column (or row) indicated. J = the number of these students obtaining a GPA of 21 or better (20 = C). L% = (J/K) X 100.

A = 40, B = 30, C = 20, D = 10, and F = 00.

G. COMMERCIAL ART, PRINTING, DRAFTING: N=185

Predictors: Pre-PC GPA (vertical axis) and GATB-P ,R=.58

	GATB-P Stand. Scores 30-101	102-115	116-170	Total
24-40	90%	93%	95%	41/44 93%
21-23	62%	75%	92%	35/46 76%
17-20	64%	43%	78%	29/46 63%
00-16	19%	40%	38%*	14/49 29%
Total	31/63 49%	40/63 63%	48/59 81%	

H. DATA PROCESSING, ACCOUNT CLERK: N=113

Predictors: Pre-PC GPA (vertical axis) and GATB-G ,R=.58

	GATB-G Stand. Scores 30-102	103-170	Total
27-40	60%	88%	28/35 80%
21-26	85%	80%	31/38 82%
00-20	44%	83%*	20/40 50%
Total	32/57 56%	47/56 84%	

DOUBLE ENTRY EXPERIENCE TABLES (9/69)

Part 5

Students in each of the groups listed entered Penta-County in September of 1966, 1967, and 1968. Table cells represent various combinations of scores on two predictors. The percent of those students falling in a given cell who obtained a Penta-County Vocational GPA of 21 or better (20 = C) is shown for each cell. An asterisk is used to indicate fewer than 10 cases in a cell. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout.

Data for column and row totals appear as follows: J/K with L% given underneath. K = number of students with scores falling in the column (or row) indicated. J = the number of these students obtaining a GPA of 21 or better (20 = C). L% = (J/K) X 100.

A = 40, B = 30, C = 20, D = 10, and F = 00.

I. CHILD CARE AIDE OR ASST., COMMUNITY & HOME SERVICE, DIETARY AIDE: N=128

Predictors: Pre-PC GPA (vertical axis) and GATB-F,R=.47

	GATB-F Stand. Scores 30-79	80-100	101-170	Total
20-40	80%*	93%	83%	28/32 88%
17-19	64%	67%	86%*	21/30 70%
14-16	50%	57%*	69%	18/30 60%
00-13	40%	40%	45%	15/36 42%
Total	22/41 54%	30/44 68%	30/43 70%	

J. COSMETOLOGY, DENTAL ASSISTANT: N=171

Predictors: Pre-PC GPA (vertical axis) and GATB-F,R=.50

	GATB-F Stand. Scores 30-90	91-100	101-112	113-170	Total
35-50	100%	63%*	92%	93%	41/46 89%
32-34	71%*	80%	80%	91%	31/38 82%
28-31	55%	80%	50%	83%	33/48 69%
10-27	73%	36%	64%	50%*	22/39 56%
Total	31/41 76%	29/44 66%	31/43 72%	36/43 84%	

DOUBLE ENTRY EXPERIENCE TABLES (9/69)

Part 6

Students in each of the groups listsd entered Penta-County in September of 1966, 1967, and 1968. Table cells represent various combinations of scores on two predictors. The percent of those students falling in a given cell who obtained a Penta-County Vocational GPA of 21 or better (20 = C) is shown for each cell. An asterisk is used to indicate fewer than 10 cases in a cell. The Penta-County vocational area grade point average (GPA) is based on vocational course work (related and shop or lab) completed up to (a) time of graduation (Fall '66 and '67 entrants); (b) end of junior year (Fall '68 entrants); or (c) dropout.

Data for column and row totals appear as follows: J/K with L% given underneath. K = number of students with scores falling in the column (or row) indicated. J = the number of these students obtaining a GPA of 21 or better (20 = C). L% = (J/K) X 100.

A = 40, B = 30, C = 20, D = 10, and F = 00.

K. CO-OP OFFICE EDUCATION, OFFICE MACHINES: N=124

Predictors: Pre-PC GPA (vertical axis) and GATB-V ,R=.65

	GATB-V Stand. Scores 30-90	91-97	98-170	Total
25-40	67%*	85%	90%	33/39 85%
20-24	73%	71%	88%	36/46 78%
00-19	43%	60%	67%*	20/39 51%
Total	25/44 57%	27/37 73%	37/43 86%	

L. HIGH SKILL STENOGRAPHY: N=61

Predictors: Pre-PC GPA (vertical axis) and GATB-G ,R=.73

	GATB-G Stand. Scores 30-105	106-170	Total
31-40	100%*	100%	18/18 100%
25-30	73%	100%	20/23 87%
00-24	62%	57%*	12/20 60%
Total	21/29 72%	29/32 91%	

APPENDIX

SUMMARY OF STATISTICAL ANALYSES

Note.--The summary of analyses was not finished in time for inclusion in this manual. A table giving the correlational data on which the single entry expectancy tables were based has been provided, however. A report on preliminary analyses conducted in the summer of 1968 is currently available and will be sent to anyone requesting a copy. Recipients of this manual who wish to be placed on the mailing list for a copy of the statistical summary and/or the final project report should contact the project director. The project terminates on February 28, 1970.

Table 1

Correlations Between Predictors and Penta-County Vocational Course GPA

Vocational Area	N	DAT MR	G A T B G	V	Q	S	P	Q	K	F	M	Pre-PC GPA
A. Carpentry	52	.05	.21	.18	.25	-.01	-.04	.22	.07	.09	.19	.30
B. Auto & Ag. Mech. Machine Trades	225	.27	.19	.07	.19	.25	.15	.09	.07	.05	.06	.37
C. Radio & TV Electronics	82	.04	.01	.04	.08	.03	.26	.21	.20	.29	.23	.33
D. Auto Body Welding	108	.16	.02	.06	.00	.06	.08	.00	-.08	-.03	.05	.38
E. Horticulture	41	-.22	.17	.18	.22	-.07	.26	.17	.29	.33	.42	.55
F. Dist. Ed.	79	-.04	.08	.09	.15	.01	.21	.26	.18	.10	.03	.38
G. Comm. Art, Print. Drafting	185	.07	.30	.17	.21	.21	.29	.30	.13	.01	.07	.56
H. Data Processing Account Clerk	113	.20	.48	.34	.39	.19	.16	.21	.04	-.01	.04	.52
I. Child Care, C.H. Dietary Aid	128	.24	.28	.21	.19	.27	.18	.07	-.01	.30	.19	.42
J. Cosmetology Dental Assistant	171	-.02	.22	.14	.30	.20	.15	.16	-.01	.22	.08	.47
K. C.O.E. Office Machines	124	.29	.49	.54	.39	.20	.22	.24	.30	.18	.22	.56
L. High Skill Steno	61	.11	.43	.35	.41	.14	.13	.20	.12	-.07	.12	.70

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Eastern Illinois Univ., Charleston. School of Home Economics.
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VT 011 105

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79 p

FACTS ABOUT PERSONNEL IN HOME ECONOMICS

IN

INSTITUTIONS OF HIGHER EDUCATION

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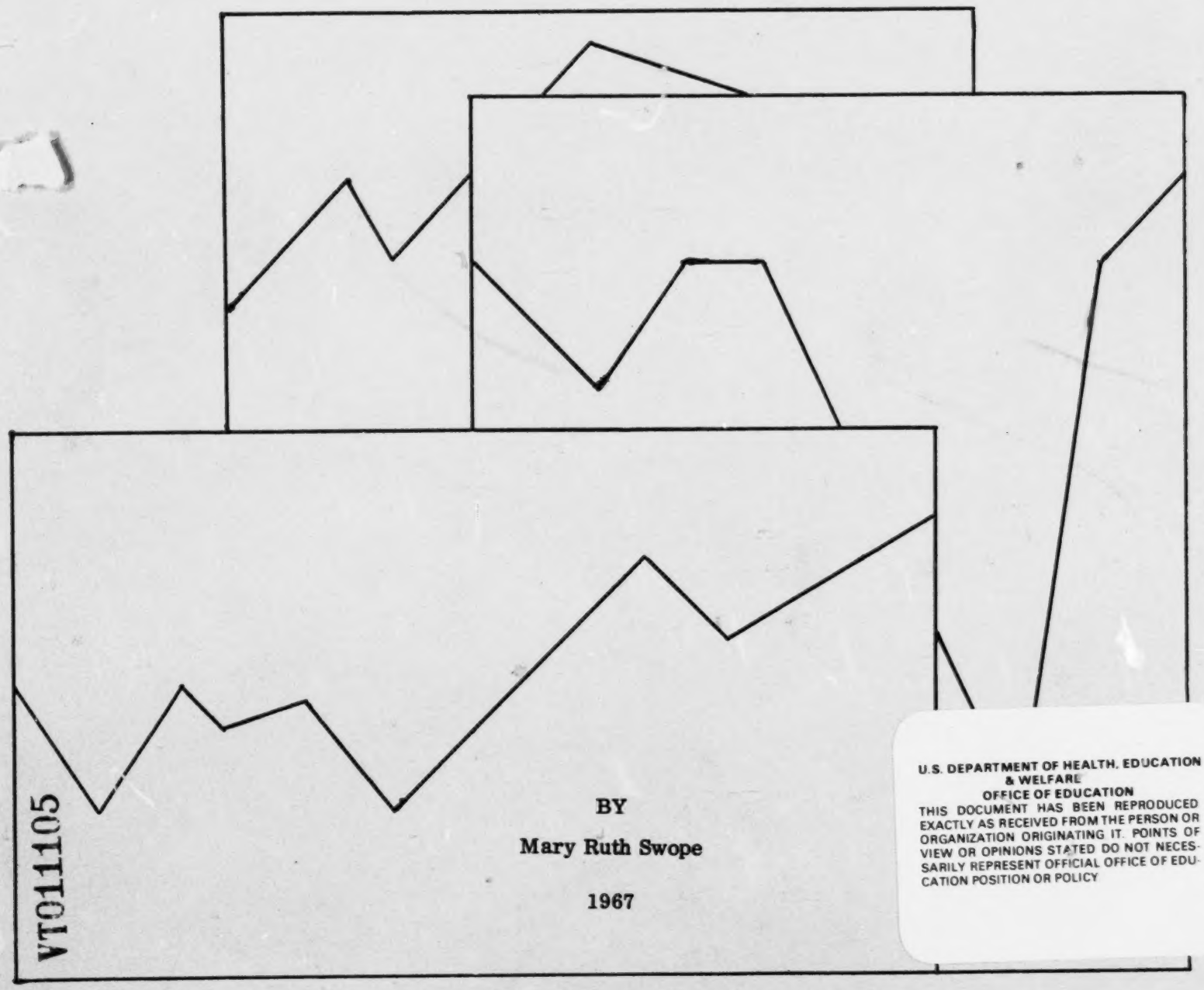

BY

Mary Ruth Swope

1967

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FACTS ABOUT HOME ECONOMICS PERSONNEL IN INSTITUTIONS OF HIGHER EDUCATION: A NATIONAL SURVEY

By

Dr. Mary Ruth Swope
Director

School of Home Economics
Eastern Illinois University
Charleston, Illinois
1967

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INTRODUCTION

For a long time it has been known by those responsible for staffing departments of home economics that there existed a crucial need for trained home economists in many subject areas. Today the demand for workers continues to be greater than the supply.

Although accurate figures on personnel supply and demand have not been available, it was estimated in 1958 that there were from 5 to 10 positions available for every graduating home economist.[1] On the basis of recent experience in several placement offices, we are probably safe in saying that the gap between supply and demand has widened. For example, at Eastern Illinois University in 1965, there were 25 requests for every one of the twenty graduating seniors in home economics.[2] That same year at Illinois State University, with a graduating class of 32 home economics majors, the placement office recorded 15 requests for every graduate.[3]

At the same time the demand for trained home economists was increasing, the percentage of college women electing home economics as a major field of interest was decreasing. Biennial reports on college enrollments show that, for each period beginning with 1953 through 1963 there has been some increase in the number of women majors in home economics in degree-granting institutions. However, the proportion of the increase has not kept pace with

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[1] Beulah Coon, "Professional Education in Home Economics," Higher Education, 9:173-74, April 1958.

[2] 1965 Annual Placement Office Report, Eastern Illinois University, Charleston, Illinois, p. 33.

[3] 1965 Annual Bureau of Appointments Report, Illinois State University, Normal, Illinois, p. 8 and p. 13.

the growth in total enrollments of women in these institutions.[4] Since 1953 enrollments of women students generally in the nation's institutions of higher education have increased at the rate of fifteen percent annually; but by contrast, the number of students majoring in home economics has grown an average of slightly more than six percent a year.[5] There is some encouragement, however, in the fact that the percent increase in number of majors in home economics has been considerably higher since 1961 than at any time during the past 10-12 years.

This shortage of home economics trained personnel exists in several career areas. Vocational homemaking departments have had to close for lack of teachers. Dietitians are needed in much greater numbers. Home economics research workers are at a premium. The extension services and government agencies almost always have unfilled positions for home economists. College staffs need many more persons with doctorates than are available. And such shortages exist from year to year.

The shortage of workers in home economics is further complicated by the fact that a person with college home economics training can enter many different professional fields upon graduation. For example, the Curriculum Committee of Iowa State College division of home economics studied a stratified random sample of its graduates from 1933 through 1952. Response came from 1,496 graduates. The committee reported that approximately 70 percent of the home economics graduates found their first employment in the field of their preparation while about 21 percent were first employed in some other type of work. Also, some of those who first followed the profession of their choice later changed to other work, often because after marriage other work was either

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[4] Home Economics in Institutions Granting Bachelor's or Higher Degrees 1963-64, American Home Economics Association Publication, June, 1967, p. 4.

[5] Ibid.

more convenient or more readily available. "Only 44.3 percent had always been employed in the field of their college specialization."[6]

The above study confirms more recent experience of a very similar nature. For example, an analysis of the June 1966 graduating class of home economics majors at Eastern Illinois University shows the following:[7]

Percent	Plans After Graduation
29.4	Senior High Teaching
5.8	Junior High Teaching
11.6	Elementary Teaching
29.4	Other Work
23.5	Married

It can be seen, therefore, that the number of home economics degrees granted cannot be accurately equated with the number of persons available for employment in the numerous home economics positions in government, industry, business, and education.

Earned Graduate Degrees in Home Economics

Degrees Conferred. In 1963-64 there were approximately 425 colleges and universities in the United States that offered at least a bachelor's degree in home economics. Of this number, approximately 103 offered master's degrees[8] and 24 offered doctorates in home economics.[9]

From the summary table in Appendix A, it can be seen that for the years 1958-63 we have been granting approximately 900 master's degrees and

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[6]Mary S. Lyle, "Graduates Reflect on Their Education," Journal of Home Economics, 49:9-12, 1957.

[7]1966 Annual Placement Office Report, Eastern Illinois University, Charleston, Illinois, p. 8.

[8]Determined by a hand count of schools listed in the U.S. Office of Education publication Earned Degrees Conferred, 1963-64, Government Printing Office, Washington, D.C., 1966, pp. 187-92.

[9]Proceedings, National Council of Administrators of Home Economics, Chicago, Illinois, 1966, p. 12.

60 doctorates annually in our field. There is evidence to show that slightly more than 60 percent of these people enter the teaching profession. Thus, it is easy to see that the 425 institutions are vying for about 576 potential staff members per year.

The situation in regard to supply and demand of doctorates is especially grim. For example, if every one of the 60 persons per year receiving doctorates were to enter the teaching profession in institutions of higher education (and we know that they certainly do not) each of the 50 states could have 1 1/5 persons per year. Thus in Illinois, for example, with 17 institutions of higher education seeking additional staff with the doctorate when one new doctorate is employed in a given institution in a given year that same institution would have to wait 17 years before it could employ another person with the doctorate in home economics! This situation is one which we must make a concerted effort to change in the immediate future.

Percent Change in Degrees Conferred. From Figure 4 in Appendix B , p.44 it can be seen that the percent change in home economics degrees conferred in recent years has had an up and down pattern throughout with no distinct trend in any easily distinguishable pattern. The overall trend, however, in all three degrees has been upward in the past seven years for which figures are available. Ten years ago (1957-58), for example, the percent change in home economics degrees conferred was showing a negative figure in all three levels. By 1963-64, all degrees were showing a positive percentage gain with both master's and doctorates showing very substantial gains (32.2 percent and 24.2 percent respectively). (See Table XI , p. 48 , in Appendix.)

Confounding the issue of a dearth of highly qualified staff is the fact that accurate figures on supply and demand in the home economics profession are not available even though general statements about shortages can be easily found in such journals as the National Education Association Research Bulletin,

the Journal of the American Dietetics Association, the Journal of Home Economics, Practical Home Economics--Forecast, the Journal of Higher Education, and so forth. Thus, two things have become increasingly evident:

(1) The shortage of adequate numbers of highly trained personnel in home economics is complex and will not dissipate by natural processes.

(2) The profession needs accurate figures on the present and projected personnel needs in home economics.

It was, therefore, the purpose of this study to seek accurate figures on personnel needs in home economics in institutions of higher education.

PROCEDURE

Development of the Questionnaire

A questionnaire was designed to secure the facts about present and projected demand and supply of college and university home economics staffs -- instructional, extension, and research -- by type of institution and size of student enrollments in home economics.[10]

For the instructional staff only, the questionnaire attempted to obtain detailed facts about the number of staff employed in the different subject areas of home economics, by type of degree earned, and to determine the subject areas in which administrators felt we have the greatest shortage of doctorates. The extent to which teaching assistants are used in classroom instruction was also sought.

The Sampling Procedure

The decision was made to sample the total universe of institutions offering at least a baccalaureate degree in home economics. On November 21,

[10] A copy of the questionnaire appears in Appendix C, p. 45 .

1966, a total of 423 questionnaires were sent to administrators listed in the Miscellany No. 42, U.S. Department of Health, Education, and Welfare, 1963. (See pages 20-36 of this publication for the list of institutions used in the survey.) By February 18, 1967, a total of 357 questionnaires (84.4%) had been returned. Of these, 310 returns (72.0%) were found to be completed and were used in the tabulation.

The following list gives an accounting of all returned questionnaires:

310 The questionnaire was completely/accurately filled-in.

37 The department was being or had been phased out.

6 The questionnaire was incompletely/inaccurately filled-in.

4 The administrator was unable to complete the questionnaire.

Tabulation, Analysis and Interpretation of Data

The responses of each administrator to the items in all sections of the questionnaire were converted and recorded on data processing punch cards according to a previously designed code. The cards were sorted and tallies of frequencies were made by means of an electronic computor. Separate tallies and percentages were run on selected items, using the correlates of type of institution, size of student enrollment, type of degree earned and area of subject matter specialization.

Description of Respondents

Distribution by Type of Institution. The following table gives the distribution of the responding institutions according to type of institution.

TABLE I
DISTRIBUTION OF THE 310 RESPONDENTS, BY TYPE OF INSTITUTION

Type of Institution	Respondents Number	Percent
Land-Grant	47	15.1
State	128	41.3
Municipal	7	2.2
Non-Public	128	41.4
Totals	310	99.9

It can be seen that state and non-public institutions responded in the largest numbers. Although the percentage of land-grant institutions and municipal institutions responding in the study looks small at first glance, they are proportionately well-represented when compared to the total universe. In fact, more than 75 percent of each of the above types of institutions, except non-public with 61 percent, are included in this study.

TABLE II
DISTRIBUTION OF RESPONDENTS BY TYPE OF INSTITUTION
AS A PERCENT OF TOTAL UNIVERSE IN EACH TYPE

Type of Institution	Approximate Number and Percent of Total Universe Represented		
	Total Universe[1]	Number in Study	Percent of Universe
Land-Grant	60	47	78.3
State	151	128	84.7
Municipal	9	7	77.7
Non-Public	210	128	60.9

[1] An approximation using information in Miscellany 42, Office of Education, U. S. Department of Health, Education, and Welfare.

Distribution by Region. Although the respondents were not asked to tell the region in which their institution is located, a record of postmarks on the returned envelopes was recorded at the top of each questionnaire. Recognizing the possibility of error in assuming that the postmark was actually the town in which the institution is located, the information thus collected was not used in the analysis. It is recorded here purely as a matter of interest and "after-thought" on the part of the researchers. The classification of regions is that used by the U.S. Department of Health, Education, and Welfare, Office of Education. (See p.47 in Appendix D for the list of states.)

TABLE III
APPROXIMATE DISTRIBUTION OF RESPONDING INSTITUTIONS, BY REGION

Region	Number	Percent
North Atlantic	51	16.4
Central	113	36.4
Southern	99	31.9
Pacific	47	15.2
Totals	310	99.9

Distribution by Size of Department. Student enrollments represented in this study are shown in the following table.

TABLE IV
DISTRIBUTION OF RESPONDENTS, BY SIZE OF ENROLLMENT OF HOME ECONOMICS MAJORS AND BY TYPE OF INSTITUTION, FALL 1966

Number of Majors	Type of College or University									
	Land-Grant		State		Municipal		Non-Public		Total	
	N	%	N	%	N	%	N	%	N	%
0-49	3	4.0	10	13.3	2	2.7	60	80.0	75	24.2
50-99	4	5.1	21	26.9	2	2.5	51	65.5	78	25.2
100-299	15	15.7	64	67.4	3	3.2	13	13.7	95	30.6
300-499	11	28.9	24	63.1	0	0.0	3	7.9	38	12.2
500 plus	14	58.3	9	37.5	0	0.0	1	4.1	24	7.7
Totals	47	15.1	128	41.3	7	2.2	128	41.3	310	99.9

Nearly half (49.4 percent) of all schools represented in the study had student enrollments in home economics of less than 100 majors. Approximately one-third of the institutions represented in this study had enrollments of 100-299. Twenty percent (one-fifth) of the institutions had 300 or more students enrolled.

Data from these institutions would seem to suggest that there are fewer really small departments of home economics than in the recent past. For example, in 1961-62 about 70 percent of the institutions offering home economics degrees enrolled 100 or fewer as compared to about 50 percent in

this study.[11] Concomitantly, in 1961-62 there were only three percent of the institutions enrolling 500 or more majors[12] and this study shows nearly eight percent in this category. It could be postulated, however, that the smaller departments were among those not responding in this study. Support for this idea is found in the fact that a smaller percentage of the total universe of non-public colleges responded in this study while nearly 87 percent of the non-public schools which did respond had enrollments of 100 or less.

When enrollments were considered by type of institution, more than half of the land-grant schools and one-fourth of the state schools had student enrollments of 300 or more; no municipal institution and only three percent of non-public schools had this enrollment. Conversely, as already mentioned, the smallest departments were found in the largest numbers in municipal and non-public schools.

PRESENTATION AND ANALYSIS OF FINDINGS

When responses were recorded and tallied, the next step was that of their analysis and interpretation. Response data, in general, are presented by type of staff -- instructional, extension, and research.

I. FACTS ABOUT INSTRUCTIONAL STAFF

A. Number of Staff

1. Present Filled and Unfilled Positions, Fall 1966. (See Tables XIV, XV, XVI, p. 49 in Appendix .) Respondents reported a total of 2410 full-time staff and 679 part-time staff, thus giving a total instructional staff of 3089. Seventy-eight percent of all staff were employed full-time; 22 percent work only part-time.

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[11] Proceedings, National Council of Administrators of Home Economics, Chicago, Illinois, 1966, p. 12.

[12] Ibid.

The tabulations showed a total of 169 full-time positions unfilled. This means that the field of home economics had a seven percent need for additional full-time instructional staff. Nearly half of the unfilled positions reported were in state institutions while another 41 percent were in land-grant universities.

2. Anticipated Retirements. Forty-six or approximately two percent of the full-time instructional staff planned to retire at the end of this school year, according to our respondents; an additional nine percent (212 persons) planned to retire within the next five years. The educational level of these persons corresponded to the present general pattern of all employees -- about 70 percent had master's degrees and 20 percent had doctorates or advanced certificates.

Of those who planned to retire at the end of the 1966-67 school year, a slightly higher percentage (36.4 percent) were employed by land-grant than by other types of institutions. Of those retiring within the next five years, 43.9 percent were from state institutions, 29 percent from land-grant, 26 percent from non-public and only 1.3 percent from municipal universities. (See Table XVII, p. 50 in Appendix.)

B. Educational Background of Instructional Staff

1. Full-Time Only. When the highest earned degree of the 2410 full-time staff in all 310 institutions included in this study were analyzed, several facts emerged: (See Table V on the following page.)

(a) About one-fourth had doctorates.

(b) Sixty-seven percent had an M.A. or M.S. as their highest earned degree.

(c) Six percent had only a B.A. or B.S.

(d) Slightly more than one percent had advanced certificates.

2. Total Instructional Staff. When data on degrees of all instructional staff (full-time and part-time) of the 310 institutions were analyzed, there was a slightly poorer composite of educational background presented; fewer had doctorates and larger percentages had master's and bachelor's degrees. (See Table V below.)

TABLE V
HIGHEST COLLEGE DEGREE EARNED BY
FULL-TIME INSTRUCTIONAL STAFF, FALL 1966

ITEM	B.A. or B.S. percent	M.A. or M.S. percent	Ph.D. or Ed.D. percent	Advanced Cert. percent
Full-Time Staff	5.9	67.0	25.4	1.5
Total Staff	9.7	65.6	22.8	1.4

From the above data, two important questions may be asked:

(1) How do these figures compare with those of the recent past, and,

(2) How do these figures compare with those in subject matter areas other than home economics?

Table VI below has been adapted from Table XVIII in the Appendix on p. 51 included here to help answer both of these questions.

TABLE VI
LEVEL OF EDUCATIONAL ATTAINMENT OF
FACULTY BY PRIMARY TEACHING AREA, SPRING 1963

Primary Teaching Area	Total N	Total %	Bachelor's or less %	Master's %	Doctorate %
Biological Sciences	10,892	100	2	3	63
Education	10,717	100	2	7	60
English & Journalism	11,798	100	8	7	43
Fine Arts	13,361	100	14	16	25
Foreign Languages	7,514	100	9	4	51
Health Fields	7,502	100	10	18	16
Home Economics	1,946	100	15	17	17
Mathematics	7,640	100	8	10	41
Physical Education	6,281	100	21	15	18
Psychology	3,849	100	1	1	72
Social Science	16,984	100	4	3	61

When the level of educational attainment of the home economics staff represented in this study was compared to that of the 1963 staff as shown in Table VI, at least two differences appeared. They were:

(1) Fewer staff (10 percent) in the Fall of 1966 were teaching with bachelor's degrees than was true in 1963 (15 percent).

(2) A higher percentage of faculty (23 percent) had doctorates in the Fall of 1966 than in 1963 (17 percent).

What might account for this slight improvement? One plausible answer would be the practice in recent years of hiring persons with doctorates in home economics-related fields. The respondents in this study gave the following information about the home economics-related degrees held by their staff:

TABLE VII
NUMBER AND TYPE OF HOME ECONOMICS-RELATED DEGREES
HELD BY INSTRUCTIONAL STAFF, FALL 1966, IN RANKED ORDER

Type of Degree	N	Type of Degree	N
Art	62	English	3
Sociology	47	Physiology	3
Psychology	44	Retailing	3
Education	35	Agriculture	2
Chemistry	32	Journalism	2
Biology	11	Philosophy	2
Economics	11	Theology	2
Nursing	10	Accounting	1
Guidance	9	Administration	1
Health and Physical Ed.	5	Advertising	1
Science	5	Physics	1
Animal Husbandry	4	Radio	1
Architecture	4	Research Methodology	1
Business	4	Speech	1
Total Staff = 307			

From the above information it can be seen that approximately ten percent of the total instructional staff had home economics-related degrees. It is predicted that administrators of home economics programs will, of necessity, continue this practice and that it may even be intensified.

The authors likewise feel that the present tendency to hire men on home economics staffs will also intensify in an effort to meet the personnel shortages.

In regard to comparing home economics staffs with those in other subject matter areas, however, the picture was not at all encouraging. As can be seen from Table XIX , on p. 52 in Appendix , home economics, with the exception of law (in which it is common knowledge that a doctorate is not expected) and the health fields had the least percentage of doctorates of any of 18 fields included in the study. Physical education, where a large number of service courses are taught by staff who do not necessarily need doctorates, and fine arts, where few institutions offer a doctorate in this area, were also low.

The discouraging fact here, from the point-of-view of the home economics profession, was that nearly half of the other areas included in this report (8 out of 18) had 50 percent or more of their total staffs with doctorates; the average for all areas was 45 percent.

Should the home economics profession be satisfied to have 23 percent of their college and university staffs with doctorates when the average for all college and university staffs in 1963 was 45 percent and when seven subject matter areas reported more than 60 percent of their instructional staffs with doctorates?

Another question: Do we dare to let this situation continue without concerted effort to improve it?

Much of the problem of staff quality in home economics in higher education is undoubtedly related to the inherent factors in our being primarily a woman's field. There have been sex differences in the number and types of degrees conferred for many years, with men receiving larger percentages of the total degrees conferred at all levels.

From 1947-48 through 1963-64 the range in percentage of bachelor's degrees conferred upon women as opposed to men has been from 24 percent in 1947-48 to 40 percent in 1963-64. At the master's level, women have received about 32 percent of the total degrees conferred in any given year during this same period; "...the 12 percent of all doctor's degrees earned by women in 1947-48 has yet to be equalled in succeeding years"[13] and the average since that time has been 11 percent.[14] Even in 1964-65 at the time when the largest number of degrees in history were conferred the percentage of degrees conferred upon women at the various levels remained almost constant. The exception to this occurred at the bachelor's degree level where 43 percent, instead of the usual 40 percent, were conferred on women.[15]

When all college degrees conferred were analyzed by area of study certain areas had more degrees conferred on women than on men.

> "At the bachelor's level, education, English, fine arts, foreign languages, health professions, home economics, and library science were predominantly women's areas. At the first-professional level, education, library science, and social science were the only areas in which women received more degrees than men. At the master's level, more women than men received degrees in English, foreign languages, home economics, and library science. Home Economics was the only area at the doctor's level in which more degrees were conferred on women than on men."[16]

Although home economics was the only area at the doctor's level in which more degrees were conferred on women than on men it ranked ninth in the number of doctorates conferred upon women. In ranked order from the

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[13] U.S. Office of Education, Earned Degrees Conferred 1963-64, Washington, D. C., Misc. No. 54, Government Printing Office, 1966, p. 13.

[14] Ibid., p. 21.

[15] U.S. Office of Education, Summary Report on Bachelor's and Higher Degrees Conferred During the Year 1964-65, Washington, D. C., Government Printing Office, 1966, p. 1.

[16] Earned Degrees Conferred 1963-64, op. cit., p. 21.

highest to lowest were: education, biological sciences, psychology, social sciences, English and journalism, physical sciences, foreign languages and literature, fine and applied arts and then home economics. (See Table XIX , p. 52 in Appendix .)

Using the 1964-65 figures for total degrees conferred upon women college graduates,[17] an analysis was made to determine within all subject matter fields the percentage of women earning bachelor's degrees as compared to the percentage earning master's and doctor's degrees. (See Table XVIII on p. 51 in Appendix .) It was found that, with the exception of the field of education, home economics had the highest percentage of women receiving master's degrees and was fifth highest in the percentage receiving doctorates. It can be said, therefore, that women earning bachelor's degrees in home economics continue their graduate education in a comparatively favorable pattern with women in other subject matter fields. It can also be said that the problem of recruiting larger numbers of graduate students in home economics should not present greater obstacles than would recruiting women for graduate work in any other subject matter area. This fact should encourage us to intensify our present recruitment efforts.

C. Facts About Instructional Staff by Subject Matter Areas and Type of Degree

When respondents were asked to give a breakdown of staff by subject matter area and type of degree, discrepancies in the reporting of the number of full-time staff members occurred. This was evidenced by the fact that respondents reported 2410 full-time staff on page 1 of the questionnaire and 2611 when asked to list them by subject matter area on page 2. It was postulated that the question, "How many full-time staff members do you have in each

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[17] Summary Report on Bachelor's and Higher Degrees Conferred During the Year 1964-65, op. cit., pp. 4-9.

catagory?" was unclear. For example, a full-time staff member who had a split subject matter teaching assignment was probably considered as "full-time" and listed under more than one subject matter area, i.e., housing and home management, and so forth. The discussion of instructional staff by subject matter area that follows was based on the 2611 figure.

When instructional staff were ranked according to their area of subject matter, several important facts emerged. (See Figures 5, 6 and 7, p. 53 and p. 54 in Appendix . Also see Table XIX , p.52 .)*

1. Foods and Nutrition and Clothing and Textiles Staff.** An analysis of data in these two areas revealed:

(a) The largest percentage of total instructional staff was employed in the area of F&N (23.8 percent).

(b) When the staffs in F&N and C&T were combined, they comprised 41.6 percent of the total.

(c) Nearly half (47.7 percent) of all graduate assistants were in the F&N and C&T areas.

(d) More than 40 percent of the full-time and part-time unfilled positions (42.0 percent and 47.2 percent respectively) were in the F&N and C&T areas.

(e) Nearly one-third (31.6 percent) of the projected need for additional full-time and part-time staff for next year was in the F&N and C&T areas.

(f) More than one-third (36.4 percent) of the projected need for additional full-time and part-time staff for 1971 (five years from Fall 1966) was in the two areas of F&N and C&T.

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*Tables XXII through XXIII give a breakdown of these data by type of institution. See pp.56-59 in the Appendix .

**Hereafter referred to as F&N and C&T.

(g) Lastly, respondents ranked C&T and F&N as the third and fourth areas, respectively, of greatest shortage of doctorates.

2. Child Development and Family Life Staff.* Several facts about staff in the area of CD & FL seemed significant. (See Figures 5, 6 and 7 , p. 53 and p. 54 in Appendix .)

(a) Total staff in the CD & FL field tied those in C&T for second place in terms of percentages in each area (17.6 and 17.8 percent respectively).

(b) The largest percentage of graduate assistants was in the CD & FL area (29.4 percent as compared to 18.3 for both F&N and C&T).

(c) The second largest percentage of full-time unfilled positions was in the CD & FL area (18.9 percent). This compares with 29.6 percent in F&N and 12.4 percent in C&T.

(d) Respondents projected CD & FL as the area of greatest need for full-time additional staff for 1967-68 (23.4 percent as compared to 19.8 percent for F&N) and the second area of greatest need for staff in 1971 (17.9 percent as compared to 22.7 percent for F&N). It would appear from the above facts that the area of CD & FL is assuming an important role in our present curricula. It would also seem that respondents saw an even greater role for the CD & FL area in home economics since they had projected this area ahead of all except F&N in terms of need for additional full-time staff five years hence.

3. Home Management and Family and/or Consumer Economics Staff.** For several years our leaders have been saying that the field of home economics should increase its efforts in the fields of home management and family and/or consumer economics. Some facts about staffs in these areas were: (See Figures

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*Hereafter referred to as CD & FL.

**Hereafter referred to as H. Mgt. and F. Econ.

5, 6 and 7, p. 53 and p.54 in Appendix .)

(a) The percentage of total instructional staff in the two areas of H. Mgt. and F. Econ. was almost 12 percent (8.6 percent for the former and 3.3 percent for the latter).

(b) The number of graduate assistants working in these two fields was 6.8 percent of the total staff of graduate assistants.

(c) The total percentage of unfilled full-time positions in H. Mgt. and F. Econ. was comprised of 16.6 percent; these areas needed 19.4 percent additional part-time positions (H. Mgt. 13.9 percent and F. Econ. 5.5 percent).

(d) F. Econ. was seen as the area of least need for full-time and part-time staff for 1967-68; F. Econ. and H. Mgt. were the two areas of lowest projected need for additional full-time staff in 1971.

(e) H. Mgt. was rated the No. 1 area of greatest shortage of doctorates; F. Econ. was rated in the No. 6 position. (See Table XXIV, p. 60 in Appendix .)

It could be postulated from this that college and university personnel are not taking steps (and are not contemplating steps within the next five years) to close the gap between the F. Econ. and H. Mgt. and the F&N and C&T course offerings. Perhaps these figures especially should be called to the attention of administrators and curricula committees of our college and university staffs.

4. Home Economics Education Staff.* For the past decade, about 40 percent of all bachelor's degrees awarded in home economics have been H. Ec. Ed. degrees. Some facts about H. Ec. Ed. staffs were: (See Figures 5, 6 and 7, p. 53 and p. 54 in Appendix .)

(a) They comprised the median number of full-time and/or total staff, Fall of 1966; they ranked sixth in the number of part-time staff employed.

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*Hereafter referred to as H. Ec. Ed.

(b) H. Ec. Ed. had only 6.5 percent of the total graduate assistants in their area while CD & FL had five times as many; F&N and C&T had three times as many.

(c) This area had the third largest number of unfilled full-time positions (14.2 percent as opposed to 30 percent for F&N) in the Fall of 1966. Part-time unfilled positions in H. Ec. Ed. were very small (5.5 percent).

(d) Respondents ranked this area third highest in their projected needs for additional full-time staff in 1967-68 (15.4 percent) and fourth highest (13.1 percent) for 1971.

(e) Respondents ranked H. Ec. Ed. as the area of least need for additional doctorates. (See Table XXIV, p. 60 in Appendix .)

Many of the above facts were not surprising in view of our past (and perhaps even present) college curricula but they appeared disappointing in the light of the present thinking of our national and state professional leaders. Even prior to 1958, but certainly since the publication of Beulah Coon's National Study of Home Economics in the Secondary Schools in 1962, home economists have been urged to place greater emphasis on the teaching of management, human relationships, social development, family and consumer economics and child development. Judging from the above data, it would not appear that there has been a radical change in the direction of our emphasis of subject matter areas in college home economics programs.

The above prompts two questions:

(1) If these changes are to be implemented, is it logical to expect the composition of college staffs in the various subject matter areas to reflect the change with larger numbers of staff being employed in the areas of new emphasis?

(2) If so, how many years is a reasonable number to wait for a reflection of change in the composition of college home economics staffs?

D. Degrees Required of Instructional Staff for Teaching Undergraduates and Graduates.

1. For Teaching Undergraduates. Respondents were asked to state whether or not persons with only a baccalaureate degree were permitted to teach undergraduates. (For summary of replies, see Table VIII below.) Slightly more than 40 percent of all institutions responding answered this question affirmatively while slightly fewer than 60 percent said, "No." Non-public institutions reported the largest percentage (50 percent) permitting this policy; the smallest percentage (29.0 percent) was reported by municipal universities. The policy in land-grant and state institutions was very similar; slightly more than 35 percent permitted persons with only baccalaureate degrees to teach undergraduates.

TABLE VIII
EDUCATIONAL BACKGROUND REQUIRED OF FALL 1966 INSTRUCTIONAL STAFF FOR UNDERGRADUATE TEACHING, BY TYPE OF INSTITUTION

Type of Institution	Staff Members with a B.S. or B.A. May Teach Undergraduate Courses				Total	
	Yes		No			
	N	%	N	%	N	%
Land-Grant	17	36.2	30	63.8	47	100.0
State	45	35.1	83	64.9	128	100.0
Municipal	2	29.0	5	71.0	7	100.0
Non-Public	64	50.0	64	50.0	128	100.0
Total Number of Institutions	128	41.2	182	58.7	310	100.0

2. For Teaching Graduates. The policy in regard to requiring a master's degree for teaching graduate courses showed a very similar pattern to the one above, by total number of institutions responding. (See Table IX on the following page.) Slightly more than 40 percent permitted staff with a master's degree to teach graduate courses, while 60 percent did not.

Since the total number of respondents answering this question was smaller (264 instead of 310) it is postulated that not all institutions responding offered graduate courses and, therefore, did not have an established policy on this matter.

Of those who responded to the question, about 50 percent permitted persons with a master's degree to teach graduate courses and 50 percent did not. A significantly larger number of land-grant than other institutions permitted those with master's degrees to teach graduate courses.

TABLE IX
EDUCATIONAL BACKGROUND REQUIRED OF FALL 1966 INSTRUCTIONAL STAFF FOR TEACHING GRADUATES, BY TYPE OF INSTITUTION

Type of Institution	Staff Members with a M.S. or M.A. May Teach Graduate Courses				Total	
	Yes		No			
	N	%	N	%	N	%
Land-Grant	33	70.2	14	29.8	47	100.0
State	68	53.2	60	46.8	128	100.0
Municipal	2	29.0	5	71.0	7	100.0
Non-Public	28	34.1	54	65.9	82	100.0
Total Number of Institutions	131	49.7	133	50.3	264	100.0

E. Respondents' Opinions of Areas of Greatest Need for Doctorates.

When asked to rank their answer to the question, "In what subject matter areas do you feel we have the greatest shortages of doctorates?", many respondents did not rank the total range of areas of subject matter listed. (See Tables XXIV and XXV p. 60 in Appendix .) It was decided, therefore, to treat their responses in two different ways.

In the first instance, the highest tally in each rank was noted. By this method, respondents gave the following ranking of subject matter areas from greatest to least felt need for doctorates: (See Table XXIV, p.60in

Appendix .)

(1) Home Management
(2) Home Management
(3) Housing
(4) Family Economics
(5) Child Development
(6) Home Economics Education
(7) Home Economics Education

As was observed from the above list, the subject matter area of F&N (for example) did not appear in the ranked list of areas in which respondents expressed a felt need for more doctorates. Upon further study it was observed that the total number of responses in the F&N area actually exceeded the total number of responses in the area receiving the largest number of No. 1 responses, namely Home Management. It was decided, therefore, to weight the totals of the first three responses in each subject matter area as follows: No. 1 responses were given a weight of 3; No 2 responses were given a weight of 2; No. 3 responses were given a weight of 1. When this was done a slightly different pattern of greatest to least felt need for doctorates resulted. The ranked list follows:

(1) Home Management
(2) Housing
(3) Clothing and Textiles
(4) Foods and Nutrition
(5) Child Development and Family Life
(6) Family and/or Consumer Economics
(7) Home Economics Education

It is postulated that the latter list more nearly represents the respondents' opinions regarding the areas in which we have greatest and least shortage of doctorates.

How do the respondents' opinions of projected need for staff in the various subject-matter areas compare with the actual percentage distribution of doctorates among the different home economics majors in recent years?

Figures tabulated from the Tables in Appendix ("Earned Degrees Conferred in Home Economics, 1958 through 1964") are shown to the left, below,

in Figure 1. The list to the right in Figure 2 below are respondents' ranked list of subject matter areas from greatest to least felt need for doctorates.

Area	Percent
H. Ec. Ed.	23.6
F&N	23.2
Gen. Home Ec.	22.0
CD & FL	13.1
C&T	10.0
NEC*	7.3
Insti. Mgt.	0.8

*Not Elsewhere Counted

Figure 1. Percentage of Doctorates Earned in Various Home Economics Subject-Matter Areas, 1958-64.

Area
Home Management
Housing
Clothing and Textiles
Foods and Nutrition
Child Development and Family Life
Family and/or Consumer Economics
Home Economics Education

Figure 2. Ranked List of Areas of Greatest to Least Felt Need for Additional Doctorates

It is immediately apparent from comparison of the above Figures that some deductions seem logical.

(1) H. Ec. Ed. has been the subject in which the largest percentage of doctorates (23.6 percent) has been conferred during the 1958-64 period. This is also the subject matter area in which respondents felt the least need for additional doctorates. It would appear that respondents have registered a "perfect score" in this term.

(2) A much smaller percentage of doctorates have been earned during this same time span in the area of C&T (10 percent); respondents registered a greater felt need (third of seven subjects) for additional staff in the area of C&T. Again, respondents were accurate in their judgment of staff needs.

(3) A third instance of the accuracy of respondents in their rating of areas of greatest to least felt need for doctorates was in the area of F&N; the supply of doctorates in this area was second largest (23.2 percent) and respondents gave a lower rank (fourth) to their felt need of doctorates in this field.

(4) It could be postulated from these observations that respondents in this study had a high degree of understanding of the areas of subject matter in home economics in higher education in which there are shortages of doctorates.

Are the facts about shortages of doctorates in home economics being relayed to potential candidates of higher degrees? If not, what steps should be taken to disseminate this information?

II. FACTS ABOUT EXTENSION STAFF

A. Present Staff, Fall 1966. (See Table XXVI, p. 61 of Appendix .)

Respondents from 31 institutions reported a total of 656 filled positions in extension in the Fall of 1966. Some of the characteristics of extension staff were:

(1) About 98 percent were employed full-time; only 16 of the 656 (2.5 percent) were employed part-time.

(2) Land-grant institutions employed 93.5 percent of the total extension staff included in this study.

(3) More than half of all extension staff (54.6 percent) had a bachelor's degree; 40.8 percent had a master's; and, less than five percent had doctorates. (See Table XXVI , p.61 of Appendix .)

(4) Approximately four percent of the extension staff planned to retire at the end of the 1966-67 school year. Of those retiring, equal percentages (46.2 percent) held bachelor's or master's degrees.

(5) Approximately 12 percent of the present extension staff planned to retire within the next five years. Of these, 56.4 percent had a master's degree as compared to 37.2 percent who had a bachelor's degree; one-fourth of all extension staff having doctorates planned to retire by 1971.

The above findings have certain implications for action. Extension personnel will need to replace about 16 percent of their present staff by 1971 and a larger number of retiring persons have a master's degree than a

bachelor's degree; about 25 percent of the extension staff holding doctorates will be retiring by 1971. If measures to increase the number of persons earning advanced degrees are delayed or circumvented by the profession, will it be possible to replace extension staff with persons of educational backgrounds commensurate with the present staff? Will there be an opportunity of improving the general educational level of future extension staffs beyond that of the present level? These are important questions that should receive immediate and widespread attention by the home economics profession.

III. FACTS ABOUT RESEARCH STAFF

A. Present Staff, Fall 1966. (See Table XXVI, p.61 in Appendix .)

Respondents from 30 institutions reported a total of 335 filled positions in research. Some of the characteristics of the research staff were:

(1) 69 percent were employed full-time; 31 percent were employed part-time.

(2) 83 percent of the research staff were located in land-grant institutions.

(3) Slightly more than half of the research staff had doctorates; less than 10 percent had a bachelor's degree.

(4) Slightly more than two percent of the present research staff planned to retire by the end of this school year; about seven percent planned to retire by 1971. Of those planning to retire, slightly more had master's than doctor's degrees.

(5) There were 30 full-time unfilled positions (nine percent) in research. More than 75 percent of these were in land-grant institutions.

From the above facts, it can be seen that research staffs had several unique characteristics:

(1) They had the smallest percentage of staff:

a. with bachelor's degrees

b. retiring by 1971

c. employed full-time

(2) They had the largest percentage:

a. of staff with doctorates

b. of staff working part-time

c. of unfilled, full-time positions on their staff

IV. INTERPRETATION OF FINDINGS

Further analysis of the findings reveals some additional factors which work against an easy solution to the quantity-quality deficiencies of home economics staffs. Some of these are:

A. Quantitative Shortage, In General

Undoubtedly, as said before, some of the shortage in quantity of personnel in home economics in higher education is related to the inherent factors in this being primarily a women's field. Examples of influencing factors are:

(1) Fewer girls than boys are motivated to go to college. Although the scholastic attainment of boys and girls is not substantially different, "Among the top students who do not plan to go on to college...lack of college goal (i.e. motivation) is reported by 25 percent of boys and 45 percent of girls as their reason for not continuing with their education."[18]

Again, motivation or lack of it, is considered to reflect significantly in the figures on the following page:[19]

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[18] George E. Hill, "College Proneness: A Guidance Problem," Personnel Guidance Journal, 33:70-73, 1954.

[19] Charles C. Cole, "Current Loss of Talent from High School to College," Higher Education, Vol. 12, No. 3, p. 36, November 1955.

	Boys	Girls
Finish high school	97.0	97.0
Enter college	63.0	42.0
Graduate	55.0	37.0
Ph.D.	3.1	0.3

Figure 3. Academic Achievement of High School Students

From this it can be seen that there is a crucial difference between the challenges of recruiting young men and young women; the profession of home economics is faced with the more difficult of the two.

(2) There are now more fields vying for the college woman student than was true 50 (or even fewer) years ago. Recent figures from the U.S. Office of Education show that at the bachelor's level the subject-matter area in which more degrees were conferred upon women than men are: English, education, fine arts, foreign languages, the health professions, library science, and home economics.[20]

In the early 1900's, the only fields considered to be predominately women's fields were teaching and nursing.[21]

(3) Girls are not really career oriented. It is believed that girls are more tied to their sexual adjustment and to their realization of feminine goals in their identity formation than are boys. For a young man the question of "Who am I?" really means "What will be my occupation?", whereas for young women it mainly means, "Whose wife will I be?" and, "How many children will I have?",[22]

Evidence is accumulating, however, to show that the attitude of both

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[20]U.S. Office of Education, Earned Degrees Conferred 1963-64, Washington, D.C., Misc. No. 54, Government Printing Office, 1966, p. 13.

[21]Elizabeth Kemper Adams, Women Professional Workers, New York, The Macmillan Company, 1927, p. 23.

[22]Elizabeth Douvan, "Independence and Identity in Adolescence," Children, 4:186-190, 1957.

high school and college women toward the dual role of women -- that of being homemaker and wage-earner -- is changing. More young girls feel they will work outside of their homes in addition to being wives and mothers than was true ten years ago.

Further support of this is reported by Thomas and Paolucci.[23] Among a sample of 100 wives whose husbands were undergraduate students at Michigan State University last year, "More (wives) wanted to continue their education than to participate in any other specific goal activity. Husbands were supportive...." These wives were not, however, career oriented; a small number were interested in employment as a first choice goal.

It could be postulated that a change in attitude on a large scale toward a family plus career goal may be reflected in an increase in the number of women available for employment in home economics in higher education at some time in the future.

(4) Fewer women than men receive college degrees; therefore, fewer women are available for employment. Although this point has been made at another place in this manuscript, it is worth reiterating for emphasis. For many years men have received a larger percentage of total degrees conferred at every level especially the master's and doctor's levels.[24] (See p. 14.)

From 1948-64, the range in percentage of bachelor's degrees conferred upon men as opposed to women has been from 76 percent in 1948 to 60 percent in 1964.[25]

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[23] Carolyn Thomas and Beatrice Paolucci, "Goals of Young Wives," Journal of Home Economics, Vol. 58, November 1966, p. 720-23.

[24] U.S. Office of Education, Earned Degrees Conferred 1963-64, Washington, D.C., Misc. No. 54, Government Printing Office, 1966, p. 13.

[25] Ibid.

(5) Fewer women than men earn advanced degrees. A fifth factor contributing to the complexity of a shortage of personnel in home economics in higher education is related to the above fact, as has already been mentioned. Since women are socialized to be goal-oriented toward marriage with diffuse and conflicting expectations concerning a career, there has been a stigma attached to advanced degrees for women. After all, society expects them to marry; something may be 'wrong' with them if they do not meet this expectation!

In addition there is a widely held view among lay persons that for a woman to pursue a doctorate is one way, for sure, of decreasing her chances of marriage. It could be postulated that this may serve as a deterrent to some capable young women who would like to pursue a doctor's degree.

Lastly, women past 40 are often discouraged by the graduate schools from beginning work on a doctorate. (There is not this same stigma attached to men.) Since many married women who are not physically, psychologically, or financially capable of managing college courses in addition to home and motherhood responsibilities, we should work for acceptance of a more realistic pattern of graduate education for women past 40.

(6) The immobility or the "forced mobility" of married women who are obliged to give the husband precedence in decisions involving employment and residence often acts as a deterrent to the best utilization of her talents and training.

(7) The nepotism rule of many institutions of higher education affects the quantity of women workers available for employment. The degree to which home economics is affected by this rule is unknown to the author. From experience it would seem that smaller rather than larger institutions are more handicapped by this rule.

B. Quantitative Shortage, in Home Economics

In addition to the factors which contribute to a general shortage of

women professional workers the area of home economics has been faced with several special problems.

(1) Home Economics is the field with "1001 career choices." The shortage of workers in home economics is further complicated by the fact that persons with college home economics training can (and do) enter many different fields upon graduation. There seems to be little hope that a reversal of this trend is in sight; in fact, quite to the contrary the number and type of jobs open to home economists appears to be on the increase rather than the decrease.

(2) The great number of areas of specialization within home economics has tended to complicate the problem of shortage of personnel. The need for subject-matter specialists at the college level in the face of our training large numbers of subject-matter generalists at the undergraduate level has created real gaps between supply and demand in the various areas. There is no easy solution to this situation and probably this dichotomy will continue into the foreseeable future.

C. Qualitative Shortage, in Home Economics

Although the quality of teachers cannot necessarily be equated with type and number of college degrees, at the present time this is one of the main criteria used by educators in judging the quality of staff and, must, therefore receive our attention.

(1) Unfortunately, instructional staffs in home economics in higher education have a much poorer composite of educational attainment levels than 16 of 18 other fields studied; fewer had doctorates and larger percentages had master's and bachelor's degrees. It would appear that our profession has a number of alternatives for improving the level of educational attainment of home economics staffs. Several are:

We could make a greater effort to hire persons with doctorates in home economics-related fields to fill our future vacancies. This alternative is

not without its disadvantages. This practice could, perhaps, weaken the profession as an entity in itself. Misunderstandings of the philosophy and goals of home economics can occur and such persons might tend to fragmentize the field, thus destroying its unity. Too, these staff sometimes feel no identification with or sense of responsibility toward our national professional organization, thus contributing to a structural weakening. At the present time, however, it appears to be to our advantage to make greater use of staff with doctorates in related fields.

We could find men replacements for some of our positions traditionally held by women. This alternative brings an undercurrent of criticism from some in our profession, but is one which holds hope for improving the overall quality of staffs in home economics.

We could work for a greater acceptance of the idea of employing highly trained persons for part-time rather than full-time work. (Research is already doing this to a much greater extent than instructional staffs.) This alternative presently meets with disfavor by administrative officers on many college campuses. It, however, has been highly successful in a number of instances where it has been tried.

The possibility of employing more persons in joint appointments with home economics and a related teaching field has not been fully exploited. Administrative complications of such appointments immediately dampens enthusiasm for this alternative but the full impact of the idea should be given further thought, particularly in areas of high specialization.

The profession must look for new and imaginative ways of offering doctoral programs to meet the needs of highly qualified potential doctoral candidates who are presently unable to attend traditionally structured programs.

One idea would be the use of the "hardware" of educational technology

such as tele-lectures, single-concept machines, computer assisted instruction, dial-access information, retreval systems, and so forth combined with the traditional methods of teaching. It is now perfectly possible, for example, to offer graduate courses in the homes of young mothers or others who are unable to meet the rigid and inflexible scheduling of our traditional course offerings. Would such an idea be feasible?

Would interinstitutional cooperation add a great deal of strength to the doctoral program? Might this be achieved through discriminate use of educational technology?

(Consideration of these ideas is an item on the agenda of the November 1967 meeting of the Illinois Council of Home Economics Administrators.)

(2) The high turnover rate in staffs mainly composed of married women workers is another deterrent to quality -- both in staff and in program quality.

When women need multiple interims from full-time employment for marriage and later a series of maternity leaves, interruptions in staff quality are almost inevitable; replacements are many times made with those of less professional preparation.

This factor is most difficult to eliminate since it is so basically related to the social role expectations of women in our culture.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The purpose of this study was to investigate the current status of and future needs for personnel in home economics in higher education. Aspects of the problem studied were: (1) filled and unfilled full-time and part-time positions in teaching, extension and research; (2) educational attainment level of staff; (3) number and type of home economics-related degrees of staff; (4) subject matter areas in which staff were employed; (5) institu-

tional policy regarding degrees required of staff; (6) projected needs for staff; and (7) anticipated retirements of staff.

Data were gathered through the use of a questionnaire which was administered by mail to a total of 423 administrators of home economics programs. Analysis of 310 returned questionnaires (72 percent) provide the following partial answers.

Instructional Staff

Some of the characteristics of the Fall 1966, instructional staff were:

1. About 25 percent of the nearly 3100 instructional staff had doctorates; 66 percent had master's degrees; 10 percent had bachelor's degrees only.

2. About 78 percent of all instructional staff were employed on a full-time basis; 22 percent were employed part-time.

3. The areas of F&N and C&T combined employed nearly half of all staff and half of all graduate assistants. About half of all unfilled positions and 1/3 of the projected need for additional staff both next year and five years hence were in these two areas.

4. The area of CD and FL has the highest percentage of graduate assistants; it was second only to F&N in the number of unfilled positions, in total number of instructional staff and in projected need for additional staff by 1971.

5. Staff in H. Ec. Ed. had the third largest number of unfilled full-time positions; were third highest in projected need of staff for next year; had a very small percentage of graduate assistants; had the fourth highest projected need for staff in 1971.

6. Staff in the areas of F. Econ. and H. Mgt. were the least in number; had a small number of graduate assistants; and had the lowest projected need for additional full-time staff in 1971.

7. Home economics staffs had next to the lowest percentage of doctorates of any of 18 college teaching fields.

8. Approximately 40 percent of all institutions permit staff with bachelor's degrees only to teach undergraduate courses; about 50 percent permit those with a master's degree to teach graduate courses. A significantly larger number of land-grant than other types of institutions permit those with master's degrees to teach graduate courses.

9. There was a seven percent increase in need for additional full-time instructional staff above Fall 1966 employment levels.

10. Approximately two percent of full-time instructional staff plan to retire at the end of the 1966-67 school year; and an additional nine percent plan to retire within the next five years.

11. The areas of subject matter in which respondents reported their opinions of the greatest shortage of doctorates (in ranked order) were: home management and equipment; housing, interior design and home furnishings; clothing and textiles; foods and nutrition; child development and family life; family and/or consumer economics; and home economics education.

12. Approximately 10 percent of the total instructional staff have home economics-related degrees; these were distributed throughout 28 different fields; art, sociology, psychology, education and chemistry, ranked in order, had the highest percentages of staff represented.

Extension Staff

An analysis of the characteristics of the Fall 1966, staff showed:

1. About 98 percent of the 656 reported staff were employed full-time.

2. About 95 percent were employed by land-grant institutions.

3. Nearly 55 percent had a bachelor's degree; 40 percent had a master's degree; less than 5 percent had doctorates.

4. About 4 percent plan to retire in 1966-67; 12 percent plan to retire within the next five years.

5. About 25 percent of all extension staff having doctorates plan to retire by 1971.

6. Extension had about 5 percent of their full-time positions unfilled.

Research Staff

Some of the characteristics of the Fall 1966, staff were:

1. 69 percent of the 335 staff reported were employed full-time.

2. 83 percent of the research staff were located in land-gra t universities.

3. Slightly more than half of the research staff had doctorates; less than 10 percent had only bachelor's degrees.

4. About 2 percent plan to retire at the end of the 1966-67 school year; 7 percent plan to retire by 1971. Of those planning to retire, slightly more had master's than doctor's degrees.

5. Research staff had 9 percent of their full-time positions unfilled.

When the three staffs -- instructional, extension, and research -- were compared, several differences were noted. (See Table X on the following page.)

TABLE X
COMPARISON OF TOTAL (FALL 1966) INSTRUCTIONAL, EXTENSION, AND RESEARCH STAFF, BY SELECTED CORRELATES

Correlate	Instructional Staff (N=3089) Percent	Extension Staff (N=656) Percent	Research Staff (N=335) Percent
Hold Bachelor's Degree	10	55	8
Hold Doctorate	23	4	51
Plan to Retire in 1967	2	4	2
Plan to Retire in 1971	8	12	7
Employed Full-Time	78	98	69
Employed Part-Time	22	3	31
Unfilled Full-Time Positions	7	5	9

The differences may be summarized as follows:

1. The research staff had by far the largest percentage with doctorates (51 percent as compared to 23 for instructional staff and 4 percent for extension).

2. The extension staff had by far the largest percentage with bachelor's degrees (56 percent as compared to 6 percent for instructional and 8 percent for research).

3. The extension staff had the largest percentage of those planning to retire by 1971 (12 percent as compared to 9 percent for instructional staff and 7 percent for research).

4. The extension staff had a much larger percentage working full-time (98 percent compared to 78 percent for instructional staff and 69 percent for research).

5. The research staff had a much larger percentage working part-time (31 percent as compared to 22 percent for instructional staff and 3 percent for extension).

Similarities among the three staffs were found on the percentages of those planning to retire at the end of the 1966-67 school year (2 percent of both instructional and research staffs; 4 percent of extension), and on the percentage of unfilled full-time positions, Fall 1966 (9 percent for research, 7 percent for instructional and 5 percent for extension staffs).

CONCLUSIONS

Within the limits imposed by this research design, the following conclusions seem justified on the basis of the findings:

About Home Economics Personnel Needs in General

The need for home economics personnel in higher education is greater than the supply of qualified workers. The need for personnel with doctorates is especially critical in all three areas investigated -- instructional, extension, and research staffs.

Higher education staffs in home economics need approximately 22 doctorates per year for replacement of retiring staff. This represents over 60 percent of the total number of new doctorates in home economics accepting employment in institutions of higher education each year. Too, this shortage of doctorates will be compounded by other factors, such as: increased student enrollments, expansion in number and types of curricula, growth in number and types of graduate programs, the opening of new departments (especially in junior colleges), greater demands for workers in research, in extension service, in government posts, and so forth.

Under these conditions, it seems certain that the present comparatively low level of educational attainment of home economics staffs cannot be raised. In fact, it would seem fairly certain that a general lowering in quality of home economics staffs would be a natural outgrowth if definite positive steps are not taken to reverse this action.

About Instructional Staffs

1. Educational Attainment Level. Since instructional staffs in home economics in higher education have a much poorer composite of educational attainment levels than 16 of 18 other college teaching fields studied, the profession must recognize that if our image among colleagues and other professional associates is uncomplimentary, it is not entirely without justification. As long as a sizeable number of teaching fields in higher education have 60 percent or more of their instructional staff with doctorates, and as long as the average percent in all fields is nearly twice that of home economics staffs, we cannot expect an improvement in our professional reputation and image -- not withstanding the argumentation over whether or not it takes a doctor's degree to make a "good" teacher!

2. Shortage of Staff by Subject-Matter Areas. Another fact about instructional staff needs special attention by the profession. There are certain areas of subject matter more than others in which the need for additional personnel is acute. For example, F&N and CD & FL have more filled and unfilled positions, more graduate assistants being utilized, and higher percentages of projected needs for future staff than other areas. It would appear that the profession should intensify efforts to recruit larger numbers of graduate students into these areas.

Although the areas of H. Mgt. and Fam. and/or Cons. Econ. did not show a high percentage of shortage of staff and were the two areas of lowest projected need for additional full-time staff in 1971, certain facts demand our attention. There is prolific verbalization of the idea that H. Mgt. and F. Econ. concepts should constitute a more important role in the education of individuals and families and that the professional home economist should assume more responsibility for the teaching of these subjects. (You will remember that the percentages of total staff teaching in these two areas is

comparatively small; the percentage of unfilled full-time positions was fourth highest; the percentage of graduate assistants presently working was very small; and, H. Mgt. was the area in which respondents felt there was the greatest shortage of doctorates.)

Judging from the data collected in this study, it could be postulated that definite steps need to be taken by the profession to close the gap between what we say the profession should be doing in these two areas and what we are actually capable of doing. It would appear that no radical change in direction of emphasis in these two areas could be possible under present conditions. There must first be implemented a change in college programs, with greater emphasis on courses in H. Mgt. and F. Econ., before a change will be reflected at other levels. This will require greater numbers of trained staff and, unfortunately, the supply is not presently available.

How many years is it reasonable to wait for a correction of this condition? This question our profession must answer.

3. Policy Regarding Degrees Required of Instructional Staff. The field of home economics when compared to other teaching fields in higher education has very low standards in regard to level of educational attainment of staff for teaching both undergraduates and graduates.

This problem will undoubtedly arise in implementing the decision made at our National Convention in Dallas to accredit departments and schools of home economics. If standards for the level of educational attainment of staff were to be raised above the present level, the problem of shortage of adequate numbers of highly qualified staff would be quickly compounded.

RECOMMENDATIONS

From all of this, it seems obvious that the number one problem for leaders in the profession, then, is how to recruit (i.e. motivate) more students to go to college, to elect home economics as their field of specialization, and to pursue advanced degrees. It is equally obvious, from the discussion, that this is easier said than done.

It is recommended that AHEA provide leadership for organizing an intensive recruitment effort on a national basis.

If the profession fails to accept this responsibility, the likely alternative to being "too late" would be a drastic change in the number and kinds of positions and programs open to home economists in institutions of higher education.

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APPENDICES

APPENDIX A

EARNED DEGREES CONFERRED*
IN HOME ECONOMICS

Home Economics General

Year	B.S. Men	B.S. Women	M.S. Men	M.S. Women	Ph.D. Men	Ph.D. Women
1958-59	9	2,528	1	187	0	2
1959-60	8	2,436	2	172	0	5
1960-61	6	2,227	4	243	0	11
1961-62	3	2,270	4	223	0	12
1962-63	4	2,408	3	213	0	13
1963-64	10	2,515	4	248	1	14

Child Development and Family Relationships

Year	B.S. Men	B.S. Women	M.S. Men	M.S. Women	Ph.D. Men	Ph.D. Women
1958-59	3	346	5	66	3	2
1959-60	8	446	4	69	3	9
1960-61	4	497	12	56	5	4
1961-62	6	493	11	69	5	4
1962-63	6	450	5	75	4	6
1963-64	5	508	3	72	4	9

Clothing and Textiles

Year	B.S. Men	B.S. Women	M.S. Men	M.S. Women	Ph.D. Men	Ph.D. Women
1958-59	0	381	0	57	0	5
1959-60	1	400	0	73	2	5
1960-61	0	437	0	74	0	4
1961-62	0	435	1	76	0	4
1962-63	0	405	1	81	0	6
1963-64	1	547	2	72	0	2

Foods and Nutrition

Year	B.S. Men	B.S. Women	M.S. Men	M.S. Women	Ph.D. Men	Ph.D. Women
1958-59	17	520	5	74	1	7
1959-60	29	483	5	89	1	13
1960-61	10	524	3	115	1	6
1961-62	9	536	3	84	1	11
1962-63	18	602	5	100	0	13
1963-64	11	679	5	118	0	10

Instititution Management Administration

Year	B.S. Men	B.S. Women	M.S. Men	M.S. Women	Ph.D. Men	Ph.D. Women
1958-59	8	159	0	19	0	1
1959-60	6	160	0	15	0	0
1960-61	4	157	1	15	0	1
1961-62	17	131	2	16	0	0
1962-63	20	105	2	12	0	0
1963-64	56	102	1	13	0	0

Home Economics N E C

Year	B.S. Men	B.S. Women	M.S. Men	M.S. Women	Ph.D. Men	Ph.D. Women
1958-59	5	514	0	93	0	5
1959-60	16	440	0	48	0	2
1960-61	7	412	3	63	0	4
1961-62	15	388	0	54	0	4
1962-63	21	424	2	43	0	3
1963-64	18	454	3	55	0	1

Home Economics Education

Year	B.S. Men	B.S. Women	M.S. Men	M.S. Women	Ph.D. Men	Ph.D. Women
1958-59	2	3,803	3	367	0	8
1959-60	5	3,899	4	348	0	10
1960-61	3	3,867	3	381	1	8
1961-62	1	3,960	2	385	0	13
1962-63	4	3,987	1	384	0	11
1963-64	0	4,343	1	403	0	11

TOTAL DEGREES EARNED
IN ALL AREAS OF HOME ECONOMICS
By Year, 1958-63

Year	B.S. Men	B.S. Women	B.S. Total	M.S. Men	M.S. Women	M.S. Total	Ph.D. Men	Ph.D. Women	Ph.D. Total
1958-59	44	8,251	8,295	14	883	897	4	30	34
1959-60	73	8,264	8,337	15	814	829	6	44	50
1960-61	34	8,121	8,155	26	947	973	7	38	45
1961-62	51	8,213	8,264	23	907	930	6	48	54
1962-63	73	8,381	8,454	19	908	927	4	52	56
1963-64	101	9,148	9,249	19	981	1,000	5	47	52

*Taken from: Earned Degrees Conferred, 1958-59, 1959-60, 1960-61, 1961-62, 1962-63; United States Department of Health, Education and Welfare, 1961, 1962, 1963, 1964, 1965, and 1966.

APPENDIX B

Figure 4. Trend of Percent Change in Home Economics Degrees Conferred at Each Level Based Upon Number of Degrees Conferred During 1955-56: Aggregate United States, 1956-57 through 1963-64.*

*Adapted from Table 6, U.S. Office of Education, Earned Degrees Conferred 1963-64, Washington, D.C., Government Printing Office, 1966, pp. 10-11.

APPENDIX C

FACTS ABOUT HOME ECONOMICS PERSONNEL IN HIGHER EDUCATION

Please tell us:

1. Type of institution in which you are employed:
   ---- Land Grant College or University
   ---- State College or University
   ---- Municipal College or University
   ---- Non-Public College or University

2. Number of home economics majors enrolled in your school:
   ---- 0 - 49
   ---- 50 - 99
   ---- 100 - 299
   ---- 300 - 499
   ---- Above 500

3. Facts about present staff:

	FULL-TIME				PART-TIME			
	BA or BS	MA or MS	PhD or EdD	Adv. Cert.	BA or BS	MA or MS	PhD or EdD	Adv. Cert.
A. INSTRUCTIONAL STAFF. How many teachers do you have for the fall term 1966-67?								
How many of these are planning to retire at the end of this school year?								
How many will reach retirement age within the next five years?								
B. EXTENSION STAFF. How many staff do you have for the fall term 1966-67?								
How many of these are planning to retire at the end of this school year?								
How many will reach retirement age within the next five years?								
C. RESEARCH STAFF. How many researchers do you have for 1966-67?								
How many of these are planning to retire at the end of this school year?								
How many will reach retirement age within the next five years?								

4. How many full-time equivalent positions were unfilled at the opening of school this fall?

   Teaching Staff _____ Extension Staff _____ Research Staff _____

5. In all areas, how many staff members do you now employ with "home economics related" degrees?

   _____ Men _____ Women

   What were their "related" majors?

   a. _____ e. _____
   b. _____ f. _____
   c. _____ g. _____
   d. _____ h. _____

6. In your institution:

   _____ Yes _____ No May persons with a bachelor's degree be hired to teach undergraduate courses?

   _____ Yes _____ No May persons with a master's degree be hired to teach graduate courses?

Comments:

TOTAL INSTRUCTIONAL STAFF NEEDS BY SUBJECT MATTER AREA AND TYPE OF DEGREE, FALL 1966

	F & N			C & T			HOUSING INT. DES. & HOME FURN.			HOME MGT. AND EQUIPMENT			HOME ECON. EDUCATION			CHILD DEVELOPMENT AND FAMILY LIFE			FAMILY AND/OR CONSUMER ECONOMICS			OTHER		
	BA or BS	MA or MS	PhD or EdD	BA or BS	MA or MS	PhD or EdD	BA or BS	MA or MS	PhD or EdD	BA or BS	MA or MS	PhD or EdD	BA or BS	MA or MS	PhD or EdD	BA or BS	MA or MS	PhD or EdD	BA or BS	MA or MS	PhD or EdD	BA or BS	MA or MS	PhD or DdD
How many full-time staff members do you have in each category?																								
How many part-time?																								
How many of these are graduate teaching assistants?																								
How many unfilled full-time positions did you have in each category at the beginning of fall quarter, 66-67?																								
Part-time?																								
What is your projected need for additional full-time staff members next year, 1967-68?																								
For part-time?																								
What is your projected need for additional full-time staff members by 1971?																								
In what subject matter areas do you feel we have the greatest shortages of doctorates? (Rank your answer.)																								

APPENDIX D

LIST OF STATES, BY REGION

Region I - North Atlantic

Connecticut
Delaware
District of Columbia
Maine
Maryland
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont
West Virginia

Region II - Central

Illinois
Indiana
Iowa
Kansas
Kentucky
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

Region III - Southern

Alabama
Arkansas
Florida
Georgia
Louisiana
Mississippi
North Carolina
Oklahoma
Puerto Rico
South Carolina
Tennessee
Texas
Virginia

Region IV - Pacific

Alaska
Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

TABLE XI PERCENT CHANGE IN HOME ECONOMICS DEGREES CONFERRED AT EACH LEVEL BASED UPON NUMBER OF DEGREES CONFERRED DURING 1955-56: AGGREGATE UNITED STATES, 1956-57 THROUGH 1963-64*

Home Economics Degree	'63-64	'62-63	'61-62	'60-1	'59-60	'58-59	'57-58	'56-57
Bachelor's	4.2	-5.2	-8.6	-7.9	-5.5	-4.6	-8.4	-2.0
Master's	32.2	20.2	20.4	31.0	7.3	12.4	-.9	6.7
Doctor's	24.2	36.4	24.2	9.1	21.2	-21.2	-30.3	39.4

*Adapted from Table 6, U. S. Office of Education, Earned Degrees Conferred, 1963-64, Washington, D. C., Government Printing Office, 1966, pp. 10-11.

TABLE XII
DISTRIBUTION OF FULL-TIME FILLED AND UNFILLED POSITIONS IN EXTENSION BY TYPE OF INSTITUTION, FALL, 1966

Item	Land-Grant		State		Municipal		Non-Public		Total	
	N	%	N	%	N	%	N	%	N	%
Full-time Filled Positions	600	93.5	30	5.0	0	0	10	1.5	640	100.0
Full-time Unfilled Positions	28	90.3	3	9.7	0	0	0	0	31	100.0

TABLE XIII
DISTRIBUTION OF COLLEGE DEGREES EARNED BY PERSONNEL IN EXTENSION, FALL, 1966

Type of Employment	BS or BA		MS or MA		PhD or EdD		Adv. Cert.		Total	
	N	%	N	%	N	%	N	%	N	%
Full-time	351	53.5	262	39.9	25	3.8	2	.3	640	97.5
Part-time	7	1.1	6	.9	3	.5	0	0	16	2.5
Total Staff	358	54.6	268	40.8	28	4.3	2	.3	656	100.0

TABLE XIV
NUMBER OF PRESENT UNFILLED FULL-TIME AND PART-TIME POSITIONS
BY TYPE OF INSTITUTION, FALL, 1966

	Type of College or University									
	Land-Grant		State		Municipal		Non-Public		Total	
	N	%	N	%	N	%	N	%	N	%
A. Instructional										
Full-time	69	40.8	80	47.3	1	.6	19	11.2	169	99.9
Part-time	15	41.7	6	16.6	4	11.1	11	30.5	36	99.9
Total unfilled	84	40.8	86	41.8	5	2.4	31	15.1	205	100.1
B. Extension	28	90.3	3	9.7	0	0	0	0	31	100.0
C. Research	23	76.7	3	10.0	0	0	4	13.3	30	100.0

TABLE XV
DISTRIBUTION OF COLLEGE DEGREES
EARNED BY PERSONNEL IN RESEARCH, FALL, 1966

Type of Employment	BS or BA		MS or MA		PhD or EdD		Adv. Cert.		Total	
	N	%	N	%	N	%	N	%	N	%
Full-time	13	3.9	91	27.2	127	37.9	0	0	231	69.0
Part-time	14	4.2	45	13.4	45	13.4	0	0	104	31.0
Total Staff	27	8.1	136	40.6	172	51.3	0	0	335	100.1

TABLE XVI
DISTRIBUTION OF FULL-TIME FILLED AND UNFILLED POSITIONS
IN RESEARCH BY TYPE OF INSTITUTION, FALL, 1966

Item	Land-Grant		State		Municipal		Non-Public		Total	
	N	%	N	%	N	%	N	%	N	%
Full-time Filled Positions	193	83.6	29	12.6	0	0	9	3.9	231	100.1
Full-time Unfilled Positions	23	76.7	3	10.0	0	0	4	13.3	30	100.0

TABLE XVII

FACTS ABOUT PRESENT STAFFS, BY TYPE OF EMPLOYMENT AND TYPE OF INSTITUTION, Fall 1966

Item		TYPE OF COLLEGE OR UNIVERSITY				
		Land Grant	State	Municipal	Non-Public	TOTAL
A. INSTRUCTIONAL STAFF,						
Number of teachers,	N	1043	1470	61	515	3089
fall term 1966-67?	%	33.8	47.6	2	16.7	100.1
Number planning to retire,	N	20	17	0	18	55
In Spring 1966-1967?	%	36.4	30.9	0	32.7	100.1
Number planning to retire,	N	67	101	3	59	230
in next five years?	%	29.1	43.9	1.3	25.7	100.0
B. EXTENSION STAFF,						
Number of staff,	N	613	33	0	10	656
fall term 1966-67?	%	93.5	5	0	1.5	100.0
Number planning to	N	23	6	0	1	26
retire in Spring 1966-67?	%	88.5	7.6	0	3.8	99.9
Number planning to	N	72	6	0	0	78
retire in next five years?	%	92.3	7.6	0	0	99.9
C. RESEARCH STAFF,						
Number of staff, fall	N	279	47	0	9	335
term 1966-67?	%	83.2	13.9	0	2.9	100.0
Number of staff planning	N	7	0	0	1	8
to retire in Spring 1966-67?	%	87.5	0	0	12.5	100.0
Number planning to retire	N	15	1	0	1	17
in next five years?	%	88.2	5.9	0	5.9	100.0

TABLE XVIII

DISTRIBUTION OF 1964-65 DEGREES CONFERRED AT SELECTED LEVELS IN VARIOUS SUBJECT MATTER FIELDS, BY SEX*

	Bachelors			Masters			Doctorates		
	Total Degrees Conferred	Number Conferred to Women	Percent Conferred to Women	Total Degrees Conferred	Number Conferred to Women	Percent Conferred to Women	Total Degrees Conferred	Number Conferred to Women	Percent Conferred to Women
Education	118,534	90,634	76.5	43,741	20,765	47.5	2,708	529	19.5
Psychology	14,721	6,033	41.0	2,241	732	32.7	847	159	18.8
Social Science	84,184	28,572	33.9	10,661	2,416	22.7	1,991	185	9.3
Biological Science	25,224	7,380	29.3	3,604	975	27.1	1,928	230	11.9
English & Journalism	38,910	24,935	64.1	5,461	2,908	53.3	706	151	21.4
Foreign Language	14,091	9,937	70.5	2,873	1,539	53.6	436	121	27.8
Home Economics	5,208	5,099	97.9	674	659	97.8	58	46	79.3
Library Science	623	574	92.1	954	713	74.7	12	1	8.3
Physical Science	17,876	2,528	14.2	4,918	513	10.4	2,829	127	4.5
Health Professions	11,664	10,857	93.1	2,530	1,112	44.0	173	16	9.2
Fine Arts	17,278	10,177	58.9	4,244	1,771	41.7	428	68	15.9

*Adapted from figures in Summary Report, U.S. Office of Health, Education, and Welfare, OE-54010-65, pp. 4-9.

TABLE XIX LEVEL OF EDUCATIONAL ATTAINMENT OF FACULTY IN SELECTED FIELDS, RELATED TO PRIMARY TEACHING AREA, SPRING, 1963

Primary Teaching Area	Number	Percent	Bachelor's or below 1/	5+ yrs. 1st professional	Master's	Master's plus 1 year	All but dissertation	Doctor's	Postdoctorate 2/
	2	3	4	5	6	7	8	9	10
All areas	138,202	100	8	9	9	13	11	45	5
Agriculture	2,986	100	6	4	6	9	9	64	2
Biological Scis.	10,892	100	2	5	3	6	6	63	15
Bus. & Commerce	6,974	100	10	12	13	13	14	37	1
Education	10,717	100	2	6	7	13	12	60	1
Engineering	9,497	100	15	10	14	13	10	36	3
English & Journal.	11,798	100	8	6	7	18	15	43	3
Fine Arts	13,361	100	14	11	16	22	11	25	1
Foreign Lang.	7,514	100	9	4	4	12	15	51	5
Health Fields	7,502	100	10	39	18	9	2	16	5
Home Economics	1,946	100	15	14	17	32	4	17	2
Law	1,458	100	5	43	21	2	10	13	5
Mathematics	7,640	100	8	7	10	18	9	41	6
Philosophy	2,214	100	2	1	4	7	18	61	7
Physical Ed.	6,281	100	21	14	15	22	10	18	1
Physical Scis.	11,829	100	5	2	3	8	7	61	14
Psychology	3,849	100	1	3	1	5	9	72	10
Rel. & Theology	2,148	100	10	6	10	12	10	49	3
Social Sciences	16,984	100	4	3	3	8	17	61	5
All other fields	2,614	100	27	18	17	10	7	19	1

1/ Includes baccalaureate degrees, less than a baccalaureate degree, associate in arts or its equivalent, and "other" degrees or awards. Only in the area of fine arts (3.5 percent) did these groups combined exceed 1 percent.

2/ One year or more of postdoctoral study.

Source: U. S. Department of Health, Education, and Welfare, Office of Education.

FULL-TIME STAFF			PART-TIME STAFF			TOTAL STAFF		
Area	N	%	Area	N	%	Area	N	%
CD	143	23.4	CD	39	23.8	CD	182	23.5
F&N	120	19.8	C&T	29	17.7	C&T	101	13.0
H.Ec.Ed.	94	15.4	F&N	27	16.5	F&N	147	19.1
C&T	72	11.8	H. Mgt.	17	10.4	H. Mgt.	75	9.8
H. Mgt.	58	9.5	Others	16	9.8	Housing	57	7.3
Others	49	8.0	Housing	14	8.5	H.Ec.Ed.	107	13.8
Housing	43	7.1	H.Ec.Ed.	13	7.9	F. Econ.	40	5.1
F. Econ.	31	5.1	F. Econ.	9	5.5	Others	65	8.3
Total	610	100.1	Total	164	100.1	Total	774	99.9

FIGURE 5. DISTRIBUTION OF PROJECTED NEED FOR ADDITIONAL FULL-TIME AND PART-TIME INSTRUCTIONAL STAFF, 1967-68 BY SUBJECT MATTER AREAS, IN RANKED ORDER

Area	N	%
F&N	251	22.7
CD	198	17.9
C&T	152	13.7
H.Ec.Ed.	145	13.1
Housing	125	11.3
H. Mgt.	99	9.0
F. Econ.	82	7.4
Others	54	4.9
Total	1,106	100.0

FIGURE 6. DISTRIBUTION OF PROJECTED NEED FOR ADDITIONAL FULL-TIME AND PART-TIME INSTRUCTIONAL STAFF IN 1971 BY SUBJECT MATTER AREA, IN RANKED ORDER

FULL-TIME STAFF

Area	N	%
F&N	632	24.2
C&T	484	18.5
CD	422	16.2
H.Ec.Ed.	403	15.4
Housing	242	9.3
H. Mgt.	216	8.3
Others	139	5.3
F. Econ.	73	2.8
Total	2,611	100.0

PART-TIME STAFF

Area	N	%
F&N	182	22.4
CD	179	22.0
C&T	125	15.4
Housing	94	11.6
H. Mgt.	80	9.8
H.Ec.Ed.	61	7.5
Others	52	6.4
F. Econ.	40	4.9
Total	813	100.0

TOTAL STAFF

Area	N	%
F&N	814	23.8
C&T	609	17.8
CD	601	17.6
H.Ec.Ed.	464	13.6
Housing	336	9.8
H. Mgt.	296	8.6
F. Econ.	113	3.3
Others	191	5.6
Total	3,224	100.1

UNFILLED FULL-TIME STAFF

Area	N	%
F&N	50	29.6
CD	32	18.9
H.Ec.Ed.	24	14.2
C&T	21	12.4
H. Mgt.	15	8.9
F. Econ.	13	7.7
Housing	8	4.7
Others	6	3.6
Total	169	100.0

UNFILLED PART-TIME STAFF

Area	N	%
F&N	13	36.1
H. Mgt.	5	13.9
C&T	4	11.1
Housing	4	11.1
CD	3	8.3
Others	3	8.3
H. Ec.Ed.	2	5.5
F. Econ.	2	5.5
Total	36	99.8

TOTAL UNFILLED STAFF

Area	N	%
F&N	63	30.7
C&T	25	12.1
CD	35	17.0
H.Ec.Ed.	26	12.6
Housing	12	5.8
H. Mgt.	20	9.7
F. Econ.	15	7.3
Others	9	4.3
Total	205	99.5

GRADUATE ASSISTANTS

Area	N	%
CD	82	29.4
F&N	51	18.3
C&T	51	18.3
Housing	41	14.7
H.Ec.Ed.	18	6.5
Others	17	6.1
H. Mgt.	16	5.7
F. Econ.	3	1.1
Total	279	100.1

FIGURE 7. DISTRIBUTION OF FALL 1966 INSTRUCTIONAL STAFF BY SUBJECT MATTER AREA AND VARIOUS CORRELATES, IN RANKED ORDER

TABLE XIXb

DISTRIBUTION OF FALL 1966 TOTAL INSTRUCTIONAL STAFF, BY SUBJECT MATTER AREA

Item		F & N	C & T	Housing	H. Mgt.	H. Ec. Ed.	C. D.	F. Econ.	Other	TOTAL
Full-time staff, Fall, 1966	N	632	484	242	216	403	422	73	139	2611
	%	24.2	18.5	9.3	8.3	15.4	16.2	2.8	5.3	100.0
Part-time staff Fall, 1966	N	182	125	94	80	61	179	40	52	813
	%	22.4	15.4	11.6	9.8	7.5	22.0	4.9	6.4	100.0
Graduate Assistants Fall, 1966	N	51	51	41	16	18	82	3	17	279
	%	18.3	18.3	14.7	5.7	6.5	29.4	1.1	6.1	100.1
Unfilled full-time positions, Fall, 1966		50	21	8	15	24	32	13	6	169
	%	29.6	12.4	4.7	8.9	14.2	18.9	7.7	3.6	100.0
Unfilled part-time positions, Fall, 1966	N	13	4	4	5	2	3	2	3	36
	%	36.1	11.1	11.1	13.9	5.5	8.3	5.5	8.3	99.8
Projected need for additional full-time staff, 1967-68	N	120	72	43	58	94	143	31	49	610
	%	19.8	11.8	7.1	9.5	15.4	23.4	5.1	8.0	100.1
Projected need for additional part-time staff, 1967-68	N	27	29	14	17	13	39	9	16	164
	%	16.5	17.7	8.5	10.4	7.9	23.8	5.5	9.8	100.1
Projected need for additional full-time staff, 1971	N	251	152	125	99	145	198	82	54	1106
	%	22.7	13.7	11.3	9.0	13.1	17.9	7.4	4.9	100.0

TABLE XX

DISTRIBUTION OF FALL 1966 LAND GRANT UNIVERSITY INSTRUCTIONAL STAFF IN HOME ECONOMICS BY SUBJECT MATTER AREA

Item		F&N	C&T	Housing	H. Mgt.	H. Ec. Ed.	C. D.	C. Ec.	Other	TOTAL
Full-time staff, Fall, 1966	N	234	160	78	77	104	177	19	64	913
	%	25. 6	17. 5	8. 5	8. 4	11. 4	19. 4	2.	7	99. 8
Part-time staff Fall, 1966	N	85	66	33	30	28	93	9	28	372
	%	22. 8	17. 7	8. 9	8. 1	7. 5	25	2. 4	7. 5	99. 9
Graduate Assistants, Fall, 1966	N	34	32	36	5	16	66	0	12	201
	%	16. 9	15. 9	17. 9	2. 5	8	32. 8	0	6	100. 0
Unfilled full-time, positions, Fall, 1966	N	24	11	5	4	8	11	3	3	69
	%	34. 8	15. 9	7. 2	5. 8	11. 6	15. 9	4. 3	4. 3	99. 8
Unfilled part-time, positions, Fall, 1966	N	4	2	0	4	2	1	1	1	15
	%	26. 7	13. 3	0	26. 7	13. 3	6. 7	6. 7	6. 7	100. 1
Projected need for additional full-time staff	N	22	27	15	9	19	40	11	14	157
	%	14	17. 2	9. 6	5. 7	12. 1	25. 5	7	8. 9	100. 0
Projected need for additional part-time staff, 1967-68	N	13	12	4	6	1	14	6	2	58
	%	22. 4	20. 7	7	10. 3	1. 7	24. 1	10. 3	3. 4	99. 9
Projected need for additional full-time staff, 1971	N	72	59	44	30	38	72	27	14	356
	%	20. 2	16. 6	12. 4	8. 4	10. 6	20. 2	7. 6	3. 9	99. 9

TABLE XXI

DISTRIBUTION OF FALL 1966 STATE COLLEGE AND UNIVERSITY INSTRUCTIONAL STAFF IN HOME ECONOMICS BY SUBJECT MATTER AREA

Item		F&N	C&T	Housing	H. Mgt.	H. Ec. Ed.	C. D.	C. Ec.	Other	TOTAL
Full-time staff, Fall, 1966.	N	268	243	114	103	219	197	35	49	1228
	%	21.8	19.8	9.3	8.4	17.8	16	2.9	4	100.0
Part-time staff, Fall, 1966.	N	40	42	27	29	17	51	25	18	249
	%	16.1	16.9	10.8	11.6	6.8	20.5	10	7.2	99.9
Graduate Assistants, Fall, 1966.	N	13	18	4	10	1	13	3	3	65
	%	20	27.7	6.2	15.3	1.5	20	4.6	4.6	99.9
Unfilled full-time positions, Fall, 1966	N	19	6	3	10	12	20	7	3	80
	%	23.8	7.5	3.75	12.5	15	25	8.75	3.8	100.1
Unfilled part-time positions, Fall, 1966.	N	2	1	1	0	0	1	1	0	6
	%	33.3	16.7	16.7	0	0	16.7	16.7	0	100.1
Projected need for additional full-time staff, 1967-68.	N	70	35	22	41	59	89	14	31	361
	%	19.4	9.7	6.1	11.4	16.3	24.7	3.9	8.6	100.15
Projected need for additional full-time staff, 1971.	N	131	58	65	63	75	109	45	33	579
	%	22.6	10	11.2	10.9	13	18.8	7.8	5.7	100.0

TABLE XXII

DISTRIBUTION OF FALL 1966 MUNICIPAL COLLEGE AND UNIVERSITY INSTRUCTIONAL STAFF IN HOME ECONOMICS, BY SUBJECT MATTER AREA

Item		F&N	C&T	Housing	H. Mgt.	H. Ec. Ed.	C. D.	C. Ec.	Other	TOTAL
Full-time staff, Fall, 1966	N	8	7	6	2	7	6	5	0	41
	%	19.5	17.1	14.6	4.9	17.1	14.6	12.2	0	100.0
Part-time staff, Fall, 1966	N	9	4	3	2	2	4	0	0	24
	%	37.5	16.7	12.5	8.3	8.3	16.7	0	0	100.0
Graduate Assistants, Fall, 1966.	N	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0
Unfilled full-time positions, Fall, 1966	N	0	0	0	0	0	0	0	1	1
	%	0	0	0	0	0	0	0	100	100
Unfilled part-time positions, Fall, 1966	N	1	0	2	0	0	1	0	0	4
	%	25	0	50	0	0	25	0	0	100
Projected need for additional full-time staff, 1967-68	N	3	1	1	1	1	2	0	0	9
	%	33.3	11.1	11.1	11.1	11.1	22.2	0	0	99.9
Projected need for additional part-time staff, 1967-68.	N	1	1	2	1	0	0	1	2	8
	%	12.5	12.5	25	12.5	0	0	12.5	25	100.0
Projected need for additional full-time staff, 1971	N	1	3	2	0	1	1	1	0	9
	%	11.1	33.3	22.2	0	11.1	11.1	11.1	0	99.9

TABLE XXIII

DISTRIBUTION OF FALL 1966 NON PUBLIC COLLEGE AND UNIVERSITY INSTRUCTIONAL STAFF IN HOME ECONOMICS, BY SUBJECT MATTER AREA

Item		F&N	C&T	Housing	H. Mgt.	H. Ec. Ed.	C. D.	C. Ec.	Other	TOTAL
Full-time staff, Fall, 1966.	N	122	74	44	34	73	42	14	26	429
	%	28.4	17.2	10.3	7.9	17	9.8	3.3	6.1	100.0
Part-time staff, Fall, 1966.	N	48	13	32	18	14	31	6	6	168
	%	28.6	7.7	19	10.7	8.3	18.5	3.6	3.6	100.0
Graduate Assistants, Fall, 1966.	N	4	1	1	1	1	3	0	2	13
	%	30.8	7.7	7.7	7.7	7.7	23.1	0	15.4	100.1
Unfilled full-time positions, Fall, 1966	N	7	4	0	1	4	1	2	0	19
	%	36.8	21.1	0	5.3	21.1	5.3	10.5	0	100.1
Unfilled part-time positions, Fall, 1966	N	6	1	1	1	0	0	0	2	11
	%	54.5	9.1	9.1	9.1	0	0	0	18.2	100.0
Projected need for additional full-time staff, 1967-68.	N	25	9	5	7	15	12	6	4	83
	%	30.1	10.8	6	8.4	18.1	14.5	7.2	4.8	99.9
Projected need for additional part-time staff, 1967-68.	N	0	3	1	4	5	4	0	0	17
	%	0	17.6	5.9	23.5	29.4	23.5	0	0	99.9
Projected need for additional full-time staff, 1971.	N	47	32	14	6	31	16	9	7	162
	%	29	19.8	8.6	3.7	19.1	9.9	5.6	4.3	100.0

TABLE XXIV RESPONDENTS' OPINIONS OF SUBJECT MATTER AREAS HAVING GREATEST SHORTAGES OF DOCTORATES

F & N		C & T		Housing		H. Mgt.		H. Ec. Ed.		CD		F. Econ	
Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#	Rank	#
1	26	1	26	1	26	1	27	1	14	1	19	1	13
2	13	2	20	2	31	2	43	2	13	2	13	2	21
3	11	3	16	3	35	3	28	3	8	3	25	3	32
4	11	4	19	4	26	4	22	4	16	4	28	4	32
5	26	5	27	5	9	5	13	5	15	5	32	5	15
6	30	6	24	6	6	6	6	6	31	6	16	6	14
7	29	7	13	7	6	7	6	7	42	7	17	7	13

TABLE XXV RESPONSDENTS OPINIONS OF SUBJECT MATTER AREAS HAVING GREATEST SHORTAGES OF DOCTORATES

Subject-Matter Area	Number of Respondent Ranking Areas			
	1 (x3) N	2 (x2) N	3 (x1) N	Weighted Totals
Foods & Nutrition	26	13	11	115
Clothing & Textiles	26	20	16	134
Housing - Interior Design & Home Furnishings	26	31	35	175
Home Management & Equipment	27	43	28	195
Home Economics Education	14	13	8	76
Child Development & Family Life	19	13	25	108
Family and/or Consumer Economics	13	21	32	113
Other	6	0	0	18

TABLE XXVI
NUMBER AND TYPE OF TOTAL STAFF APPOINTMENTS IN
HOME ECONOMICS IN HIGHER EDUCATION, FALL, 1966

ITEM		Full-Time					Part-Time					GRAND TOTAL
		BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	
A. INSTRUCTIONAL STAFF. How many teachers do you have for the fall term 1966-67?	N	152	1574	638	46	2410	168	406	95	10	679	3089
	%	4.9	51	20.7	1.5	78.1	5.4	13.1	3.1	.3	21.9	100.0
How many of these are planning to retire at the end of this school year?	N	4	31	9	2	46	2	5	2	0	9	55
	%	7.3	56.4	16.4	3.6	83.7	3.6	9.1	3.6	0	16.3	100.0
How many will reach retirement age within the next five years?	N	7	162	38	5	212	1	13	3	1	18	230
	%	3	70.4	16.5	2.2	92.1	.4	5.7	1.3	.4	7.8	99.9
B. EXTENSION STAFF. How many staff do you have for the fall term 1966-67?	N	351	262	25	2	640	7	6	3	0	16	656
	%	53.5	39.9	3.8	.3	97.5	1.1	.9	.5	0	2.5	100.0
How many of these are planning to retire at the end of this school year?	N	12	12	2	0	26	0	0	0	0	0	26
	%	46.2	46.2	7.7	0	100.1	0	0	0	0	0	100.1
How many will reach retirement age within the next five years?	N	29	44	4	0	77	1	0	0	0	1	78
	%	37.2	56.4	5.1	0	98.7	1.3	0	0	0	1.3	100.0
C. RESEARCH STAFF. How many researchers do you have for 1966-67?	N	13	91	127	0	231	14	45	45	0	104	335
	%	3.9	27.2	37.9	0	69	4.2	13.4	13.4	0	31	100.0
How many of these are planning to retire at the end of this school year?	N	0	4	4	0	8	0	0	0	0	0	8
	%	0	50	50	0	100.0	0	0	0	0	0	100.0
How many will reach retirement age within the next five years?	N	2	8	6	0	16	0	0	1	0	0	17
	%	11.8	47.1	35.3	0	94.2	0	0	5.9	0	0	100.1

TABLE XXVII
NUMBER AND TYPE OF STATE UNIVERSITY STAFF APPOINTMENTS
IN HOME ECONOMICS IN HIGHER EDUCATION, FALL, 1966

ITEM		Full-Time					Part-Time					GRAND TOTAL
		BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	
A. INSTRUCTIONAL STAFF. How many teachers do you have for the fall term 1966-67?	N	77	851	286	36	1250	47	148	21	4	220	1470
	%	5.2	57.9	19.5	2.4	85.0	3.2	10.1	1.4	.3	15	100.0
How many of these are planning to retire at the end of this school year?	N	2	9	4	0	15	1	1	0	0	2	17
	%	11.8	52.9	23.5	0	88.2	5.9	5.9	0	0	11.8	100.0
How many will reach retirement age within the next five years?	N	1	78	13	4	96	0	3	2	0	5	101
	%	1.0	77.2	12.9	4.0	95.1	0	3.0	2.0	0	5.0	100.1
B. EXTENSION STAFF. How many members do you have for the fall term 1966-67?	N	8	20	2	0	30	1	2	0	0	3	33
	%	24.2	60.6	6.1	0	90.9	3.0	6.1	0	0	9.1	100.0
How many of these are planning to retire at the end of this school year?	N	0	1	1	0	2	0	0	0	0	0	2
	%	0	50.0	50.0	0	100.0	0	0	0	0	0	100.0
How many will reach retirement age within the next five years?	N	4	1	0	0	5	1	0	0	0	1	6
	%	66.7	16.7	0	0	83.4	16.7	0	0	0	16.7	100.1
C. RESEARCH STAFF. How many members do you have for the fall term 1966-67?	N	0	4	25	0	29	0	8	10	0	18	47
	%	0	8.5	53.2	0	61.7	0	17.0	21.3	0	38.3	100.0
How many of these are planning to retire at the end of this school year?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
How many will reach retirement age within the next five years?	N	0	0	1	0	1	0	0	0	0	0	1
	%	0	0	100.0	0	100.0	0	0	0	0	0	100.0

TABLE XXVIII

NUMBER AND TYPE OF LAND GRANT UNIVERSITY STAFF APPOINTMENTS IN HOME ECONOMICS IN HIGHER EDUCATION, FALL, 1966

ITEM		Full-Time					Part-Time					GRAND TOTAL
		BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	
A. INSTRUCTIONAL STAFF. How many teachers do you have for the fall term 1966-67?	N	25	458	289	2	774	72	154	42	1	269	1043
	%	2.4	43.9	27.7	.2	74.2	6.9	14.8	4.0	.1	25.8	100.0
How many of these are planning to retire at the end of this school year?	N	0	11	5	0	16	1	2	1	0	4	20
	%	0	55	25	0	80	5.0	10	5	0	20	100.0
How many will reach retirement age within the next five years?	N	1	41	20	1	63	0	3	1	0	4	67
	%	1.5	61.2	29.9	1.5	94.1	0	4.5	1.5	0	6.0	100.1
B. EXTENSION STAFF. How many members do you have for the fall term 1966-67?	N	335	240	23	2	600	6	4	3	0	13	613
	%	54.6	39.2	3.8	.3	97.9	1.0	.7	.5	0	2.2	100.1
How many of these are planning to retire at the end of this school year?	N	12	10	1	0	23	0	0	0	0	0	23
	%	52.2	43.5	4.3	0	100.0	0	0	0	0	0	100.0
How many will reach retirement age within the next five years?	N	25	43	4	0	72	0	0	0	0	0	72
	%	34.7	59.7	5.6	0	100.0	0	0	0	0	0	100.0
C. RESEARCH STAFF. How many members do you have for the fall term 1966-67?	N	12	81	100	0	193	14	37	35	0	86	279
	%	4.3	29.1	35.8	0	69.2	5.0	13.3	12.5	0	30.8	100.0
How many of these are planning to retire at the end of this school year?	N	0	3	4	0	7	0	0	0	0	0	7
	%	0	42.8	57.2	0	100.0	0	0	0	0	0	100.0
How many will reach retirement age within the next five years?	N	2	7	5	0	14	0	0	1	0	1	15
	%	13.3	46.7	33.3	0	93.3	0	0	6.7	0	6.7	100.0

TABLE XXIX
NUMBER AND TYPE OF MUNICIPAL UNIVERSITY STAFF APPOINTMENTS
IN HOME ECONOMICS IN HIGHER EDUCATION, FALL, 1966

ITEM		Full-Time					Part-Time					GRAND TOTAL
		BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	
A. INSTRUCTIONAL STAFF. How many teachers do you have for the fall term 1966-67?	N	9	14	9	0	32	6	21	2	0	29	61
	%	14.8	23.0	14.8	0	52.6	9.8	34.4	3.3	0	47.5	100.1
How many of these are planning to retire at the end of this school year?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
How many will reach retirement age within the next five years?	N	2	1	0	0	3	0	0	0	0	0	3
	%	66.7	33.3	0	0	100.0	0	0	0	0	0	100.0
B. EXTENSION STAFF. How many staff do you have for the fall term 1966-67?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
How many of these are planning to retire at the end of this school year?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
How many will reach retirement age within the next five years?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
C. RESEARCH STAFF. How many researchers do you have for the fall term 1966-67?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
How many of these are planning to retire at the end of this school year?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
How many will reach retirement age within the next five years?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0

TABLE XXX

NUMBER AND TYPE OF NON-PUBLIC COLLEGE AND UNIVERSITY STAFF APPOINTMENTS IN HOME ECONOMICS IN HIGHER EDUCATION, FALL, 1966

ITEM		Full-Time					Part-Time					GRAND TOTAL
		BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	BA or BS	MA or MS	PhD or EdD	Adv. Cert.	TOTAL	
A. INSTRUCTIONAL STAFF. How many teachers do you have for the fall term 1966-67?	N	41	251	54	8	354	43	83	30	5	161	515
	%	8.0	48.7	10.5	1.6	68.8	8.4	16.1	5.8	1.0	31.3	100.1
How many of these are planning to retire at the end of this school year?	N	2	11	0	2	15	0	2	1	0	3	18
	%	11.1	61.1	0	11.1	83.3	0	11.1	5.6	0	16.7	100.0
How many will reach retirement age within the next five years?	N	3	42	5	0	50	1	7	0	1	9	59
	%	5.1	71.2	8.5	0	84.8	1.7	11.9	0	1.7	15.3	100.1
B. EXTENSION STAFF. How many staff do you have for the fall term 1966-67?	N	8	2	0	0	10	0	0	0	0	0	10
	%	80.0	20.0	0	0	100.0	0	0	0	0	0	100.0
How many of these are planning to retire at the end of this school year?	N	0	1	0	0	1	0	0	0	0	0	1
	%	0	100.0	0	0	100.0	0	0	0	0	0	100.0
How many will reach retirement age within the next five years?	N	0	0	0	0	0	0	0	0	0	0	0
	%	0	0	0	0	0	0	0	0	0	0	0
C. RESEARCH STAFF. How many researchers do you have for the fall term 1966-67?	N	1	6	2	0	9	0	0	0	0	0	9
	%	11.1	66.7	22.2	0	100.0	0	0	0	0	0	100.0
How many of these are planning to retire at the end of this school year?	N	0	1	0	0	1	0	0	0	0	0	1
	%	0	100.0	0	0	100.0	0	0	0	0	0	100.0
How many will reach retirement age within the next five years?	N	0	1	0	0	1	0	0	0	0	0	1
	%	0	100.0	0	0	100.0	0	0	0	0	0	100.0

TABLE XXXI

DISTRIBUTION OF INSTRUCTIONAL STAFF, FALL, 1966, BY SELECTED CORRELATES

	F & N		C & T		Housing		Home Mgt.		H. Ec. Ed.		CD & FL		F. Econ.		Others	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Full-time																
BS	31	4.9	11	2.3	22	9.1	14	6.5	15	3.7	30	7.1	2	2.7	20	14.4
MS	397	62.8	392	81.0	191	78.9	167	77.3	261	64.8	259	61.4	50	68.5	86	61.9
PhD	204	32.3	81	16.7	29	12.0	35	16.2	127	31.5	133	31.5	21	28.8	33	23.7
Total	632	100.0	484	100.0	242	100.0	216	100.0	403	100.0	422	100.0	73	100.0	139	100.0
Part-time																
BS	65	35.7	51	40.8	27	28.7	18	22.5	15	24.6	70	39.1	3	7.5	23	44.2
MS	89	48.9	68	54.4	62	66.0	47	58.8	37	60.7	95	53.1	28	70.0	24	46.2
PhD	28	15.4	6	4.8	5	5.3	15	18.8	9	14.8	14	7.8	9	22.5	5	9.6
Total	182	100.0	125	100.0	94	100.0	80	100.1	61	100.0	179	100.0	40	100.0	52	100.0
Graduate Assistants																
BS	39	76.5	32	62.7	20	48.8	8	50.0	16	88.9	70	85.4	1	33.3	14	82.4
MS	8	15.7	10	19.6	1	2.4	5	31.2	2	11.1	11	13.4	2	66.7	3	17.6
PhD	4	7.8	9	17.6	20	48.8	3	18.8	0	0	1	1.2	0	0	0	0
Total	51	100.0	51	99.9	41	100.0	16	100.0	18	100.0	82	100.0	3	100.0	17	100.0
Unfilled Full-time Positions Fall, 1966																
BS	1	2.0	1	4.8	2	25.0	0	0	0	0	0	0	0	0	0	0
MS	22	44.0	8	38.1	5	62.5	9	60.0	8	33.3	9	28.1	7	53.8	4	66.7
PhD	27	54.0	12	57.1	1	12.5	6	40.0	16	66.7	23	71.9	6	46.2	2	33.3
Total	50	100.0	21	100.0	8	100.0	15	100.0	24	100.0	32	100.0	13	100.0	6	100.0
Unfilled Part-time Positions Fall, 1966																
BS	3	23.1	0	0	0	0	3	60.0	0	0	0	0	1	50.0	2	66.7
MS	6	46.2	2	50.0	4	100.0	2	40.0	1	50.0	1	33.3	1	50.0	0	0
PhD	4	30.8	2	50.0	0	0	0	0	1	50.0	2	66.7	0	0	1	33.3
Total	13	100.1	4	100.0	4	100.0	5	100.0	2	100.0	3	100.0	2	100.0	3	100.0
Projected Need for Additional Full-time Staff, 1967-68																
BS	9	7.5	3	4.2	2	4.7	2	3.4	3	3.2	7	4.9	0	0	11	22.4
MS	54	45.0	28	38.9	25	58.1	31	53.4	44	46.8	67	46.8	15	48.4	25	51.0
PhD	57	47.5	41	56.9	16	37.2	25	43.1	47	50.0	69	48.3	16	51.6	13	26.5
Total	120	100.0	72	100.0	43	100.0	58	99.9	94	100.0	143	100.0	31	100.0	49	99.9

DISTRIBUTION OF INSTRUCTIONAL STAFF, FALL, 1966, BY SELECTED CORRELATES (Continued)

	F & N		C & T		Housing		Home Mgt.		H. Ec. Ed.		CD & FL		F. Econ.		Others	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Projected Need for Additional Part-time Staff, 1967-68																
BS	12	44.4	14	48.3	4	28.6	9	52.9	5	38.5	18	46.2	0	0	8	50.0
MS	13	48.1	11	38.0	10	71.4	6	35.3	5	38.5	15	38.5	5	55.6	5	31.2
PhD	2	7.4	4	13.8	0	0	2	11.8	3	23.0	6	15.4	4	44.4	3	18.8
Total	27	99.9	29	100.1	14	100.0	17	100.0	13	100.0	39	100.1	9	100.0	16	100.0
Projected Need for Additional Full-time Staff, 1971																
BS	14	5.6	10	6.6	6	4.8	6	6.1	7	4.8	10	5.0	6	7.3	4	7.4
MS	102	40.6	47	30.9	68	54.4	35	35.4	53	36.6	61	30.8	27	33.0	24	44.4
PhD	135	53.8	95	62.5	51	40.8	58	58.6	85	58.6	127	64.1	49	59.8	26	48.1
Total	251	100.0	152	100.0	125	100.0	99	100.0	145	100.0	198	99.9	82	100.1	54	99.9

TABLE XXXII
DISTRIBUTION OF RESPONDENTS BY TYPE OF INSTITUTION
AND BY NUMBER OF HOME ECONOMICS MAJORS ENROLLED, FALL, 1966

Type of Institution	Number and Percent of Respondents in Each Category of Student Enrollment											
	0-49		50-99		100-299		300-499		500+		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Land-Grant	3	6.4	4	8.5	15	31.9	11	23.4	14	29.8	47	100.0
State	10	7.8	21	16.4	64	50.0	24	18.8	9	7.0	128	100.0
Municipal	2	28.6	2	28.6	3	42.9	0	0	0	0	7	100.1
Non-Public	60	46.9	51	39.8	13	10.2	3	2.3	1	.8	128	100.0

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DESCRIPTORS - *VOCATIONAL EDUCATION; *NEGATIVE ATTITUDES; SOCIAL STATUS; *EDUCATIONAL STATUS COMPARISON; *GROUP UNITY; *SOCIAL VALUES; EDUCATIONAL PHILOSOPHY; FINANCIAL NEEDS

ABSTRACT - Vocational education has a most significant contribution to make to American education. However, it will be difficult, if not impossible, to make this contribution because of the bigoted attitudes held by far too many toward vocational education. Typical of these attitudes is the person who recognizes the need for vocational education classes, but who does not want his child enrolling in them. This and other negative attitudes held by large numbers of people must be overcome if vocational education is to be integrated into the total pattern of American education. Vocational educators can help with this change by actively associating with other educators and by demonstrating the worth of vocational education through a clear specification of its multiple goals. (JS)

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The ideas contained in this publication are presented as a part of the AVA's continuing effort to place before the public some of the many and diverse ideas, questions and opinions being discussed today in the field of vocational education.

The remarks published here were made by Kenneth Hoyt at a meeting of the Maryland Vocational Association held at the Howard County Vocational-Technical Center on March 14, 1970. Dr. Hoyt is presently a Professor of Education at the University of Maryland, and was president of the American Personnel and Guidance Association in 1966-67. In his past experience, he has served the cause of vocational education both as a teacher and as a guidance counselor. He has participated in a number of studies and projects on the national, state and local levels, and has acted as consultant for many others.

introduction

There are two new terms I have coined recently that form the basis for these remarks. The two terms and their definitions are: *Vocctional Educationism*, defined as a bigoted, biased view of vocational education; and, *Vocational Educationist*, defined as a person who is suffering from or afflicted with vocational educationism. My contention is that, until and unless these two concerns are recognized and faced, it will be impossible for vocational education to accomplish its mission in American education.

The first report of the National Advisory Council on Vocational-Technical Education identified three major problems facing vocational education in our society. Of these three, in my opinion, the most important is that of attitudes toward vocational education existing in the general structure of the United States of America. This, then, is the focus of these remarks.

Some may recognize a certain similarity between my two new terms and two other terms in common usage today—*racism* and *racist*. This similarity is intentional on my part. Let me be clear. I do not intend to speak about racism here. Rather, these remarks are designed

to create a focus for a series of analogies that I hope may clarify the seriousness of the problem and its social significance for our country as a whole. I do this because of my deep and basic belief that the overriding need of vocational education today is for *integration* into the total American system of education. The fact that the Morrill Act, theoretically designed to accomplish such integration, was passed at about the time of the Civil War, strengthens, it seems to me, the rationale for using such an analogy.

In the sense of this analogy between vocational educationism and racism, our basic problem has been, and continues to be, that vocational education is to the vocationist what the black man is to the racist. Stated in its crudest, most bigoted, and most reprehensible form, to the vocational educationist, *vocational education is a "nigger."* I think this is our national calamity, our national shame.

I hope here to be able to defend this thesis by identifying a series of basic attitudes—attitudes that we don't voice, but that are an essential part of vocational educationism; attitudes that I have purposely couched

in a way that will make them analogous to racism. Following this, I want to suggest some action steps for your consideration. Before doing so, let me express my apologies to those I have already offended and to those whom I will offend by using this kind of analogy as a focus for my remarks. I would not have done so had another kind of analogy seemed anywhere near as appropriate or timely. Having apologized, let me proceed.

attitudes associated with vocational educationism

The basic nature of vocational educationism can best be seen through specification of certain attitudes held by those I would call vocational educationists. A really dyed-in-the-wool vocational educationist would be, I think, one who expresses the following kinds of attitudes.

Attitude One: "There obviously is a need for vocational education classes, but I don't want my child enrolled in them." This, of course, is the attitudinal problem of viewing vocational education as a legitimate part of the educational society for other people's children. The reverse, of course, and the kind of attitude we must seek, is one that would make no parent feel apologetic or ashamed if his child chooses to enroll in a vocational education program. It is my contention that we have a long way to go in terms of this attitude.

Attitude Two: "There is a place for vocational education, but it can't be as good as liberal arts education because it is different." This attitude is particularly common among educators with a liberal arts background. It is extremely damaging, not only because it completely fails to recognize the existence of individual differ-

ences, but also because it fails to recognize the need to acknowledge—and to rejoice in—the existence of differing kinds of educational motivations in students and the absolute right of students to hold such differing motivations. We will not erase this negative attitude until both educators and the general public recognize that differences in educational experience do not automatically imply that differences in quality exist. Those who want to "keep vocational education in its place," and assume that that place is automatically "second," must be confronted with the absurdity and the indefensibility of such an assumption.

Attitude Three: "Vocational educators belong in education, but they must be kept in subordinate roles in the power structure." This seems to represent an attitude seldom verbalized but religiously practiced in American education throughout the country. If you doubt it, try to think about the school system in which you work. Is your superintendent, your high school principal, your curriculum director, or your director of secondary education a former vocational educator? Has this been true in any school system you know about in which voca-

tional education has supposedly been integrated into a total educational program? This, to me, is a serious and crucial matter. It will not "just go away" if we continue to ignore it. Vocational educators have not been placed into policy-making or decision-making roles in the total gamut of American education. That is my charge.

Attitude Four: "The proper solution to the problem of vocational education is to build what we can contend are separate but equal facilities." By pointing to this attitude, I do not mean to imply that a sound set of reasons does not exist for building some separate vocational-technical schools as part of an educational system. Rather, I mean that I believe part of the support we have received for building such schools has come for the wrong reasons, and, unless we change those reasons, our vocational-technical schools will not be able to fully accomplish their educational mission.

Attitude Five: "We should build a few show places for vocational education so we can show them how tolerant we are." It seems to me that I have often encountered this attitude in settings where new, attractive facilities are added to a comprehensive high school for vocational

education yet, once completed, these facilities are seldom visited by those who teach or work in the college preparatory program. In terms of faculty traffic patterns, it is almost as though "school" were one place and something called "the shops" represented a different place. It will do those who need vocational education little good so long as, and to the extent that, facilities are built for them to help soothe the guilty consciences of others in the educational community.

Attitude Six: "Vocational educators are lacking in cultural background, and that's why I don't associate with them." People holding such an attitude seem to delight in pointing out that when they take from their high-powered literary backgrounds a famous novel that of course everyone who is cultured should have read, and then say "Svengali," the vocational educator very seldom responds with "Trilby." As a matter of fact, the remark he responds with is often shocking. It is most unfortunate when such persons cannot recognize that a difference in cultural backgrounds in no way means a lack of culture, and even more unfortunate when they thus cut themselves off from the enrichment of life

which benefits people who are willing to share diverse cultural perceptions and experiences.

Obviously, these examples of attitudes held by vocational educationists could be readily expanded with little effort. I will not do so here, for two reasons. First, I hope even these few examples have convinced you that such attitudes do, in fact, exist. Second, I think it will be more productive if we now turn to the consideration of *action steps* that can be taken to change these attitudes in ways that will speed the proper and effective integration of vocational education into the total educational structure.

action steps needed

In my opinion, the reduction, and hopefully the eradication, of vocational educationism in this country will demand a concrete series of action steps—steps that must be taken by vocational educators themselves. There are six such steps that I would like to suggest for your consideration. In doing so, I do not necessarily expect that you will choose to take them. I recognize that the ones that are best for you will be those you devise for yourselves.

Step One: Seek active association with other educators. I think it is time that vocational educators actively seek positions on educational policy-making bodies, on curriculum committees, and on other committees that involve educators from all parts of the school system. Furthermore, I think it is time that, if teachers from other parts of the school won't come to visit you, you go to visit them. After all, someone has to take the initiative. Finally—and I know this will sound odd to some of you—I think it is time all vocational educators seek active participation in local, state, and national education association activities. The American Vocational Association and its state branches serve a vital need

today, yet membership in the AVA as the sole association to which you belong is self-defeating. It will do us little good if the only ones we talk to are ourselves.

Step Two: Seek true unity of purpose and commitment among all those in vocational education. We cannot hope to win "wars" with others so long as we continue to engage in "battles" among ourselves. It is past time to "bury the hatchet" among those who would argue whether industrial arts education or vocational education is the proper term, or whether it should be vocational education or vocational-technical education, or whether technical education is better than vocational education. All that foolishness has, I think, got to come to a halt. So should those artificial arguments regarding what "brand" of vocational education—e.g. business education, T & I, vocational agriculture, distributive education, and so forth—really carries the most prestige or deserves the "best" students. Finally, we must band together to meet the responsibility for unifying all vocational educators in order to bring the kind of effective introductory vocational education activities so badly needed in the elementary school. Stated in

another way, I am simply saying that we should, in practice, implement the philosophy behind the 1968 Amendments to the Vocational Education Act of 1963 and discard the older philosophies associated with earlier vocational education legislation.

Step Three: Specify and campaign actively for elimination of societal wrongs associated with the place of vocational education in American education. I speak here of *wrongs*—of conditions that are not merely bad, but wicked; not merely of society's ills, but of its wrongs. I am referring, for example, to such wrongs as: (a) Federal expenditures of $14 for collegiate education to every $1 spent for vocational education; (b) The automatic assumption that every school must offer a college preparatory program, while community debate is necessary before we decide to establish a vocational education program; (c) The common presence of scholarships for college students and endowments for colleges and universities, with almost no activity in this area for vocational education students or vocational education institutions operating at the high school level; (d) The current unwillingness of most regional ac-

crediting associations even to consider the possibility of making accreditation visits to separate vocational schools; (e) The assumption that a private four-year college is "good" but a private vocational school is "bad;" (f) The artificial requirements of many colleges and universities for so many Carnegie units of such subjects as English, mathematics, foreign languages, and sciences that a student contemplating college attendance has no effective opportunity for choosing vocational education; and, (g) The insistence of some in liberal arts that what they teach should be regarded as "academic" under an assumption that what is taught in vocational education is "non-academic." And this too is wrong. What is academic? Something that has content, that has substance, that can be taught and can be learned and can be applied; and *that* is academic.

It is time that we stand up and be counted—and make ourselves count—on these basic societal ills. I have named but a few of the many examples that could be given here. Perhaps they will suffice to illustrate the point that active campaigning is needed on a wide front with a wide audience.

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Step Four: Continue to build and maintain constructive working relationships with guidance counselors. It is simply a matter of fact that counselors do and will continue to play a key role in helping students make decisions regarding vocational education. Unfortunately, it seems also to be true that a good many counselors appear to be afflicted to some degree with vocational educationism. Nothing constructive will occur so long as counselors and vocational educators continue to recognize and complain about each other's inadequacies. Positive action steps are needed.

One set of actions vocational educators can take in this regard consists of attempts to help counselors learn about vocational education and about the world of work. Such actions would include attempting to acquaint counselors with vocational education offerings, encouraging counselors to visit vocational education classes, and helping arrange business-industry visitation tours for counselors. All of this will help counselors learn some of what they must know in order to help students make decisions regarding vocational education.

A second set of actions vocational educators can take

consists of making sure that what they do and the ways in which they operate are consistent with the goals and objectives of the guidance movement. I am referring here to such specific things as making sure there really are—for *all* students—challenging, yet realistic, opportunities for success in vocational education; refusing to limit vocational education offerings to programs associated solely with local industry; and, encouraging maximum flexibility in vocational education offerings.

In short, I am inclined to think the proper strategy to take with regard to counselors consists of actively seeking to change the guidance "establishment" in terms of counselor knowledge and attitudes—not seeking to destroy that establishment as it currently exists.

Step Five: Embark on an active campaign to bring multiple vocational education opportunities within the reach of every student. It seems to me the current rapidity of occupational change, coupled with the increasing complexity of our occupational structure, points clearly to the need for establishing area vocational-technical schools at the secondary level to serve, in effect, as an integral part of a number of comprehen-

sive secondary schools. It makes good sense, as part of American education, to me. The key to success for such schools lies in the extent to which they are, in fact, a part of an integrated total educational system rather than something apart from the system. Similarly, a major need, it seems to me, exists at this time to systematize the pattern of post high school vocational-technical program offerings in our community colleges so that, in effect, the entire system is open to prospective students from the entire state.

Finally, accomplishment of this step demands the establishment and operation, in every state, of at least one comprehensive residential vocational school operating at the post high school level. Such a school should have dormitory facilities, should provide a set of offerings based on statewide manpower need surveys, should draw students from the entire state, and should place students throughout the state and beyond the borders of the state. Vocational educators ought not to build their course offerings around whatever equipment is available for donation from local manufacturers; that can be Uncle Tom-ism. If the people of a state can

afford to support a public state university as a comprehensive collegiate educational institution, they can also afford to support at least one comprehensive residential vocational-technical educational institution. To create such an institution would do much toward reducing the presence of vocational educationism.

Step Six: Demonstrate the worth of vocational education through a clear specification of its multiple goals and hard evidence regarding progress toward attainment of those objectives. There are six such goals that should be clearly specified: (a) To acquaint all students with the values of a work-oriented society; (b) To provide work experience opportunities to all students; (c) To provide multiple levels of training that, in combination, are challenging to and possible for every student—from the slowest learner in that school to the valedictorian of the senior class—if he chooses to enroll in vocational education; (d) To provide an alternative set of educational motivations that can be offered to youth as a reason for being in school, staying in school and having school make sense to them; (e) To provide youth with basic vocational skills essential for

acquiring higher level skills at later points in their lives; and, (f) To provide youth with specific skills that they can use in securing, and progressing in, gainful employment.

Each of these goals is capable of continuing assessment. The need for evaluation in all aspects of education has never been more obvious. The presence of what I have described here as vocational educationism makes this need particularly great on the part of vocational education. One cannot effectively counter one set of cultural biases with another and expect to be successful. The most effective way of fighting bias of any kind is with hard facts. This is our charge. I think it no accident that the American Vocational Association has adopted, as the prime focus of its 1970 Program of Work, evaluation. It is a challenge that must be accepted.

conclusion

My use, here, in both explicit and implicit form, of the analogous conditions existing between vocational educationism and racism in this country has been deliberate. I took this approach because it seemed to me the most obvious and dramatic way in which to illustrate the nature of the problem and to suggest constructive approaches toward its solution.

In closing, I want to emphasize my major thesis once again, namely, that the greatest need facing vocational education today is for meaningful integration into the total pattern of American education. I am fearful that, if such integration is not quickly accomplished, we are in danger of creating a dual system of education in this country that would be disastrous for our youth. We must, it seems to me, do whatever is necessary to avoid that danger. I hope these remarks may make some small contribution toward that end.

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ABSTRACT - Intended to assist teachers and administrators in understanding regulations affecting the programs in public schools, this publication contains sections from the Ohio Code which pertain to vocational education. Chapters are: (1) Curriculum, Classification of Pupils, and Promotion, (2) Vocational Education, (3) State Board of Education, (4) Cooperation with Federal Vocational Acts, (5) Joint Vocational School Districts, (6) Boards of Education, (7) School Funds, (8) School Foundation Program, (9) School: Superintendent, Teachers, and Employees, (10) Transportation: Tuition, (11) School Books, (12) Age and Schooling Certificates, (13) Additional Legislation, and (14) Employment of Minors. The sections are taken verbatim or in part from the Ohio Code without interpretations or revisions. Opinions of the Attorney General are included for those cases where a ruling has been made. (SB)

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OHIO LEGISLATION APPLICABLE TO VOCATIONAL EDUCATION WITH OPINIONS OF THE ATTORNEY GENERAL

1968

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Division of Vocational Education
State Department of Education
Columbus, Ohio

FOREWORD

A need for a listing of Ohio Laws pertaining to vocational education has been expressed in discussions with individuals and groups at statewide meetings of vocational education personnel. The sections of the Code listed in this manual are taken verbatim or in part from the Ohio Code without interpretations or revisions. In cases where the Attorney General has ruled upon questions affecting vocational education, reference has been made to such opinions.

This publication has been kept short intentionally and is meant to serve only as a basic guide. Regular published volumes of Baldwin's Ohio School Law should be referred to when more complete information is desired.

The laws and regulations in the manual should assist teachers and administrators to understand the regulations affecting the programs in the public schools. Laws should be looked upon as a positive force to guide the action of school administrators in organizing effective programs of vocational education for the youth and adults of Ohio. The present code was reviewed, revised and adopted by the 1953 Ohio Legislature. Additional changes in school law are incorporated, which were made by the 107th General Assembly.

This manual was prepared by Robert M. Reese, Chairman, Vocational-Technical Education Faculties, College of Education, The Ohio State University, as a service to all vocational education personnel and interested school administrators in the State of Ohio.

Thomas A. Parks, 1968 Teaching Associate in Trade and Industrial Education, is also recognized for his valuable research assistance in the revision of this edition.

Byrl R. Shoemaker State Director,
Vocational Education

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CHAPTER 111.
CURRICULUM; CLASSIFICATION OF PUPILS; PROMOTION

SEC. 111.08. VOCATIONAL EDUCATION

Each school district is required to establish and maintain a vocational education program adequate to prepare pupils for an occupation.

The state board of education is authorized to cooperate with the United States Office of Education in the administration of the act of the Congress providing for vocational education.

The federal legislation includes the Smith-Hughes, the George-Dean and the George Barden laws regarding educational programs of secondary schools. As incorporated in Ohio law, the act is entitled: "An act to provide for the promotion of vocational education; to provide for cooperation with the states in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the states in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditures."

The state board also has authority to accept supplementary acts for vocational education which are enacted in the future by the Congress.

CHAPTER 117.
VOCATIONAL EDUCATION

SEC. 117.01. FEDERAL SUBSIDIES

As modern society advances in technological achievement, the need for skilled employees increases. To encourage the individual states to make vocational training available to more young people, Congress has provided for federal subsidies to the states. Such legislation has been adopted and implemented in Ohio to create a program of vocational education available to as many students as possible.

SEC. 117.02. PURPOSE

The purpose of increased vocational education is not only to train young people with skills which will enable them to find employment, but to solve the problem of dropouts, for many students are far less interested in academic study than they are in preparing for a career of useful employment in some practical field, i.e., agriculture, trade, industrial, home economics, and business. The national problem of unemployment can be alleviated by providing young workmen with skills which are urgently needed.

In a society where automation is eliminating with amazing rapidity the deadening monotony of the repetitive in human labor, there is still need for the highly skilled dexterity of the human hand and mind. A program of vocational education in public schools can greatly enrich the potential of the American workman and thereby elevate our economy and standard of living to even higher levels.

SEC. 117.03. IMPLEMENTATION

Federal funds are now available for the salaries of teachers and administrators of vocational subjects, and for the training of such personnel (R.C. 3303.03). The national office of education of the federal department of health, education, and welfare, is available for cooperation in the program, which is under the direction of the Ohio state board of education.

SEC. 117.04. FEDERAL FUNDS

Any school, department, or class giving instruction in vocational education subjects approved by the state board, and any school or college so approved, training teachers in such subjects, which receives the benefit of federal funds, shall be entitled to receive an allotment of state money equal in amount to the amount of federal money which it received for the same year. (R.C. 3303.05).

CHAPTER 3301.
STATE BOARD OF EDUCATION

SEC. 3301.011. STATE BOARD OF EDUCATION; ELECTION OF MEMBERS

There is hereby created the state board of education to consist of twenty-four members. For the purpose of election of board members, the state of Ohio is hereby divided into twenty-four districts. The boundaries of such districts and the counties composing each district, shall coincide with the boundaries and counties composing each of the twenty-four congressional districts, as such latter districts were in lawful existence on March 1, 1967, under section 3521.01 of the Revised Code.

One member of the state board of education shall be elected from each of the twenty-four districts created in this section.

SEC. 3301.04. STATE BOARD MEETINGS

***The state board of education shall hold regular meetings once every three months and at such times as they may be called as provided in this section. ***The state board of education shall hold its meetings at the office of the superintendent of public instruction.

SEC. 3301.05. RECORD OF STATE BOARD MEETINGS

***Fifteen members of the board shall constitute a quorum for the transaction of business. Official actions of the board, including the making and adoption of motions and resolutions, shall be transacted only at public meetings open to the public. The superintendent of public instruction, or a subordinate designated by him, shall record all official actions taken at each meeting of the board in a book provided for that purpose, which shall be a public record. The record of the proceedings of each meeting of the board shall be read at its next succeeding meeting, corrected and approved, which approval shall be noted in the proceedings. The president shall sign the record and the superintendent of public instruction or his subordinate attest it.

SEC. 3301.07. POWERS OF STATE BOARD

***The state board of education shall exercise under the acts of the legislature general supervision of the system of public education in the state of Ohio. In addition to the powers otherwise imposed on the state board under the provisions of law, such board shall have the following powers:

A. It shall exercise policy forming, planning and evaluative functions for the public schools of the state, and for adult education, except as otherwise provided by law.

B. It shall exercise leadership in the improvement of public education in Ohio, and shall administer the educational policies of this state relating to public schools, and relating to instruction and instructional material, building and equipment, transportation of pupils, administrative responsibilities of school officials and personnel, finance, and organization of school districts and territory. Consultative and advisory services in such matters shall be provided by the board to school districts of this state.

C. It shall administer and supervise the allocation and distribution of all state and federal funds for public school education under the provisions of law, and may prescribe such systems of accounting as are necessary and proper to this function. It may require county auditors and treasurers, boards of education, clerks of such boards, teachers, and other school officers and employees, or other public officers or employees, to file with it such reports as it may prescribe relating to such funds, or to the management and condition of such funds.

***

H. It shall cooperate with federal, state and local agencies concerned with the health and welfare of children and youth of the state of Ohio.

***

J. It may adopt such rules and regulations as are necessary for the carrying out of any functions imposed on it by law, and may provide such regulations as are necessary for its government and the government of its employees, and may delegate to the superintendent of public instruction the management and administration of any function imposed on it by law.

***

SEC. 3301.08. QUALIFICATIONS, APPOINTMENT, AND COMPENSATION OF SUPERINTENDENT OF PUBLIC INSTRUCTION

The state board of education shall appoint the superintendent of public instruction, who shall serve at the pleasure of the board. The board shall fix the

compensation for the position of superintendent of public instruction which shall not exceed the compensation fixed for the chancellor of the Ohio board of regents. ***

SEC. 3301.11. STATE SUPERINTENDENT AS EXECUTIVE AND ADMINISTRATIVE OFFICER

The superintendent of public instruction shall be the executive and administrative officer of the state board of education in its administration of all educational matters and functions placed under its management and control. He shall execute, under the direction of the state board of education, the educational policies, orders, directives, and administrative functions of the board, and shall direct, under rules and regulations adopted by the board, the work of all persons employed in the state department of education.

SEC. 3301.12. OTHER DUTIES OF STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

The superintendent of public instruction in addition to the authority otherwise imposed on him, shall perform the following duties:

A. He shall provide technical and professional assistance and advice to all school districts in reference to all aspects of education, including finance, buildings and equipment, administration, organization of school districts, curriculum and instruction, transportation of pupils, personnel problems, and the interpretation of school laws and state regulations.

***

C. He shall conduct such studies and research projects as are necessary or desirable for the improvement of public school education in Ohio, and such as may be assigned to him by the state board of education.

***

SEC. 3301.13. DUTIES, POWER, AND ORGANIZATION; STATE DEPARTMENT OF EDUCATION

The department of education hereby created, shall be the administrative unit and organization through which the policies, directives and powers of the state board of education and the duties of the superintendent of public instruction are administered by such superintendent as executive officer of the board.

The department of education shall consist of the state board of education, the superintendent of public instruction, a staff of such professional, clerical and other employees as may be necessary to perform the duties and to exercise the required functions of the department.***

***The superintendent of public instruction shall recommend for approval by the board the organization of the department of education, and the assignment of the work within such department. The appointment, number, and salaries of assistant superintendents, and division heads shall be determined by the state board of education after recommendation of the superintendent of public instruction. Such assistant superintendents and division heads shall serve at the pleasure of the board.

The superintendent of public instruction may appoint, fix the salary, and terminate the employment of such other employees as are engaged in educational or research duties.

CHAPTER 3303.
COOPERATION WITH FEDERAL VOCATIONAL ACTS

SEC. 3303.02. THE ACT OF CONGRESS FOR VOCATIONAL EDUCATION ACCEPTED

The act of congress entitled, "An act to provide for the promotion of vocational education; to provide for cooperation with the states in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the states in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure," is hereby accepted.***

Opinion of the Attorney General

In matching the expenditure of federal money allotted to the state under the provisions of the Smith-Hughes law, the federal money expended in the state at large should be matched annually by the local districts and the state board of education for vocational education. 1920 OAG p. 328.

SEC. 3303.03. SUBJECTS FOR WHICH APPROPRIATED FUNDS ARE ACCEPTED

The benefits of all funds appropriated under *** the act of congress referred to in section 3303.02 of the Revised Code is hereby accepted as to:

A. Appropriations for the salaries of teachers, supervisors, and directors of agricultural subjects;

B. Appropriations for salaries of teachers of trade, home economics, and industrial subjects;

C. Appropriations for the preparation of teachers, supervisors, and directors of agricultural subjects and teachers of trade, industrial, and home economics subjects.

SEC. 3303.04. COOPERATION WITH UNITED STATES OFFICE OF EDUCATION

The state board of education may cooperate with the office of education of the United States department of health, education and welfare in the

administration of the act of Congress referred to in section 3303.02 of the Revised Code and of any legislation pursuant thereto enacted *by* the state, and in the administration of the funds provided by the federal government and by the state under sections 3303.01 to 3303.11, inclusive, of the Revised Code, for the improvement of *agricultural, business, distributive, trade and industrial and home economics* subjects, and vocational guidance. The board may appoint such directors, supervisors, and other assistants as are necessary to carry out such sections, such appointments to be made upon nomination by the superintendent of public instruction. The salaries and traveling expenses of such directors, supervisors, and assistants, and such other expenses as are necessary, shall be paid upon the approval of the board. The board may formulate plans for the promotion of vocational education in such subjects as an essential and integral part of the public school system of education; and provide for the preparation of teachers of such subjects, and expend federal and state funds appropriated under sections 3303.01 to 3303.11, inclusive, of the Revised Code, for any purposes approved by the office of education of the United States department of health, education and welfare. It may make studies and investigations relating to prevocational and vocational education in such subjects; promote and aid in the establishment by local communities of schools, departments, and classes, giving training in such subjects; cooperate with local communities in the maintenance of such schools, departments, and classes; establish standards for the teachers, supervisors, and directors of such subjects; and cooperate in the maintenance of schools, departments, or classes supported and controlled by the public for the preparation of teachers, supervisor, and directors of such subjects.

SEC. 3303.05. APPROVED SCHOOLS RECEIVE STATE MONEY EQUAL IN AMOUNT TO FEDERAL MONEY.

Any school, department, or class giving instruction in agricultural, commercial, industrial, trade, and home economics subjects approved by the state board of vocational education and any school or college so approved, training teachers of such subjects, which receives the benefit of federal moneys*** is entitled also to receive for the salaries of teachers of said subjects an allotment of state money equal in amount to the amount of federal money which it receives for the same year.

SEC. 3303.06. DEPOSIT AND DISBURSEMENT OF FEDERAL FUNDS

The treasurer of state is hereby designated as the custodian of all funds received from the United States treasury for vocational education. All money so received or appropriated by the state for the purposes contemplated in the act of congress referred to in sections 3303.01 to 3303.11, inclusive, of the Revised Code, or in acts supplementary thereto, shall be disbursed upon the order of the state board of education.

CHAPTER 3311.
JOINT VOCATIONAL SCHOOL DISTRICTS

Legislators, educators, and forward thinking citizens concerned with vocational education have exhibited leadership by influencing the enactment of state legislation that has had a positive effect on the concept of the joint vocational school district. In order to keep pace with the demands placed on a continually changing educational structure, Ohio lawmakers have repealed antiquated statutes in 1943 and again in 1965 and have enacted more relevant legislation in meeting their responsibilities to the citizens of Ohio.

SEC. 3311.06. PERMIT NONCONTIGUITY OF SCHOOL DISTRICTS

The territory included within the boundaries of a city, local, exempted village, or joint vocational school district shall be contiguous except where a natural island forms an integral part of the district or where the state board of education authorizes a noncontiguous school district.

When all of the territory of a school district is annexed to a city or village, such territory thereby becomes a part of the city school district of which the village is a part, and the legal title to school property in such territory for school purposes shall be vested in the board of education of the city school district or the school district of which the village is a part. When the territory so annexed to a city or village comprises part but not all of the territory of a school district, the said territory becomes part of the said city school district or the school district of which the village is a part only upon approval by the state board of education. In the event territory is transferred from one school district to another under this section, an equitable division of the funds and indebtedness between the districts involved shall be made under the supervision of the state board of education and that board's decision shall be final.***

Opinion of theAttorney General

A joint vocational school district covers the territory of two or more districts within a county, and there is no requirement that said school districts be contiguous. 1962 OAG 3333

SEC. 3311.16. PLANS FOR JOINT VOCATIONAL SCHOOL DISTRICTS

Any local, exempted village, city, or county board of education, or any combination of such districts, referred to in sections 3311.16, 3311.17 and 3311.18 of the Revised Code, as the initiating unit, may make or contract for the making of a study pertaining to the need to establish within the county, or within an area comprised of two or more adjoining counties, a joint vocational school district, and for the preparation of a plan for the establishment and operation of a joint vocational school district covering the territory of two or more school districts, within such county or counties. Any local, exempted village, or city school district in the county or counties may participate with the initiating unit in the cost of such study and plan. Such plan shall be submitted to the state board of education by the initiating unit. (130 v H 597, effective 10-7-63)

Opinions of the Attorney General

A joint vocational school district may be formed to provide vocational education and training for all youth of school age within the joint vocational school district, but not solely for the purpose of providing facilities for and operating programs described in 3311.215. OAG 65-17

3311.16 to 3311.217, inclusive, reflect a legislative intention that joint vocational school districts be a joint effort by, and for the mutual advantage and benefit of, the separate school districts participating therein, and with the exception of the use of school buildings specified in 3311.212 for which rental payment is permissive, do not authorize sales or leases of real or personal property as between joint vocational school districts and the participating districts and such authority may not be necessarily implied. 1963 OAG 662

A joint vocational school district may construct a building on land leased from a third party but only if the terms of the lease are such as adequately to protect the interest of the school district. 1963 OAG 662

Representation on a board of education of a joint vocational school district may be proportional in accordance with a plan approved by all of the local, exempted village, city and county boards of education of school districts participating therein but only persons who are members of exempted village, city and county boards of education are eligible for appointment to a board of education of a joint vocational school district. 1962 OAG 662

A joint vocational school district covers the territory of two or more school districts within a county, and there is no requirement that said school districts be contiguous. 1962 OAG 3333

There is no provision in 3317.02 and 3317.051 or elsewhere by which a joint vocational school district created pursuant to 3311.16 et seq. may be allotted state funds. 1962 OAG 3333

When a new local school district is created pursuant to 3311.26 by combining two local school districts, each of which was a participating member of separate joint vocational school districts, the newly created local school district does not automatically become a participating district of either joint vocational school district. OAG 66-098

SEC. 3311.17. SUBMISSION OF PLAN TO PARTICIPATING DISTRICTS

On approval of the plan by the state board of education, the initiating unit shall file a copy of such plan with the board of education of each district whose territory is proposed to be included in the proposed joint vocational school district. Within thirty days after receiving such copy, such board of education shall determine whether its district shall become a part of the proposed joint vocational school district. If one or more boards of education decide not to become a part of such proposed district, a revised plan shall be prepared by the initiating unit, and if such revised plan is approved by the state board of education, such initiating unit shall file revised plan with the board of education of each district whose territory is proposed to be included in the proposed joint vocational school district. Within thirty days thereafter, each such district shall determine whether its district shall become a part of the proposed joint vocational school district.

SEC. 3311.18. CREATION OF JOINT VOCATIONAL SCHOOL DISTRICT

Subject to the consent of the board of education of each school district whose territory is proposed to be included within a joint vocational school district, the initiating unit may create a joint vocational school district within the county or within an area comprised of two or more adjoining counties, composed of the territory of all the school districts whose boards of education have approved the formation of the joint vocational school district. The effective date for the establishment of such district shall be designated by the initiating unit. The boards of education of the school districts participating in the establishment of a joint vocational school district may participate on a proportional basis in meeting the administrative, clerical, and other expenses necessary to the establishment and operation of a joint vocational school district until funds are otherwise provided. A school district shall not lose its separate identity or legal existence by reason of becoming a part of a joint vocational school district. Expenditures made by a school district participating in the

establishment of a joint vocational school district for meeting the administrative, clerical, and other expenses necessary to the establishment and operation of a joint vocational school district until such time as the joint vocational school district commences to receive revenues as provided by law are hereby ratified and declared to have been lawfully made, the same as if such contributions had been lawful at the time they were made.

SEC. 3311.19. JOINT VOCATIONAL SCHOOL DISTRICT BOARD, CLERK, EXECUTIVE OFFICER

The management and control of a joint vocational school district shall be vested in the joint vocational school district board of education.

Where a joint vocational school district is composed only of two or more local school districts located in one county, or when all the participating districts are in one county and the boards of such participating districts so choose, the county board of education of the county in which the joint vocational school district is located shall serve as the joint vocational school district board of education. Where a joint vocational school is composed of local school districts of more than one county, or of any combination of county, local, city or exempted village school districts, unless administration by the county board of education has been chosen by all the participating districts in one county pursuant to this section, then the board of education of the joint vocational school district shall be composed of one or more persons who are members of the boards of education from each of the city, exempted village, or county school districts affected to be appointed by boards of education of such school districts. In such joint vocational school district board of education and the allocation of a given number of members to each of the city, exempted village, and county districts shall be determined in the plan for such district, provided that each joint vocational school district board of education shall be composed of an odd number of members.

Where a county board of education serves as the joint vocational school district board of education, the county superintendent of schools shall be the executive officer for the joint vocational school district and the board may provide for additional compensation to be paid him by the joint vocational school district but he shall have no continuing tenure other than that of county superintendent.

SEC. 3311.20. BOND ISSUE; NOTES

A joint vocational school district board of education by a vote of at least two-thirds of its full membership may at any time, submit to the electors of the

joint vocational school district the question of issuing bonds of such district for the purpose of paying the cost of purchasing a site or enlargement thereof, and for the erection and equipment of buildings or for the purpose of enlarging, improving, or rebuilding thereof, and also, the necessity of a levy of a tax outside the limitation imposed by Section 2 of Article XII, Ohio constitution, to pay the interest on and retire such bonds. *** On approval of such question, the joint vocational school district board of education may proceed with the issuance of such bonds and the levy of a tax outside a ten-mill limitation, sufficient in amount to pay the interest on and retire such bonds at maturity.

Opinion of the Attorney General

A joint vocational school district is an entity in itself separate and apart from any other school district, and a bond issue submitted to the electors of a joint vocational school district under 3311.20 does not create an indebtedness in any other school district. 1962 OAG 3333

SEC. 3311.21. TAX LEVIES AND NOTES

The board of education of the joint vocational school district by a vote of two-thirds of its full membership may at any time adopt a resolution declaring the necessity to levy a tax in excess of the ten-mill limitation, for a specified period of years not exceeding ten, to provide funds for *** any one or more of the following purposes, which may be stated in the following manner in such resolution, the ballot, and the notice of election: purchasing a site or enlargement thereof and for the erection and equipment of buildings, or for the purpose of enlarging, improving, or rebuilding thereof, or for the purpose of providing for the current expenses of the joint vocational school district. ***

If a majority of the electors voting on the question of levying such tax in an election held on the first Tuesday after the first Monday in November *** or the first Tuesday after the first Monday in May or fifty-five percent of those voting on the question at a special election held on any other day vote in favor of such levy, the joint vocational school district board of education shall annually make the levy within such district at the additional rate, or at any lesser rate, and the county auditor of each affected county shall annually place such levy on the tax duplicate of the school districts in his county participating in the joint vocational school district.

SEC. 3311.211. TUITION, ACCEPTANCE OF FUNDS

The board of education of the joint vocational school district shall be authorized to charge and collect tuition for the attendance of pupils who are school residents of districts not a part of the joint vocational school district

pursuant to arrangements made between the board of education of such district and the joint vocational school district board of education. The board of education of the joint vocational school district may accept gifts, grants, federal funds, tuition, and other allocations of funds for the purposes of erecting, repairing, and equipping buildings, and for the cost of operation of the vocational schools of such district.

SEC. 3311.212. USE OF BUILDINGS

The board of education of a school district which is a part of a joint vocational school district and the board of education of such joint vocational school district may enter into agreements to permit the school buildings of the district first noted to be used for the purpose of carrying on a vocational school program. Such use may be either free of cost or pursuant to such rental arrangements as may be stipulated in such agreements.

SEC. 3311.213. ENLARGEMENT OF EXISTING JOINT VOCATIONAL SCHOOL DISTRICT

With the approval of the board of education of a joint vocational school district which is in existence, any other school district in the county or counties comprising the joint vocational school district may become a part of the joint vocational school district. On the adoption of a resolution of approval by the board of education of the joint vocational school district, it shall advertise a copy of such resolution in a newspaper of general circulation in the school district proposing to become a part of such joint vocational school district once each week for at least two weeks immediately following the date of the adoption of such resolution. Such resolution shall become legally effective on the sixtieth day after its adoption unless prior to the expiration of such sixty-day period qualified electors residing in the school district proposed to become a part of the joint vocational school district equal in number to a majority of the qualified electors voting at the last general election file with such board of education a petition of remonstrance against such transfer. If such resolution becomes legally effective, the board of education of the joint vocational school district shall notify the county in which the school district becoming a part of the joint vocational school district is located, who shall thereupon have any outstanding levy for building purposes, bond retirement or current expenses in force in the joint vocational school district spread over the territory of the school district becoming a part of the joint vocational school district. On the addition of a county, city, or exempted village school district to the joint vocational school district, pursuant to this section, the board of education of such joint vocational school district shall submit to the state board of education a proposal to enlarge the membership of such board by the addition of one or more persons at least

one of whom shall be a member of the board of education of such additional school district, and the term of each such additional member. On the addition of a local school district to the joint vocational school district, pursuant to this section, the board of education of such joint vocational school district may submit to the state board of education a proposal to enlarge the membership of such board by the addition of one or more persons who are members of the county board of education of such additional local school district. On approval by the state board of education additional members shall be added to such joint vocational school district board of education.

SEC. 3311.214. SCHOOL FOUNDATION ALLOCATIONS; CALCULATION OF TEACHER UNITS

Pupils in a joint vocational school district continue to be enrolled in the school district of their school residence and should be considered as such in the calculation of teacher units under section 3317.05 of the Revised Code.

Each vocational education unit or fraction thereof maintained by a joint vocational school district and approved annually by the state board of education shall be counted as one approved teacher unit or fraction thereof and the units so approved shall be allotted to the joint vocational school district board of education that has the management and control of the vocational school in such joint vocational school district, to be computed in the same manner as prescribed by section 3317.05 of the Revised Code. (130 v H 597. Effective 10-7-63. 129 v 1544)

Opinion of the Attorney General

There is no provision in 3317.02 and 3317.051 or elsewhere by which a joint vocational school district created pursuant to 3311.16 et seq. may be allotted state funds. 1962 OAG 3333.

SEC. 3311.215. USE AND CONSTRUCTION OF FACILITIES

Facilities of the joint vocational school districts may be used for post-high school training, technical training, and re-training programs of vocational education. A joint vocational school district operating a vocational school may construct, maintain, and operate facilities other than those used for vocational training to be used solely for post-high school training, technical training, re-training programs of vocational education, dormitories, and other facilities for the use of any student.
(Effective 10-7-67)

SEC. 3311.216. FUNDS

All joint vocational school district funds shall be kept in depositories selected pursuant to the provisions of sections 135.01 to 135.23, inclusive, of the Revised Code. The clerk of the joint vocational school district shall be the custodian of such funds. Such funds shall be disbursed only pursuant to warrant signed by such clerk and a person so authorized by the board of education of the joint vocational school district, and pursuant to order of such board approving such expenditure. No contract of such board of education involving the expenditure of money shall become effective until the fiscal officer of the joint vocational school district certifies there are funds in the treasury and otherwise unappropriated sufficient to provide thereof.
(129 v 1544. Effective 10-26-61)

SEC. 3311.217. DISSOLUTION OF DISTRICT

Upon approval by a majority of the full membership of the board of education of a joint vocational school district, or upon the receipt of resolutions formally adopted by a majority of the boards of education of the school districts participating in the joint vocational school district, the board of education of the joint vocational school district shall adopt and send to the state board of education a resolution requesting the dissolution of the joint vocational school district. Such resolution shall state the reasons for the proposed dissolution of the joint vocational school district, shall set forth a plan for the equitable adjustment, division, and disposition of the assets, property, debts, and obligations of the joint vocational school district, and shall provide that the tax duplicate of each participating school district shall be bound for and assume its share of the outstanding indebtedness of the joint vocational school district. Upon approval of the resolution by the state board of education, the joint vocational school district shall be dissolved in accordance with the provisions of the resolution. (130 v H 597. Effective 10-7-63. 129 v 1544)

Opinion of the Attorney General

A joint vocational school district is an entity in itself separate and apart from any other school district, and a bond issue submitted to the electors of a joint vocational school district under 3311.20 does not create an indebtedness in any other school district. 1962 OAG 3333

SEC. 3311.218. SHARING FACILITIES

The board of education of a joint vocational school district may enter into a written agreement with the board of school trustees of any technical institute

district, the boundaries of which are conterminous with such joint vocational school district, which agreement may provide for the sharing of use of any physical facility or equipment owned or used by either district. Such agreement may further provide that the joint vocational school district may contribute a portion of its funds for current operating expenses, regardless of whether such funds are derived from a tax levy or otherwise, to the technical institute district to be expended by the technical institute district for any lawful purpose. The agreement shall require the approval by resolution of both boards and shall be executed by the president and clerk of both boards. A copy of such agreement shall be filed with the board of regents and a copy shall be filed with the state board of education.

CHAPTER 3313.
BOARDS OF EDUCATION

SEC. 3313.12. REMUNERATION

Requires that members of joint vocational school district boards of education be paid compensation not exceeding twenty dollars per meeting, and mileage at the rate of ten cents per mile to and from meetings of the board not exceeding twelve meetings in one year.

SEC. 3313.202. TO PROCURE AND PAY FOR GROUP LIFE INSURANCE

The board of education of a school district may procure and pay all or part of the cost of group term life, hospitalization, surgical, or major medical insurance, or a combination of any of the foregoing types of insurance or coverage, whether issued by an insurance company or a hospital service association duly licensed by this state, covering the teaching or non-teaching employees of the school district, or a combination of both, or in the case of hospitalization, surgical or major medical insurance, the dependent children and spouses of such employees, provided if such coverage affects only the teaching employees of the district such coverage shall be with the consent of a majority of such employees of the school district, or if such coverage affects only the non-teaching employees of the district such coverage shall be with the consent of a majority of such employees. If such coverage is proposed to cover all employees of a school district, both teaching and non-teaching employees, such coverage shall be with the consent of a majority of all the employees of a school district. As used in this section, "teaching employees" means any person employed in the public schools of this state in a position for which he is required to have a certificate pursuant to sections 3319.22 to 3319.31, inclusive, of the Revised Code.

SEC. 3313.35. COUNSEL FOR SCHOOL BOARDS

Except in city school districts, the prosecuting attorney of the county shall be the legal adviser of all boards of education of the county in which he is serving. He shall prosecute all actions against a member or officer of a board for malfeasance or misfeasance in office, and he shall be the legal counsel of such

boards or the officers thereof in all civil actions brought by or against them and shall conduct such actions in his official capacity. In joint vocational school districts the legal adviser shall be the prosecuting attorney of the most populous county containing a school district which is a member of the joint vocational school district. When such civil action is between two or more boards in the same county, the prosecuting attorney shall not be required to act for either of them. In city school districts, the city solicitor shall be the legal adviser and attorney for the board thereof, and shall perform the same services for such board as required of the prosecuting attorney for other boards of the county. Such duties shall devolve upon any official serving in a capacity similar to that of prosecuting attorney or city solicitor for the territory wherein a school district is situated regardless of his official designation. In a district which becomes a city school district pursuant to section 3311.10 of the Revised Code, the legal adviser shall be the solicitor of the largest of the municipal corporations all or a part of which is included within the school district boundaries. No compensation in addition to such officer's regular salary shall be allowed for such services.

Opinion of the Attorney General

1. The legal adviser to a vocational school district formed by a local school district and an exempted village school district of the same county is the county prosecutor of the county in which such district is located.

2. The legal adviser to a vocational school district formed by two or more local and city school districts of the same county is the county prosecutor of the county in which such district is located.

3. The legal adviser to a vocational school district formed by two or more local and city school districts of more than one county is not the county prosecutor of any of the participating counties. Counsel therefore may be employed by said board of education pursuant to the provisions of Section 309.10, Revised Code.
1964 OAG 1606.

SEC. 3313.36. ACCEPTANCE OF BEQUESTS, GIFTS OR ENDOWMENTS

By the adoption of a resolution, a board of education may accept any bequest made to it by will or may accept any gift or endowment from any person or corporation upon the conditions and stipulations contained in the will or connected with the gift or endowment. For the purpose of enabling the board to carry out the conditions and limitations upon which a bequest, gift, or endowment is made, it may make all rules and regulations required to fully carry

them into effect. No such bequest, gift, or endowment shall be accepted by the board if the conditions thereof remove any portion of the public schools from the control of such board.

SEC. 3313.37 CONSTRUCTION, REPAIR AND FURNISHING OF SCHOOLHOUSES; GIFTS; PURCHASE OR LEASE OF LAND; FEDERAL LAND

The board of education of any school district, except a county school district, may build, enlarge, repair, and furnish the necessary schoolhouses *** or rent suitable schoolrooms, either within or without the district, and provide the necessary apparatus and make all other necessary provisions for the schools under its control.***

Opinion of the Attorney General

In the absence of fraud or a gross abuse of discretion, it is within the power of the board of education of a school district to determine the overall costs of a building program on which architects percentage fees are based.
1964 OAG 1066.

SEC. 3313.47. MANAGEMENT AND CONTROL OF SCHOOLS VESTED IN BOARD OF EDUCATION

Each city, exempted village, or local board of education shall have the management and control of all of the public schools of whatever name or character in its respective district.***

SEC. 3313.52. EVENING SCHOOLS

The board of education of a city, exempted village, or local school district may organize evening schools.

Any person more than twenty-one years old may be permitted to attend evening school upon such terms and upon payment of such tuition as the board prescribes.

Opinion of the Attorney General

It will be noted that this section (3313.52) does not limit attendance to residents of the district, but provides that "any person" more than twenty-one

years of age "may be permitted" to attend such evening schools. There is also a provision that persons so attending, are subject to the payment of such tuition as the board of education prescribes.

It might be contended that school boards are without authority to use the funds at their disposal for anything but the education of the youth of school age, and that schools designed to afford education to adults must be self-sustaining. I do not feel that I may go quite that far. It is quite certain that education for adults who have missed the opportunity during their minority, may be quite as important for the welfare of the state as the education of the children. Our Constitution, in Section 2 of Article VI commands the General Assembly to provide a "thorough and efficient system of common schools throughout the state," but establishes no age limit and gives no hint that they should be confined to children under twenty-one years of age. Nor do I find anything in the statutes that expressly or necessarily limits the use of school funds to the education of children of "school age" or forbids their application to the education of adults. It may be added, in this connection, that some of the states, realizing the importance of adult education, have established night high schools for adults, which have grown to very great proportions.

However, in view of the fact that the federal act above referred to, plainly contemplated aid to schools in furnishing vocational instruction to adults as well as minors, and in view of the acceptance of the federal subsidy on the terms offered, I must conclude that the General Assembly contemplated that the facilities which the school system of the state might offer by way of such cooperation might include adult students as well as children of school age.

Accordingly, the provision of Section 3313.52 supra, providing for evening schools for adults "upon payment of such tuition as the board prescribes, "should in my opinion be taken as directory rather than mandatory as to a charge for tuition, at least as to the adult pupils of the district. Assuming that a school board has facilities in its night schools or vocational classes, sufficient to accommodate a certain number of non-resident adult students, to whom the board certainly owes nothing by the way of educational service, there would seem to be no reason why it should not admit such non-residents upon payment of a reasonable tuition charge.***

Your letter raises the question as to whether a tuition rate established for non-resident students in vocational schools must be based upon the actual cost of operating such program. In Section 3313.53 supra, it is expressly provided that the cost of manual training and other vocational courses is to be paid from the public school funds, as other school expenses. As already pointed out, this provision appears to relate to the program for the children of school age. Section 3313.52, however, relating to evening schools, definitely provides that persons over twenty-one years of age may be permitted to attend schools "upon the

payment of such tuition as the board of education prescribes." Since I have already concluded that this charge of tuition is not mandatory in so far as it may apply to resident students, taken in connection with the provisions of the federal and state laws above referred to, providing for subsidies for vocational education, from age sixteen upwards, it would be my opinion that the tuition charge which should be made for non-resident adult pupils admitted to these vocational classes should be sufficient to cover the extra cost to the school district entailed by their admission.

The above discussion and conclusions appear to me to afford a sufficient answer to both of the questions submitted. Accordingly, you are advised that in my opinion:

1. A board of education has authority under the provisions of Sections 3303.04 and 3313.52, Revised Code, to establish courses and classes in manual training and other vocational and industrial arts, and may admit adults to such classes, upon the payment of such tuition as the board prescribes, but the board is not required to make a tuition charge to residents of the district for admission to such classes.

2. A board of education of any district which has established vocational classes pursuant to the provisions of Section 3303.04 and 3313.52, Revised Code, may permit persons over twenty-one years of age and not residing within the district, to attend such schools upon such terms and upon the payment of such tuition as the board prescribes. Such tuition should be in an amount sufficient to cover the additional cost entailed by the admission of such non-resident students.

(Attorney General's Opinion, No. 3573, of March 1954.)

Opinion of the Attorney General

A city board of education may establish and maintain vocational schools to which adults may be admitted and may erect and equip suitable buildings or set apart and use buildings under the control of the board of education for such purposes in the same manner and within the same limitations as it establishes and maintains buildings for other school purposes. However, said schools should not be established for the exclusive use of adult pupils, but rather for all who are eligible to attend.

This opinion quotes the purpose of vocational education for adults from a bulletin issued by the federal board for vocational education as follows:

> "According to the provisions of the Smith-Hughes Act, the controlling purpose of evening industrial schools is to fit for useful employment persons over sixteen years of age who have entered upon the work of a trade or

industrial pursuit. Generally in evening industrial schools the entrance age of pupils will be considerably higher than the minimum required by law. Average age thus far has, in fact, usually been around 23 or 24. The maturity must be taken into account at every step since the character of instruction, method of organization, and discipline must be such as will attract and hold adult workers."

(Attorney General's Opinion, No. 1227 for 1920 page 539)

SEC. 3313.53. SPECIAL INSTRUCTION SCHOOLS

The board of education of any city, exempted village, or local school district may establish and maintain in connection with the public school systems:

(A) Manual training, industrial arts, domestic science, and commercial departments;

(B) Agricultural, industrial, vocational, and trades schools;***

Opinion of the Attorney General

The Board of Education may conduct vocational educational classes outside the limits of a school district. (Attorney General's Opinion, 1920, Vol. 2, p. 1031.)

SEC. 3313.56. PART TIME SCHOOLING PROVIDED BY BOARD OF EDUCATION

The board of education of any city, exempted village, or local school district may establish and maintain part-time schools or classes for the further education of children who are employed on age and schooling certificates. Such schools and classes shall be conducted not fewer than four hours per week while in session, and for not fewer than one hundred forty-four hours per calendar year between the hours of seven in the morning and six in the afternoon, excluding Saturday afternoon and Sunday. Such schools and classes shall be conducted under such standards as the state board of education prescribes. Board of education may provide for the expense of such schools and classes the same as for the expense of ordinary elementary schools.

SEC. 3313.58. SUPERVISION OF SOCIAL AND RECREATIONAL WORK; EMPLOYMENT OF INSTRUCTORS

Board of education of city, exempted village, or local school districts may, upon nomination of the superintendent of schools, employ *** competent

persons to deliver lectures, or give instruction on any educational subject, and provide for the further education of adult persons in the community.

SEC. 3313.64. FREE SCHOOLING FOR RESIDENTS; FOR NON–RESIDENTS

The schools of each city, exempted village, or local school district shall be free to all school residents between six and twenty-one years of age. ****** All youth of school age living apart from their parents or guardians and who work to support themselves by their own labor, shall be entitled to attend school free in the district in which they are employed.

***

The board of education of a city, exempted village, or local school district may admit other persons to the public schools of its respective district upon the payment of tuition within the limitation of law.

Opinion of the Attorney General

General Code, section 7681, provides that schools of each district shall be free to all resident youth of the district between the ages of six and twenty-one years, no distinction being made as to graduation or other conditions.
(Attorney General's Opinion, No. 3914 for 1932.))

SEC. 3313.643. EYE PROTECTIVE DEVICES

Every pupil and teacher in any school participating in any of the following courses:

(a) vocational or industrial arts shops or laboratories involving experience with:

(1) hot molten metal;
(2) milling, sawing, turning, shaping, cutting, or stamping of any solid materials;
(3) heat treatment, tempering, or kiln firing of any metal or other materials;
(4) gas or electric arc welding;
(5) repair or servicing of any vehicle;
(6) caustic or explosive materials;

(b) chemical or combined chemical-physical laboratories involving caustic or explosive chemicals or hot liquids or solids; is required to wear

industrial quality eye protective devices at all times while participating in such courses or laboratories. A board of education may furnish such devices for pupils and teachers in its school system, and shall furnish such equipment for all visitors to such classrooms or laboratories in its system. A board of education may purchase such devices in large quantities and sell them at cost to pupils and teachers in its school system.

"Industrial quality eye protective devices" as used in this section means devices meeting the standards of the United States of America standard safety code for head, eye, and respiratory protection, Z2.-1-1959, approved by the United States of America Standards Institute, Inc., and subsequent revisions of such code, provided such revisions are approved and adopted by the industrial commission created by section 4121.02 of the Revised Code.

SEC. 3313.76. SCHOOLHOUSES AVAILABLE FOR EDUCATION AND RECREATIONAL PURPOSES

Upon application of any responsible organization, or of a group of at least seven citizens, all school grounds and schoolhouses, as well as all other buildings under the supervision and control of the state, or buildings maintained by taxation under the laws of this state, shall be available for use as social centers for the entertainment and education of the people including the adult and youthful population, and for the discussion of all topics tending to the development of personal character and of civic welfare, and for religious exercises. Such occupation should not seriously infringe upon the original and necessary uses of such properties. The public officials in charge of such buildings shall prescribe such rules and regulations for their occupancy and use as will secure a fair, reasonable, and impartial use of the same.

SEC. 3313.77. USE OF SCHOOLHOUSES AND GROUNDS FOR PUBLIC MEETINGS AND ENTERTAINMENTS

The board of education of any city, exempted village, or local school district shall, upon request and the payment of a reasonable fee, subject to such regulation as is adopted by such board, permit the use of any schoolhouse and rooms therein and the grounds and other property under its control, when not in actual use for school purposes, for any of the following purposes.

(A) Giving instructions in any branch of education, learning, or the arts.
***

Opinion of the Attorney General

A Board of Education may not lawfully refuse the use of a school building or rooms therein to a local labor union if the union observes rules andregulations prescribed by the board. (Attorney General's Opinion, No. 3216 for 1941.)

SEC. 3313.79. RESPONSIBILITY FOR DAMAGE; PAYMENT OF ACTUAL EXPENSES

Any organization or group of citizens permitted to use the properties specified in section 3313.76 of the Revised Code shall be responsible for any damage done them over and above the ordinary wear, and shall, if required, pay the actual expenses incurred for janitor service, light and heat.

Opinion of the Attorney General

Boards of Education may permit the use of school property for public meetings and recreational purposes, but such boards are not liable in fact for any damages to persons injured while on such school property, regardless of whether such persons are, or are not, members of a group having permission to use the school property. 1962 OAG 3138.

SEC. 3313.90. SCHOOL DISTRICT VOCATIONAL EDUCATION PROGRAM

Each school district shall establish and maintain a vocational education program adequate to prepare pupils for an occupation which program shall meet standards adopted by the state board of education. A school district which is a member of a joint vocational district or which contracts with a joint vocational school district or another school district for vocational education and which meets the standards adopted by the state board of education is in compliance with this section.

(21.04) SPECIAL VOCATIONAL INSTRUCTION

Boards of education of any city, exempted village or local school district may establish and maintain in connection with the public school systems *** domestic science and commercial departments and agriculture, industrial, vocational, and trade schools.

The expense of establishing and maintaining such departments and schools, and of directing, supervising, and coaching pupil activity programs in music,

language, arts, speech, government, athletics, and other subjects directly related to the curriculum may be paid by the board from public school funds, as other expenses are paid.

As of July 1, 1967, however, each school district is required to establish and maintain a vocational education program adequate to prepare pupils for an occupation.

Opinion of the Attorney General

1. Each school district must provide vocational education.

2. A school district shall pay tuition and may pay transportation costs for students taking vocational education in another school district.

3. A school district may not pay board for a student taking vocational education in another district. OAG 67-063

CHAPTER 3315.
SCHOOL FUNDS

SEC. 3315.07. INSTRUCTIONAL PROGRAM FOR EMPLOYED PERSONNEL; SUPPLIES AND EQUIPMENT FOR LOCAL SCHOOL DISTRICTS

The board of education of each city and exempted village school district may provide an instructional program for the employed personnel of such district. Such board may provide the necessary bulletins and instructional material in connection therewith and pay the cost of meetings held for the purpose of carrying out such a program.

The board of education of each city, exempted village, local, or county school district may provide bulletins or other materials necessary for the effective administration of the schools of such district.

Boards of education of local school districts may authorize their county board of education to purchase or to accept upon donation supplies and equipment for such local school districts and to pay the transportation, handling, and storage charges involved in securing such supplies and equipment for the local school districts. Upon such authorization, the county board of education may make such purchases or accept such donations and pay from the county board of education fund the cost of such supplies and equipment and the transportation, handling, and storage charges involved. The local boards shall reimburse in full the county board for all such expenditure on their behalf.

CHAPTER 3317.
SCHOOL FOUNDATION PROGRAM

SEC. 3317.01. ADMINISTRATION OF FUNDS; QUALIFICATIONS TO RECEIVE PAYMENTS

*** The payments authorized by Chapter 3317 of the Revised Code shall be made only to those school districts in which:

(A) Beginning January 1, 1969, the district has a current tax levy for school operation of at least seventeen and one-half mills, except that this requirement shall be waived by the superintendent of public instruction for one year if the district has had its total millage reduced below seventeen and one-half mills by action of the county budget commission, board of tax appeals, or county auditor. Levies for joint vocational school districts, limited to or to the extent apportioned to current expenses, may be included in this seventeen and one-half mills qualification requirement.

SEC. 3317.03. CERTIFICATION OF AVERAGE DAILY MEMBERSHIP FIGURES

The superintendent of schools in each county, city, and exempted village school district shall, for the schools under his supervision, certify to the state board of education on or before the fifteenth day of October in each year the total average daily membership in regular day classes for the first full school week in the month of October for (1) kindergarten; (2) grades one through twelve in each school under his supervision; (3) the average daily membership in approved vocational units and in joint vocational school districts.*** No child shall be counted more than once in the average daily membership of a school district. The superintendent of each joint vocational school district shall similarly certify to the superintendent of public instruction the average daily membership for all classes in the joint vocational school, also indicating the school district of residence for each pupil.***

SEC. 3317.05. CALCULATION OF CLASSROOM UNITS

The total number of approved classroom units for each school district shall be the sum of the following:

(A) The average daily membership for all kindergarten classes, as certified under section 3317.03 of the Revised Code, divided by sixty;

(B) The average daily membership in grades one through twelve, including seventy-five percent of those enrolled in either vocational courses or a joint vocational school district, as certified under section 3317.03 of the Revised Code, divided by thirty;

(C) The number of vocational education classroom units or fraction thereof approved annually by the state board of education on the basis of standards, rules and regulations adopted by the board;

(D) The number of classroom units for deaf, blind, emotionally disturbed, or crippled children, or fraction thereof approved annually by the state board of education on the basis of standards, rules, and regulations adopted by the board;

(E) The number of special education classroom units or fraction thereof including those for slow learners defined as children with an intelligent quotient of at least fifty and not more than eighty and for speech handicapped children, and for child study services, approved annually by the state board of education on the basis of standards, rules, and regulations adopted by the board;

(F) The total number of classroom units determined in divisions (A) through (E) of this section divided by eight. These classroom units are included in recognition of the administrative, supervisory, and specialized personnel required in addition to the classroom teachers.

SEC. 3317.061. SUPERINTENDENT TO REPORT ANNUALLY ON TEACHING STAFF

The superintendent of each county, city, and exempted village school district shall, on forms prescribed and furnished by the state board of education, certify to the state board of education, on or before the fifteenth day of October of each year, the name of each certified employee employed, on an annual salary, in each school under his supervision during the first week of said month of October, the number of years of recognized college training such certificated employee has completed, the college degrees from a recognized college earned by such certificated employee, the type of teaching certificate held by such certificated employee, the number of months such certificated employee is employed in the school district, the annual salary of such certificated employee, and such other information as the state board of education may request.***

Pursuant to standards adopted by the state board of education, experience of vocational teachers in trade and industry shall be recognized by such board for the purpose of complying with the requirements of recognized college training provided by Chapter 3317 of the Revised Code.

SEC. 3317.08. TUITION FOR NON RESIDENT PUPILS; PUPILS RESIDING IN UNTAXABLE AREAS

Pursuant to law, a pupil may attend school outside his district of school residence, and his board of education shall pay tuition in an amount not more than that which shall be computed from the total expenditures for conducting the schools of the district attended after deducting the amounts expended for capital outlay; permanent improvements; debt service; transportation; operation of school lunch rooms; tuition to another school district; operation of kindergarten classes; operation of summer schools, part-time schools, and evening schools; and maintenance of playgrounds.***

The amount of tuition, computed as provided in this section, shall be certified by the clerk of the board of education of the district of attendance, to the board of education of the district in which the pupil is a school resident for its approval and *** payment. In the event that agreement as to the amount payable cannot be reached, or the board of education of the resident district refuses to pay said amount, the board of education of the district of attendance shall notify the superintendent of public instruction. The superintendent shall determine the correct amount and shall deduct the same from the amount of state funds, if any, allocated under *** Chapter 3317 of the Revised Code, to the district of school residence and add the same to the amount allocated to the district attended. The *** superintendent of public instruction shall send to said district of school residence an itemized statement showing such deductions at the time of such deduction. ***

SEC. 3317.13. CALCULATION OF TEACHERS SALARY

(A) As used in this section, "years of service" includes the following:

(1) All years of teaching service in the same school district, regardless of training level, with each year consisting of at least one hundred twenty days under a teachers contract;

(2) All years of teaching service in another public school, regardless of training level, with each year consisting of at least one hundred twenty days under a teachers contract; and

(3) All years of active military service in the armed forces of the United States as defined in section 3307.02 of the Revised Code, to a maximum of five years. For the purposes of this calculation, a partial year of active military service of eight continuous months or more in the armed forces shall be counted as a full year.

(B) No teacher employed by any board of education shall be paid a salary less than that provided in the schedule set forth in division (C) of this section. In calculating the minimum salary any teacher shall be paid pursuant to this section, years of service shall include the sum of all years of the teacher's teaching service included in subdivisions (1), (2), and (3) of division (A) of this section; except that after January 1, 1968, any school district employing a teacher new to the district shall grant such teacher a total of not more than ten years of service pursuant to subdivisions (2) and (3) of division (A) of this section.

Upon written complaint to the superintendent of public instruction that the board of education of a district has failed or refused to annually adopt a salary schedule or to pay salaries in accordance with the salary schedule set forth in division (C) of this section, the superintendent of public instruction shall cause to be made an immediate investigation of such complaint. If the superintendent finds that the conditions complained of exist, he shall order the board to correct such conditions within ten days from the date of the finding. No moneys shall be distributed to the district under Chapter 3317 of the Revised Code until the superintendent has satisfactory evidence of the board of education's full compliance with such order.

Each teacher employed by a board of education in a school district shall be fully credited with placement in the appropriate academic training level column in the salary schedule of the district with years of service properly credited pursuant to this section or section 3317.14 of the Revised Code. No rule or regulation shall be adopted or exercised by any board of education which restricts the placement or the crediting of annual salary increments for any teacher according to the appropriate academic training level column.

SEC. 3317.16. PAYMENT TO JOINT VOCATIONAL SCHOOL DISTRICT

Payments to each approved joint vocational school district shall be the sum of the following amounts:

(A) The total approved salary allowance for the teachers employed in the joint vocational school district, such approved allowance to be computed in the manner prescribed in section 3317.02 of the Revised Code for school districts.

(B) Thirteen percent of the total approved salary allowance and an amount for adult technical and vocational education and specialized education consultants.

(C) The sum of one thousand dollars times the number of vocational units approved annually by the state board of education.

622.80

CHAPTER 3319.
SCHOOL—SUPERINTENDENTS; TEACHERS; EMPLOYEES

SEC. 3319.07. EMPLOYMENT OF TEACHERS

The board of education of each city, exempted village, and local school district shall employ the teachers of the public schools of their respective district. In making appointments teachers in the employ of the board shall be considered before new teachers are chosen in their stead. In city and exempted village districts no teacher or principal shall be employed unless such person is nominated by the superintendent of schools of such district. Such board of education, by a three-fourths vote of its full membership may reemploy any teacher whom the superintendent refuses to appoint. ***

Opinion of the Attorney General

A board of education of a city school district may require that prospective employees be fingerprinted, and may expend funds therefor; and the municipal corporation in which the school board is located may provide the fingerprinting service, the expense to be paid by the school board. 1961 OAG 2703

SEC. 3319.08. CONTRACTS FOR EMPLOYMENT OF TEACHERS

The board of education of each city, exempted village, and local school district shall enter into contracts for the employment *** of all teachers and shall fix their salaries which may be increased but not diminished during the term for which the contract is made, except as provided in section 3319.12 of the Revised Code. *** Such boards may include in such contract duties beyond the regular duties and for such additional duties the salary of the teacher may be supplemented. Such boards may discontinue at any time the assignments of special duties beyond the regular classroom teaching duties and the supplemental salary allowed for such additional duties shall be discontinued upon relief from such additional duties. In addition to supplemental salary payments as provided in this section, such boards of education may grant salary increases at any time without the imposition of additional duties. Teachers must be paid for all time lost when the schools in which they are employed are closed owing to an epidemic or other public calamity, and for the time lost due to illness or otherwise for not less than five days annually as authorized by regulations which each board of education shall adopt.

Contracts for the employment of teachers shall be of two types, limited contracts and continuing contracts. A limited contract for a superintendent is a contract for such term as authorized by section *** 3319.01 of the Revised Code, and for all other teachers for a term not to exceed five years. A continuing contract is a contract which shall remain in effect until the teacher resigns, elects to retire, or is retired pursuant to section 3307.37 of the Revised Code, or until it is terminated or suspended and shall be granted only to teachers holding professional, permanent, or life certificates.

Opinion of the Attorney General

All teachers including substitute teachers must be employed pursuant to the provisions of Section 3319.08, Revised Code. OAG 68-120

Opinion of the Attorney General

A board of education must give notice of intention not to re-employ an executive head on or before the 30th day of April of the year in which his contract expires. 1964 OAG 512

Existing contracts with non-teaching school employees may be rescinded by agreement of all parties thereto. 1963 OAG 512

The superintendent of a school district has the sole authority in the assignment of teachers and a board of education is without authority in the matter of such assignment either by provision in the contract of employment or otherwise. 1958 OAG 2457

A board of education, having entered into a contract of employment of a teacher, has no authority to terminate such contract prior to its expiration, except for the causes and by the procedure set forth in 3319.16. 1958 OAG 2457

A teacher's employment contract need not be in writing. 1950 OAG 6419

SEC. 3319.09. DEFINITIONS

*** As used in sections 3319.08 to 3319.18, inclusive, of the Revised Code:

(A) Teacher means all persons certified to teach and who are employed in the public schools of this state as instructors, principals, supervisors, superintendents, or in any other educational position for which the employing board requires certification.

(B) "Year" as applied to term of service *** means actual service of not less than one hundred *** twenty days within a school year; provided *** that any board of education may grant a leave of absence for professional advancement with full credit for service.

(C) "Continuing service status" for a teacher means employment under a continuing contract.

Opinion of the Attorney General

A local board of education, in order to receive state school foundation program funds, must pay teachers in accordance with the teachers salary; but the position of local executive head need be compensated in accordance with the teacher's salary schedule only to the extent that the position is occupied with teaching duties. 1962 OAG 3493

A board of education is not authorized to use uncertified persons as substitute teachers in the absence of regular teachers irrespective of whether such uncertified persons are paid for their services. 1964 OAG 903

SEC. 3319.10. EMPLOYMENT AND STATUS OF SUBSTITUTE TEACHERS

Teachers may be employed as substitute teachers for terms not to exceed one year for assignment as services are needed to take the place of regular teachers absent on account of illness or on leaves of absence or to fill temporarily positions created by emergencies; such assignment to be subject to termination when such services no longer are needed.

A teacher employed as a substitute with an assignment to one specific teaching position shall after sixty days of service be granted sick leave, visiting days, and other local privileges granted to regular teachers including a salary not less than the minimum salary on the current adopted salary schedule.

A teacher employed as a substitute for one hundred twenty days or more during a school year and re-employed for or assigned to a specific teaching position for the succeeding year shall receive a contract as a regular teacher if he meets the local educational requirements for the employment of regular teachers.

Teachers employed as substitutes on a casual or day-to-day basis shall not be entitled to the notice of nonre-employment prescribed in section 3319.11 of the Revised Code, but boards of education may *** grant such teachers sick leave and other local privileges and cumulate such service in determining seniority.

SEC. 3319.11. CONTINUING SERVICE; QUALIFICATIONS FOR CONTINUING CONTRACTS; LIMITED CONTRACT

Teachers eligible for continuing service status in any school district shall be those teachers, qualified as to certification, who within the last five years have taught for at least three years in the district, and those teachers who, having attained continuing contract status elsewhere, have served two years in the district, but the board of education, upon the recommendation of the superintendent of schools, may at the time of employment, or at any time within such two-year period, declare any of the latter teachers eligible.

Upon the recommendation of the superintendent that a teacher eligible for continuing service status be re-employed, a continuing contract shall be entered into between the board and such teacher unless the board by a three-fourths vote of its full membership rejects the recommendation of the superintendent. The superintendent may recommend re-employment of such teacher, if continuing service status has not previously been attained elsewhere, under a limited contract for not to exceed two years, provided that written notice of the intention to make such recommendation has been given to the teacher with reasons therefor on or before the thirtieth day of April, *** but upon subsequent re-employment only a continuing contract may be entered into.

A limited contract may be entered into by each board with each teacher who has not been in the employ of the board for at least three years and shall be entered into, regardless of length of previous employment, with each teacher employed by the board who holds a provisional or temporary certificate.

Any teacher employed under a limited contract is, at the expiration of such limited contract, deemed re-employed at the same salary plus any increment provided by the salary schedule unless the employing board gives such teacher written notice of its intention not to re-employ him on or before the thirtieth day of April. Such teacher is presumed to have accepted such employment unless he notifies the board in writing to the contrary on or before the first day of June, and a written contract for the succeeding school year shall be executed accordingly.

Opinion of the Attorney General

(1) A board of education is not required to give a teaching position to a teacher with a continuing contract who holds an 8-year professional agriculture certificate when vocational agriculture is removed from the school curriculum.

(2) A local board of education is not required to create an administrative position for a teacher with a continuing contract who has a 4-year executive head (local superintendent) certificate. OAG 68-103

SEC. 3319.12. ANNUAL NOTICE OF SALARY TO BE PAID TEACHERS; TRANSFER TO OTHER POSITIONS

Each board of education shall cause notice to be given annually not later than the first day of July to each teacher who holds a contract valid for the succeeding school year, as to the salary to be paid such teacher during such year. Such salary shall not be lower than the salary paid during the preceding school year unless such reduction is a part of a uniform plan affecting the entire district. This section does not prevent increases of salary after the board's annual notice has been given.

A teacher employed as assistant superintendent, principal, supervisor, or other administrative head may be transferred to a lesser administrative position or to a teaching position upon recommendation of the superintendent of schools and approval of the board. ***

SEC. 3319.13. LEAVE OF ABSENCE; REQUEST

Upon the written request of a teacher, a board of education may grant a leave of absence for a period of not more than two consecutive school years for educational or professional or other purposes, and shall grant such leave where illness or other disability is the reason for the request. Upon subsequent request, such leave may be renewed by the board. Without request, a board may grant similar leave of absence and renewals thereof to any teacher because of physical or mental disability, but such teacher may have a hearing on such unrequested leave of absence or its renewals in accordance with section *** 3319.16 of the Revised Code. Upon the return to service of a teacher at the expiration of a leave of absence, he shall resume the contract status which he held prior to such leave. Any teacher who leaves a teaching position to serve in the armed forces or the auxiliaries thereof organized to prosecute World War II, upon returning honorably discharged from such service, shall resume the contract status held prior to entering military service, subject to passing a physical examination. Such contract status shall be resumed at the first of the school semester or the beginning of the school year following return from the armed services. "Armed services" has the same meaning as defined in section *** 143.22 of the Revised Code.

SEC. 3319.14. MILITARY LEAVE OF ABSENCE

Any teacher who, subsequent to April 30, 1949, has left, or leaves, a teaching position, by resignation or otherwise, and within forty school days thereafter entered, or enters, the armed services of the United States or the auxiliaries thereof, or such other services as are specified in section 143.22 of the

Revised Code, and who has returned, or returns, from such service with a discharge other than dishonorable, shall be re-employed by the board of education of the district in which he held such teaching position, under the same type of contract as that which he last held in such district, if such teacher shall, within ninety days after such discharge, apply to such board of education for re-employment. Upon such application, such teacher shall be re-employed at the first of the next school semester, if such application is made not less than thirty days prior to the first of such next school semester, in which case such teacher shall be re-employed the first of the following school semester, unless the board of education waives the requirement for such thirty day period.

For the purposes of seniority and placement on the salary schedule, years of absence in the service of the armed services of the United States or the auxiliaries thereof, shall be counted as though teaching service had been performed during such time.

The board of education of the district in which such teacher was employed and is re-employed under this section may suspend the contract of the teacher whose services become unnecessary by reason of the return of a teacher from service in the armed services or auxiliaries thereof, in accordance with section 3319.17 of the Revised Code.

SEC. 3319.15. TERMINATION OF CONTRACT BY TEACHER

No teacher shall terminate his contract after the tenth day of July of any school year or during the school year, prior to the termination of the annual session, without the consent of the board of education; and such teacher may terminate his contract at any other time by giving five days' written notice to the employing board ***. Upon complaint by the employing board to the State Board of Education and of investigation by it, the certificate of a teacher terminating his contract in any other manner than provided in this section may be suspended for not more than one year.

SEC. 3319.16. TERMINATION OF CONTRACT BY BOARD OF EDUCATION

The contract of a teacher may not be terminated except for gross inefficiency or immorality; for willful and persistent violations of reasonable regulations of the board of education; or for other good and just cause. Before terminating any contract, the employing board shall furnish the teacher a written notice signed by its clerk of its intention to consider the termination of his contract with full specification of the grounds for such consideration. Unless

the teacher so notified within ten days subsequent to the receipt of such notice, *** demands in writing an opportunity to appear before the board and offer reasons against such termination, the board may proceed with formal action to terminate the contract. If said teacher, within ten days after receipt of notice from the clerk of the board, demands in writing a hearing before said board, the board shall set a time for the hearing within thirty days from the date of said written demand and the clerk of the board shall give the teacher at least fifteen days' notice in writing of the time and place of such hearing. No hearing shall be held during the summer vacation without the teacher's consent. Such hearing shall be private unless the teacher requests a public hearing. The hearing shall be conducted by a majority of the members of the board and be confined to the grounds given for such termination.

The board shall provide for a complete stenographic record of the proceedings, a copy of such record to be furnished to the teacher.

The board may suspend a teacher pending final action to terminate his contract if, in its judgment, the character of the charges warrants such action.

Both parties may be present at such hearing, be represented by counsel, require witnesses to be under oath, cross-examine witnesses, take a record of the proceedings, and *** require the presence of witnesses in their behalf upon subpoena to be issued by the clerk of the board. In case of the failure of any person to comply with a subpoena, a common pleas judge of the county in which the person resides, upon application of any interested party, shall comply attendance of the person by attachment proceedings as for contempt. Any member of the board may administer oaths to witnesses. After hearing, the board by majority vote may enter upon its minutes an order of termination. If the decision of the board after hearing is against termination of the contract, the charges and the record of the hearing shall be physically expunged from the minutes and, if the teacher has been suspended, he shall be paid his full salary for the period of such suspension.

Any teacher affected by an order of termination of contract may appeal to the court of common pleas of the county in which the school is located within thirty days after receipt of notice of the entry of such order. Such appeal shall be an original action in said court and shall be commenced by the filing of a petition against such board, in which petition the facts shall be alleged upon which the teacher relies for a reversal or modification of such order of termination of contract. Upon service or waiver of summons in said appeal, such board shall forthwith transmit to the clerk of said court for filing a transcript of the original papers theretofore filed with said board and a certified transcript of all evidence adduced at the hearing or hearings before such board, whereupon the cause shall be at issue without further pleading and shall be advanced and

heard without delay. The court shall examine the transcript and record of the hearing before the board and shall hold such additional hearings as it deems advisable, at which it may consider other evidence in addition to such transcript and record.

Upon final hearing, the court shall grant or deny the relief prayed for in the petition as may be proper in accordance with the evidence adduced in the hearing. Such an action is a special proceeding within the purview of section 2505.02 or the Revised Code and either the teacher or the board may appeal therefrom.

In any court action the board may utilize the services of the prosecuting attorney or city solicitor as authorized by section 3313.35 of the Revised Code, or may employ other legal counsel.

Opinion of the Attorney General

A board of education having entered into a contract of employment of a teacher has no authority to terminate such contract prior to its expiration except for the cause and by the procedure set forth in 3319.16. 1958 OAG 2457

SEC. 3319.22. GRADES; TYPES OF CERTIFICATES

Teachers' certificates of statewide validity shall be issued pursuant to sections 3319.22 to 3319.31, inclusive, of the Revised Code, or in accordance with standards, rules, and regulations authorized by law. The grades of certificates shall be designated as "temporary certificates," "provisional certificates," "professional certificates," and "permanent certificates." Each of such grades of certificates may be issued in each or any of the following types:***

***

(1) Vocational, valid for teaching and supervising vocational agriculture, vocational distributive education, vocational home economics, or vocational trades and industries as named in such certificate;***

SEC. 3319.29. FEES FOR CERTIFICATE

Each application for any grade of certificate or renewal or duplicate shall be accompanied by a fee of two dollars. Upon the acceptance of such applications the fees shall be paid into the state treasury to the credit of the general revenue fund.

SEC. 3319.30. NECESSITY FOR CERTIFICATE

No person shall receive any compensation for the performance of duties as teacher in any school supported wholly or in part by the state or by federal funds who has not obtained a certificate of qualification for the position as provided for by section 3319.22 of the Revised Code and which certificate shall further certify to the good moral character of the holder thereof. Any teacher so qualified may, at the discretion of the employing board of education, receive compensation for days on which he is excused by such board for the purpose of attending professional meetings, and the board may provide and pay the salary of a substitute teacher for such days.

Opinion of the Attorney General

The board of education having a contract with a person to teach is without authority to pay such person for any time not covered by the proper certificate. (Attorney General's Opinion, 1919, Vol. 2, page 1348.)

SEC. 3319.31. REVOCATION OF CERTIFICATES; NOTIFICATION OF CONVICTIONS

If at any time the holder of a certificate is found intemperate, immoral, incompetent, negligent, or guilty of other conduct unbecoming to his position, the state board of education shall revoke the certificate. Such evidence must be presented in writing, of which the accused shall be notified, and no certificate shall be revoked without a personal hearing in accordance with sections 119.01 to 119.13, inclusive, of the Revised Code. ***

SEC. 3319.36. PROHIBITION AGAINST PAYING NON-CERTIFICATED TEACHER; EXCEPTION

No clerk of a board of education shall draw a check for the payment of a teacher for services until the teacher files with him such reports as are required by the state board of education, by the school district board of education, and the superintendent of schools, and a written statement from the county, city, or exempted village superintendent of schools that the teacher has filed with him a legal teacher's certificate, or true copy thereof, to teach the subjects or grades taught, with the dates of its validity. The state board of education shall prescribe the record and administration for such filing of certificates in county school districts.

Notwithstanding the provisions of the foregoing paragraph of this section, the clerk of a board of education may pay a teacher for services rendered during

the first two months of the annual school session, provided such teacher is the holder of a bachelor's degree or higher and has filed with the state board of education an application for the issuance of a teacher's provisional certificate or one of a higher grade.

Upon notice to the clerk of a board of education given by the state board of education or any superintendent of schools having jurisdiction that reports required of a teacher have not been made, the clerk shall withhold the salary of the teacher until the required reports are completed and furnished.

SEC. 3319.41. CORPORAL PUNISHMENT TO PRESERVE DISCIPLINE

A person employed or engaged as a teacher, principal, or administrator in a school, whether public or private, may inflict or cause to be inflicted, reasonable corporal punishment upon a pupil attending such school whenever such punishment is reasonably necessary in order to preserve discipline while such pupil is subject to school authority. Such person may also, within the scope of his employment, use and apply such amount of force as is reasonable and necessary to quell a disturbance threatening physical injury to others, to obtain possession of weapons or other dangerous objects upon the person or within the control of the pupil for the purpose of self-defense, or for the protection of persons or property. (B 1 v S 358, effective 10-30-65)

CHAPTER 3327.
TRANSPORTATION: TUITION

SEC. 3327.04. CONTRACT FOR ATTENDANCE

The board of education of any city, exempted village, or local school district may contract with the board of another district for the admission or transportation, or both, of pupils into any school in such other district, on terms agreed upon by such boards.

The above section is more liberal in wording and has evolved from Section 7748 of the 1940 annotated school code which had more specific implications to vocational education and read as follows:

If a pupil attends a vocational school maintained by a public board of education in another district, upon assignment by the county, city or exempted village superintendent of schools of the district in which he resides, his rights shall be the same as if he were eligible to take high school training outside his own district, provided similar work is not offered in the district of his residence.***

Opinion of the Attorney General

The board of education of a city, exempted village or local school district may contract with the board of a joint vocational school district for the transportation of pupils to the schools of said vocational school district; and where such a contract is made, the state board of education may include the number of pupils transported thereunder in its determination of transportation costs allowed said city, exempted village or local school district under 3317.051. 1962 OAG 3333

Upon the creation of a joint vocational school district, a local member school board of the district may provide transportation for the pupils of its local district to and from the joint vocational school, providing such transportation could be made available after considerations of facilities and distance as presented in Section 3327.01, Revised Code, and the standards adopted by the State Board of Education. OAG 68-103

CHAPTER 3329.
SCHOOL BOOKS

SEC. 3329.05. PURCHASE OF OTHER BOOKS

Sections 3329-01 to 3329.04, inclusive, and section 3329.08 of the Revised Code do not apply to the purchase of supplementary reading books, library books, reference books, or any other books except the textbooks, required by the board of education. All of such books except textbooks required by the board, shall be ordered, received, examined, and paid for in the same manner and by the same persons as other supplies and equipment.

SEC. 3329.06. FREE SCHOOLBOOKS FOR PUPILS

The board of education of each city, exempted village, and local school district shall furnish, free of charge, the necessary textbooks to the pupils attending the public schools. *** Pupils wholly or in part supplied with necessary textbooks shall be supplied only as other or new books are needed. A board may limit its purchase and ownership of books needed for its schools to six subjects per year, the cost of which shall not exceed twenty-five percent of the entire cost of adoption. All textbooks furnished as provided in this section shall be the property of the district, and loaned to the pupils on such terms as each such board prescribes. In order to carry out sections 3329.01 to 3329.10, inclusive, of the Revised Code, each board, in preparation of its annual budget, shall include as a separate item the amount which the board finds necessary to administer such sections and such amount shall not be subject to transfer to any other fund.

Opinion of the Attorney General

If a board of education determines that the use of both a textbook and workbook thereto offers a more complete textbook, and the pupils can acquire more knowledge and instruction in a particular subject for which the textbook and workbook was prepared, the board of education has authority to adopt both the textbook and workbook as the book for a particular graded course of study provided the publisher of such textbook and workbook has filed a copy of both the textbook and workbook in the office of the State Superintendent of Public Instruction. (Attorney General's Opinion, No. 3545, 1938.)

SEC. 3329.07. DETERMINATION OF TEXTBOOKS REQUIRED; ORDER; PAYMENT; TRANSPORTATION CHARGES

The board of education of each city, exempted village, and local school district shall cause it to be ascertained and at a regular meeting determine which, and the number of each of the textbooks the schools under its charge require. The clerk at once shall order the books agreed upon.***

SEC. 3329.08. SELECTION OF TEXTBOOKS BY BOARD; ADOPTION FOR FULL TERM OF FOUR YEARS

At a regular meeting, held between the first Monday in February and the first Monday in August, the board of education of each local school district, from lists adopted by the county board of education and the board of education of city and exempted village school districts shall determine by a majority vote of all members elected which of such textbooks so filed shall be used in the schools under its control. No textbooks shall be changed, nor any part thereof altered or revised, nor any other textbook substituted therefor, within four years after the date of the selection and adoption thereof, as shown by the official records of such boards, except by the consent, at a regular meeting, of four fifths of all members elected thereto. Books so substituted shall be adopted for the full term of four years.

CHAPTER 3331.
AGE AND SCHOOLING CERTIFICATES

SEC. 3331.01. ISSUANCE OF CERTIFICATES

An age and schooling certificate may be issued only by the superintendent of schools of the district of residence of the child in whose name such certificate is issued and only upon satisfactory proof that the child to whom the certificate is issued is over sixteen years of age and has satisfactorily completed a vocational education or special education program adequate to prepare students for an occupation.***

Any such age and schooling certificate may be issued only upon satisfactory proof that the employment contemplated by the child is not prohibited by any law regulating the employment of such children; and the employer of any minor for whom such age and schooling certificate has been issued shall keep such age and schooling certificate on file.***

Every such certificate must be signed in the presence of the officer issuing it by the child in whose name it is issued.

SEC. 3331.02. REQUIREMENTS FOR ISSUANCE OF CERTIFICATE

The superintendent of schools shall not issue an age and schooling certificate until he has received, examined, approved, and filed the following papers duly executed:

(A) The written pledge or promise of the person, partnership, or corporation to legally employ the child, *** and to return to the superintendent the age and schooling certificate of the child or give notice of the nonuse thereof within two days from the date of the child's withdrawal or dismissal from the service of that person, partnership, or corporation, giving the reasons for such withdrawal or dismissal.

(B) The school record of the child, properly filled out and signed by the person in charge of the school which the child last attended; giving the recorded

age of the child, his address, standing in studies, rating in conduct, and attendance in days during the school year of his last attendance, and if that was not a full year, during the preceding school year;

(C) Evidence of the age of the child as follows:

(1) A certified copy of an original certificate of birth or a certification of birth, issued in accordance with section 3705.05 of the Revised Code, or by an officer charged with the duty of recording births in another state or country, shall be conclusive evidence of the age of the child;

(2) In the absence of such certificate, a passport, or duly attested transcript thereof, showing the date and place of birth of the child, filed with a register of passports at a port or entry of the United States; or an attested transcript of the certificate of birth or baptism or other religious record, showing the date and place of birth of the child, shall be conclusive evidence of the age of the child***;

(3) In case none of the above proofs of age can be produced, other documentary evidence, except the affidavit of the parent, guardian, or custodian, satisfactory to the superintendent may be accepted in lieu thereof.

(D) A certificate from the school physician or physician designated by him, *** showing after a thorough examination that the child is physically fit to be employed in such occupations as are not prohibited by law for a boy or girl, as the case may be, under eighteen years of age.

SEC. 3331.04. CERTIFICATE FOR CHILD OVER SIXTEEN

Whenever an age and schooling certificate is applied for by a child over sixteen years of age who is unable to pass a test for the completion of the work of the seventh grade and who is not so below the normal in mental development that he cannot profit from further schooling, an age and schooling certificate may be issued by the superintendent of schools to such child upon proof acceptable to such superintendent of the following facts and upon agreement to the respective conditions made in writing by the child and by the parents, guardian, or custodian in charge of such child:

(A) That the child is addicted to no habit which is likely to detract from his reliability or effectiveness as a worker, or proper use of his earnings or leisure,

or the probability of his faithfully carrying out the conditions to which he agrees as specified in division (B) of this section, and in addition any one of the following groups of facts:

(1) That the child has been a resident of the school district for the last two years, has diligently attended upon instruction at school for the last two years, and is able to read, write, and perform the fundamental operations of arithmetic. These abilities shall be judged by the superintendent;

(2) That the child having been a resident of the school district less than two years, diligently attended upon instruction in the school in the district in which the child was a resident next preceding his residence in the present district for the last year preceding his removal to the present district, and his diligently attended upon instruction in the schools of the present district for the period that he has been a resident thereof;

(3) That the child has removed to the present school district since the beginning of the last annual school session, and that instruction adapted to his needs is not provided in the regular day schools in the district;

(4) That the child is not sufficiently familiar with the English language to be properly instructed in the full-time day schools of the district;

(5) That conditions are such that the child must provide for his own support or that the child is needed for the support or care of parents or for the support or care of brothers or sisters for whom the parents are unable to provide and that the child is desirous of working for the support or care of himself or of such parents or siblings and that such child cannot render such needed support or care by a reasonable effort outside of school hours; but no age and schooling certificate shall be granted to a child of this group upon proof of such facts without written consent given to the superintendent by the juvenile judge and by the department of public welfare.

(B) (1) In case the certificate is granted under divisions (A) (1), (A) (2), (A) (3), or (A) (5), that until reaching the age of eighteen years the child will diligently attend in addition to part-time classes, such evening classes as will add to his education for literacy, citizenship, or vocational preparation which may be made available to him in the school district and which he may be directed to

attend by the superintendent, or in case no such classes are available, that he will pursue such reading and study and report monthly thereon as may be directed by the superintendent;

***

SEC. 3331.10. CERTIFICATE GRANTED TO A GRADUATE

A child who is not sixteen years of age but who has been graduated from the twelfth grade may be granted an age and schooling certificate under the same conditions and regulations as provided for children who are over sixteen years of age. Such certificate does not entitle the child to be employed in any occupation or employment forbidden to him by law.

SEC. 3331.11. RECORDS OF AGE AND SCHOOLING CERTIFICATES; CERTIFICATES TO BE COUNTERSIGNED

Records shall be kept on file in the office issuing the age and schooling certificate;

(A) Giving all the facts contained in every age and schooling certificate issued;

(B) The names and addresses of the children to whom certificates have been refused, together with the names of the schools and grades which such children should attend and the reasons for the refusal;

(C) All certificates returned or no longer used, as provided in sections 3331.02 and 3331.05 of the Revised Code, with the reasons therefor, and the subsequent assignment of the child to a school;

(D) The conditions on which any certificates are issued;***

ADDITIONAL LEGISLATION

SEC. 3351.05. STUDENT LOANS

There is hereby created a commission to be known as the "Ohio *** student loan commission." The purpose of such commission is to make available to residents of this state improved opportunities for *** education and to improve the general health and welfare by raising the educational levels of such residents by guaranteeing loans made to persons who are attending or plan to

attend eligible institutions of *** education, when such loans are made to assist such persons in meeting their expenses of higher education in accordance with the provisions of sections 3351.05 to *** 3351.14, inclusive, of the Revised Code.

"Education," as used in sections 3351.05 to 3351.14, inclusive, of the Revised Code, includes vocational and technical education as well as post-secondary education.

SEC. 9.90. INSURANCE AND OTHER BENEFITS

The governing board of any public institution of higher education, including without limitation state universities and colleges, community college districts, university branch districts, technical institute districts, and municipal universities, or the board of education of any school district, may, in addition to all other powers provided in the Revised Code, contract for, purchase, or otherwise procure from an insurer or insurers licensed to do business by the state of Ohio for or on behalf of such of its employees as it may determine, life insurance, or sickness, accident, annuity, endowment, health, medical, hospital, dental, or surgical coverage and benefits, or any combination thereof, by means of insurance plans or other types of coverage, family, group or otherwise, and may pay from funds under its control and available for such purpose all or any portion of the cost, premium, or charge therefor. All or any portion of the cost, premium, or charge therefor may be paid in such other manner or combination of manners as the governing board or the school board may determine, including direct payment by the employee, and, if authorized in writing by the employee, by such governing board or school board with moneys made available by deduction from or reduction in salary or wages or by the foregoing of a salary or wage increase. Division (B) (7) of section 3917.01 and the last paragraph of section 3917.06 of the Revised Code shall not prohibit the issuance or purchase of group life insurance authorized by this section by reason of payment premiums therefor by the governing board or the school board from its funds, and such group life insurance may be so issued and purchased if otherwise consistent with the provisions of sections 3917.01 to 3917.06, inclusive, of the Revised Code.

SEC. 4713.01. COSMETOLOGY, LICENSE

Establishes a license for instructors in licensed schools of cosmetology, and requires persons teaching in such schools to be licensed as cosmetologists and as instructors, except that schools may employ unlicensed persons as teachers of related subjects; requires applicants for licenses as instructors to be of good

moral character, have the equivalent of an Ohio public school twelfth grade education, and either to have practiced cosmetology in Ohio for a period of 12 months or have completed 1,000 hours of "instructor training" as a "junior instructor" in a licensed school of cosmetology; defines junior instructors as licensed cosmetologists engaged in learning the occupation of instructor; requires schools of cosmetology training junior instructors to: (1) certify the name and beginning date of training to the state board of cosmetology; (2) have no more than one junior instructor for each instructor in the school, and no more than six junior instructors at any one time; (3) allow junior instructors a "regular quota" of students, as prescribed by the board, provided that an instructor is present; and (4) compensate junior instructors; establishes an initial license fee for instructors at $5, and a renewal fee at $3; requires the board to issue a license to all persons who were instructors in licensed schools of cosmetology prior to the effective date of this act, upon the filing of an application and certification by the school that such person taught in the school at that time, regardless of other required qualifications for instructors.

CHAPTER 4109.
EMPLOYMENT OF MINORS

SEC. 4109.12. EMPLOYMENT OF CHILD UNDER EIGHTEEN PROHIBITED IN CERTAIN WORK

No child under eighteen shall be employed or permitted to work:

(A) In, about, or in connection with blast furnaces, docks, or wharves;

(B) In the outside erection and repair of electric wires;

(C) In the running or management of elevators, lifts, or hoisting machines of over one ton capacity, or dynamos, unless such employment is incidental to a bona fide program of vocational cooperative training or special education training which meets the standards of the state board of education;

(D) In oiling or cleaning machinery in motion;

(E) In the operation of emery wheels or any abrasive, polishing, or buffing wheel where articles of the baser metals or iridium are manufactured, except when the use of such wheels is incidental to a bona fide program of vocational cooperative training which meets the standards of the state board of education and operates under the supervision of the public school;

(F) At switch tending;

(G) At gate tending;

(H) At track repairing;

(I) As brakeman, fireman, engineer, motorman, or conductor upon railroads;

(J) As railroad telegraph operator;

(K) As pilot, fireman, or engineer upon boats and vessels;

(L) In or about establishments, wherein nitroglycerine, dynamite, dualin, guncotton, gunpowder, or other high or dangerous explosives are manufactured, compounded, or stored;

(M) In the manufacture of white or yellow phosphorus or phosphorus matches;

(N) In any distillery, brewery, or any other establishment where malt or alcoholic liquors are manufactured, packed, wrapped, or bottled;

(O) In any hotel, theater, concert hall, place of amusement, or any other establishment where intoxicating liquors are sold, except that a person between the ages of sixteen and eighteen years, enrolled in an accredited course in domestic science cooperative vocational education programs or in special education in a bona fide school, may be permitted to supplement such course of study by practical training in a cooperative training program between any hotel or restaurant and such school. Such trainee upon completion of said course of study may continue as a full-time trainee in such hotel or restaurant so long as such trainee is under the supervision of the coordinator of vocational or special education training for the public school district in which said trainee resides; or the coordinator of vocational or special education training of a private school meeting those standards prescribed for Ohio schools by the state board of education. Any contract involving the service of such trainee shall be approved by such coordinator.

(P) In the operation of power-driven woodworking machines or of power-driven machines used for rolling, pressing, milling, punching, bending, hammering, or shearing metal, unless such employment is incidental to apprentice training, under the direction and supervision of an instructor as a necessary part of such apprentice training, and is carried on in accordance with a written apprenticeship agreement that has been approved by the Ohio state apprenticeship council or the department of education or unless such employment is incidental to a bona fide program of vocational cooperative training which meets the standards of the state board of education and which operates under the supervision of public or private schools;

(Q) In the operation of power-driven guillotine paper-cutting machines,

(R) In the operation or cleaning of any power-driven dough mixers or dough brakes, bread dividing, rounding or moulding machine, dough sheeter, bread slicing and wrapping machine, cake cutting band saw, or in setting up or adjusting a cookie or cracker machine;

(S) In the operation or cleaning of power-driven meat grinders, saws, slicers, carvers, or circular, rotary, or disc cutting machines, unless such employment is incidental to a bona fide program of vocational cooperative training which meets the standards of the state board of education;

(T) in the operation of washing machines, extractors, and flatwork ironers or mangles in laundries, unless such employment is incidenal to a bona fide program of vocational cooperative or special education training which meets the standards of the state board of education;

(U) In the operation of motor vehicles and work as a helper thereon, except the following:

(1) Farm tractors;

(2) Motor vehicles operated in connection with employment which is incidental to a bona fide program of vocational cooperative or special education training which meets the standards of the state board of education.

(V) In, about, or in connection with any mine or quarry, or in any coal breaker;

(W) In the operation of steam boilers carrying over fifteen pounds pressure;

(X) In occupations involving exposure to radioactive substances;

(Y) In occupations involving exposure to toxic or noxious dust, gases, vapors, or fumes in injurious quantities;

(Z) In the manufacture or useof dangerous or poisonous dyes or chemicals, or lead and its compounds;

(AA) In logging or sawmill operations.

No child under sixteen shall be employed or permitted to work in any theater or other place of amusement, except on the stage thereof when not otherwise prohibited by law or in or about any race track or race course, including the stables thereof. Subject to section 4109.22 of this Revised Code, this section does not prohibit the employment of minors under eighteen in retail drug stores or retail grocery stores. No child under eighteen shall be employed or permitted to work at house to house selling, soliciting, or peddling of periodicals, merchandise, magazines, or photographical service, except newspapers or except under the auspices of bona fide local educational, fraternal, religious, charitable, or patriotic organizations.

Any child who has graduated from an accredited high school or has completed a state department of education approved vocational or special education program operated by the Ohio youth commission is exempt from this section and section 4109.22 of the Revised Code.

SEC. 4109.22. EMPLOYMENT OF MINORS; HOURS PER DAY AND DAYS PER WEEK; EXCEPTION

(A) No boy under eighteen shall be employed, permitted, or suffered to work in, about, or in connection with any establishment or occupation named in section 4109.10 of the Revised Code;

(1) For more than six days in any calendar week;

(2) For more than forty-eight hours in any calendar week;

(3) For more than eight hours in any one day;

(4) Before six a.m. or after ten p.m., except on days immediately prior to a day when school is not in session, before six a.m. or after eleven p.m.

(B) No girl under eighteen shall be employed, permitted, or suffered to work in, about, or in connection with any establishment or occupation named in section 4109.10 of the Revised Code;

(1) For more than six days in any calendar week;

(2) For more than forty-eight hours in any calendar week;

(3) For more than eight hours in any one day;

(4) Before seven a.m. or after nine-thirty p.m., and on days immediately prior to a day when school is not in session, before seven a.m., or after ten p.m., except that in mercantile establishments minors sixteen to eighteen may be employed for ten hours on any one day of the week and also on the days specified in section 4107.46 of the Revised Code on which females may be employed ten hours in mercantile establishments;

(C) No minor under sixteen shall be employed, permitted, or suffered to work in, about, or in connection with any establishment or occupation named in section 4109.10 of the Revised Code before seven a.m. or after six p.m.; except that:

On days immediately prior to a day when school is not in session, boys fourteen and fifteen years of age may work between six a.m. and ten p.m. but are subject to the limitations provided in divisions (A) (1), (A) (2), and (A) (3) of this section for boys under eighteen, provided that such hours of employment

shall be approved by the superintendent of schools of the district of residence of the minor. Such approval shall be in addition to any of the requirements of Chapter 3331.

(D) The presence of such child in any establishment during working hours is prima-facie evidence of its employment therein. In estimating such periods the time spent at different employments or under different employers shall be considered as a whole and not separately.

(E) No restrictions as to hours of labor of persons sixteen or over shall apply to canneries or establishments engaged in preparing for use agricultural or horticultural perishable foods during the growers' harvest season when such persons are engaged in canning or preserving the farmers' perishable products.

SEC. 4109.45. RECORDS AS TO MINORS UNDER EIGHTEEN TO BE KEPT BY EMPLOYER

Every employer shall keep a time book or other written records which shall state the name, address, and occupation of each minor under the age of eighteen employed, the number of hours worked by such minor on each day of the week, the hours of beginning and ending such work, the hours of beginning and ending meal periods, and the amount of wages paid each pay period to each such minor. The chief of the division of workshops and factories or his authorized representative, for the purpose of examination, shall have access to and the right to copy from such time book or records. Records must be kept for a period of two years. Any employer who fails to keep such a time book or records, or knowingly makes any false statement therein, or refuses to make such time book or record accessible, upon request, to the chief of the division of workshops and factories or his authorized representative is deemed to have violated this section.

SEC. 4109.99. PENALTIES

(A) Whoever violates section 4109.03 or 4109.04 of the Revised Code shall be fined not less than twenty nor more than fifty dollars.

(B) Whoever violates section 4109.09 of the Revised Code shall be fined not less than fifty nor more than two hundred dollars or be imprisoned not less than ten nor more than sixty days, or both.

(C) Whoever violates section 4109.12, 4109.13, 4109.14, 4109.19, 4109.40, 4109.41, or 4109.42 of the Revised Code shall be fined not more than two hundred dollars or imprisoned not more than six months, or both.

(D) Whoever violates section 4109.20 of the Revised Code shall be fined not less than ten nor more than fifty dollars or imprisoned not less than thirty nor more than ninety days.

(E) Whoever violates section 4109.22, 4109.24, or 4109.45 of the Revised Code shall be fined not less than ten nor more than fifty dollars for a first offense; for a second offense such person shall be fined not less than twenty nor more than two hundred dollars or imprisoned not more than thirty days, or both; for each subsequent offense such person shall be fined not less than thirty nor more than five hundred dollars or be imprisoned not more than sixty days, or both.

(F) Whoever violates section 4109.30 shall be fined not less than twenty-five nor more than two hundred dollars.

(G) Whoever violates section 4109.31 of the Revised Code shall be fined not less than ten nor more than fifty dollars.

(H) Whoever violates section 4109.32 of the Revised Code shall be fined not less than five nor more than twenty dollars for each day the prohibited employment continues.

(I) Whoever violates section 4109.35 or 4109.38 of the Revised Code shall be fined not less than twenty nor more than fifty dollars or imprisoned not more than thirty days.

(J) Whoever violates section 4109.39 of the Revised Code shall be fined not less than twenty-five nor more than one hundred dollars.

(K) Whoever having been convicted of a violation of any law relating to compulsory education or the employment of minors again violates such law shall, unless a penalty for a second or subsequent violation of such law is specifically provided for, be fined for the second offense not less than twenty nor more than two hundred dollars or imprisoned not more than thirty days, or both; for each subsequent offense such person shall be fined not less than thirty nor more than five hundred dollars or imprisoned not more than sixty days, or both.

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ABSTRACT - To determine appropriate vocational information as well as to develop guidelines for incorporating this information into the elementary curriculum, 30 fourth-, fifth-, and sixth-grade children participated in a 4-week program in which activities were directed toward building a positive self-concept and awareness of occupations. Main program activities were field trips, classroom activities, and guest speakers in the occupational areas of agriculture, business, distribution, home economics, trade and industry, and miscellaneous. A pretest and posttest were administered to assess participants' understandings of various vocations and their feelings about themselves in relation to these vocations. Though statistically weak, the posttest revealed an

VT 011 230

FINAL REPORT

THE DEVELOPMENT OF VOCATIONAL APPRECIATION IN THE ELEMENTARY SCHOOL

John M. Wilson
Yakima School District No. 7
Yakima, Washington
April, 1969.

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Research Coordinating Unit
George P. Pilant, Director.

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PREFACE AND ACKNOWLEDGMENTS

Summer is the time of the year for elementary kids to play, vacation with their parents or just loaf. But thirty boys and girls from three schools in Yakima volunteered to go back to school for four weeks. These youngsters from Jefferson, Madison, and Adams Elementary Schools, in Yakima School District No. 7, studied occupations, took field trips, had visiting speakers to their class, viewed films and engaged in discussions regarding occupations.

The writer wishes to acknowledge his appreciation to these children and their parents who made it possible for the use of the summer time as an extension of the school year.

Significant contributions to the project were made by many individuals. It would be hard to enumerate everyone who helped. Several individuals met before breakfast to plan this program. Among these were: Helen Peterson, Executive Director of Elementary Education for Yakima School District No. 7; Nedra Callard, Elementary Counselor for Yakima School District No. 7; Calla Whiteley, Principal at Jefferson Elementary School of Yakima School District No. 7; and Douglas Roether, Principal at Madison Elementary School of Yakima School District No. 7.

Many firms and individuals contributed greatly to the program. They were:

Annadean Odd	- Farm Editor, Toppenish Review, Toppenish
Ed Wilmeth	- Farm Superintendent, Del Monte Corporation, Toppenish
Ralph Loomis	- Operations Manager, Associated Grocers Warehouse, Yakima
Bob Brown	- Manager, Wray's Thriftway Supermarket, Yakima
Richard Freeman	- Superintendent, Weyerhauser Co., Yakima
Jack Webb	- Public Relations Manager, Kwik-Lok Corporation, Yakima
Don Tait	- Editor, Jeffersonian Publications, Yakima

George Schrindel	- Game Manager, Washington State Game Department, Oak Creek Game Range Station
Marion W. "Bud" Fisk	- Regional Forester, Boise Cascade Corporation, Yakima
Gordon Rexford	- Fire Control Officer, U.S. Forest Service
Verl Byron and R.L. Deurbrouck	- Hanford Science Center, Richland
Yvonne Parish	- Catering Manager, Rivershore Motor Inn, Richland
Fred Dwarshuis	- Vocational Rehabilitation Officer, Department of Public Assistance, Yakima
Eugene O'Dell	- Fireman, City Fire Department, Yakima
Genevieve Stilwater	- Registered Nurse, Yakima
Robert Heimgartner	- Agriculture Instructor at D.D. Eisenhower Senior High School, Yakima
Wilbur Magness	- Industrial Arts - Mathematics Instructor at D.D. Eisenhower Senior High School, Yakima

Betty Grandstaff, who was an aide in the project, worked well beyond what was required, which was greatly appreciated.

Preparing typescript from tape recordings, taking dictation for hours, transcribing notes, and typing correspondence was quite a task for the successful implementation and completion of this program. This was capably accomplished by Elaine Moore, who in addition to serving as the investigator's secretary during the planning and reporting stages of the program, was an aide in the classroom. Her faithful and devoted service contributed much to lighten the load of the investigator.

Jim Crook, elementary counselor, lent his varied background of experience with elementary children to the project.

The writer's background is in Vocational Education. Mr. Crook complemented the program with his experience in elementary education.

SUMMARY

The Vocational Amendments of 1968, enacted since the completion of thie project's activities, bears out the investigator's realization that elementary wtudents should have an increased awareness of the world of work. Teachers are middle class professionals. They tend to unconsciously oversell the baccalaureate education as the primary route to occupational success. Persons knowledgeable of the occupational structure of our Nation realize that, at most, twenty percent of the occupations require a baccalaureate degree or more. (24) Can teachers be sensitized to these factors in such a manner that children in the elementary grades will develop an awareness of the broad spectrum of occupations and begin exploring occupations and making tentative broad choices? How can this be integrated into the already overcrowded elementary curriculum?

Thirty children from three elementary schools in Yakima, Washington were provided the opportunity to explore occupations for four weeks. A broad range of occupations were investigated through the media of field trips, films, classroom discussions and visiting speakers. It was determined that children enjoyed all of these types of activities. The children and their parents expressed that they had a much broader knowledge of occupations. They felt, after the program, that it was important to begin exploring occupations, identifying their own strengths and weaknesses, and making provisional selections.

The program was evaluated by students and parent opinions, a locally constructed instrument, an evaluatory session of educators, and a college extension class. The main conclusion from the test was that an effective instrument for measuring students' attitudes toward occupations should be developed and proven. The results of student-parent conferences was that the program had been worthwhile for the thirty children. The children learned to appreciate occupations and put less emphasis on occupational status. It was felt that this information should be widely disseminated.

An extension course was to develop materials to articulate vocational information and awareness into the mainstream of the curriculum. This course was taught by the writer and Dr. Ron Frye of Central Washington State College, the sponsoring institution. Forty teachers worked together

to prepare curricular materials utilizing occupational concepts. Examples of the work developed are attached as appendixes of this report.

INTRODUCTION

Statistics today tend to make one wonder if our high school students have developed realistic occupational objectives, and therefore, realistic course patterns in high school. Figures show that of ten students in the elementary school today, only two will go ahead to complete a four-year baccalaureate post high school program. Even now, students in our comprehensive high schools tend to be aligning their academic work with the required courses for college and a high school diploma as their overwhelming, and often only, goal.

The occupational structure of our Nation can utilize up to twenty [24] percent of our total work force in professional, managerial, and technical occupations requiring a four-year college degree. This means that eighty percent of our students should be realistically establishing goals within a framework outside of the aforementioned categories. This should be established early enough in their training so that they may arrive at their goal by design, rather than by default. This can be done if varying maturation rates are borne in mind so a student who has not chosen the route that leads to the four-year baccalaureate objective may later reassess his position and redirect his efforts if he desires.

All of this is to say that we should establish patterns of awareness in the child for all kinds of work. This is now being done increasingly through such things as economic studies.

One problem is that most teachers are middle class professionals who have had very little contact with the world of work outside of professional jobs. (So even though their desires are to present broad information about the world of work, their intrinsic awareness of occupations tend to be limited.)

In our rapidly changing technology, where there are over thirty-five thousand job titles, it is difficult for a teacher to be prepared to present an accurate picture of the world of work. Fortunately many jobs can be classified into occupational categories, or "occupational clusters."

It is imperative that throughout the course of a student's education he is exposed to different levels within all of these clusters. The complexity of this task implies that the classroom teacher must have some help in developing procedures and materials that will assure an organized completion of this task.

Dr. Spathelf, in an address at the February, 1968 Trade and Technical Teachers Conference, quoted in "School Shop", said:

> ". . . If appropriate occupational and vocational orientation and early conditioning for life choices are important, why are such matters nearly totally ignored in the conduct of most of today's elementary- school education- - a sector that takes in one-half of our common public schooling?
>
> "In the grades in which we teach children tool subject-matter skills, we condition them to music, art, drama, dance social graces, and social understandings. We even now teach them foreign languages. We do all of this because we are told that children learn most readily in these impressionable years. Here, we say, habits and attitudes are formed which affect later educational performance and even life goals.
>
> Can we not, at levels and activities appropriate to their years, begin to orient children to a future world of work and the productive activities of their minds and hands? Can we not teach them that this is respectable, desirable and rewarding? Are we not at this early age, through neglect, already conditioning them negatively to an educational process producing occupational and vocational competency while other learning emphases take precedence? And is it not true that their parents are undergoing similar negative conditioning?
>
> "I cannot conceive that educators with specialized competence in vocational matters-- many

of whom are parents of youngsters in elementary grades-- can fail to see the significance of this void and move imaginatively into it. You will have to get into a new kind of dialogue with your teaching and administrative colleagues in other fields. You will need to engage in creative thought, study, and research, planning activities, and volunteer your personal assistance. If you believe that studfnts in their later years should be more receptive to the opportunities of specilized occupational and vocational learnings, take a close second look at at those first years of schooling!" (17)

An Advisory Council on Vocational Education was established in 1968 to evaluate the first five years of the 1963 Vocational Education Act. Part of its report "The Bridge Between Man And His Work," Publication 1, Highlights and Recommendations from the General Report of the Advisory Council on Vocational Education, 1968, point out that "Occupational preparation should begin in the elementary schools with a realistic picture of the world of work. Its fundamental purposes should be to familiarize the student with his world and to provide him with the intellectual tools and rational habits of thought to play a satisfying role in it." (23)

On October 16, 1968 the President signed into law the Vocational Amendments of 1968, embodied these principles. This act permits the use of vocational funds for guidance or curricular activities which will establish an early basis for continuing occupational education.

Earlier the Panel of Consultants of Vocational Education in 1962 had recommended that,"Guidance and counceling services are concerned primarily with the need of the individual student to clarify his self-concept in relation to society-- the school, the community, and the world of work. To be effective, any educational program, including vocational education, should be accompanied by a fully adequate program of guidance services. Such guidance services should begin early and should be continously available to students from elementary school

through high school." (6)

The American Association of School Administrators book, "Imperatives In Education," points out:

> ". . . It is imperative that development of attitudes toward , and experiences in vocational education begin early and be continual."
>
> Regarding preschool experiences, they point out:
> ". . . There is evidence that patterns of behavior and attitudes begin to form much earlier than was once thought. The preschool period is also the time to attempt to compensate for cultural deficiencies -- deficiencies which have significance in job choice."
>
> Regarding occupational emphasis in the elementary school, they state:
> ". . . Although specific preparation for occupational excellence is not a proper goal of the elementary school, the foundations for vocational preparation can and should be laid at this level. Children must be taught to read, to compute, to analyze, and to acquire factual information. These skills are essential to vocational proficiency and other activities, and they can be taught with deliberate reference to the vocations.
>
> The elementary school should provide some opportunity for pupil display of interests other than those related to general academic or college preparatory subjects. Art, drawing, industrial arts, and homemaking offer excellent exploratory experiences. The school's cumulative record should contain evidence of individual abilities and interests. The reading program should contain material about people at work, simple biographies, and information about jobs. The Rochester Reading Series, developed in Rochester, New York, and now produced by Science Research Associates, is a fine example of how children are taught to read while attention is focused on common occupations. Children like learning from real-life situations. When they can observe as they read, their reading improves. At the same time, they acquire useful information about vocations." (10)

REVIEW OF RELATED RESEARCH

A. Problems and Objectives

Probably one of the most appropriate areas of the literature as it pertains to the development of interest in vocations is that having to do with early developmental patterns. Psychologists increasingly believe that the roots of intellectual curiosity are laid in the early formative years. The research of Maya Pines, Benjamin Bloom, More, Hunt, and others points out this fact with striking clarity.

The typical pattern in the growth of any new area is for attention to shift from an initial preoccupation with diagnosis and identification or problems to a focus on ways of prevention. As we then consider vocational appreciation; what seems now to be done in the typical elementary school curriculum? Actually it would appear that much is being done in an informal way and closely integrated with various areas of curriculum. Examples might be the study of community workers in the primary program, or the various studies of industry at the intermediate age level. Of particular note is the work in economic education at all grade levels. Many phases of this program relate directly to the world of work.

More structured programs of vocational appreciation at the elementary school level appear to be very limited. One project, reported in the Personnel and Guidance Journal of April 1967, (22) was concerned with a project in ten New Jersey schools operating under a Ford Foundation Grant. In this program practical experiments with electricity, refrigeration, paper making, printing, etc., will be used to teach concepts in social studies, language arts and mathematics.

Blue and Wagaman in Washington State recognize that an early base must be established for vocational programs. They write:

> "It is within the realm of possibility that education dealing with distributive occupations will, in the not too distant future, take place at the junior high school or even grade school level. The authors recently reviewed a publication which listed such story-book titles as, "Ben's Busy Service Station", "Ted and Nina Go to the Grocery Store", "Let's Go to a Supermarket", "I Want To Be a Storekeeper", "Mr. Charley's Pet Shop", and "Maybe I'll be a Milkman".

These and hundreds of other titles along with much other vocational guidance information are found in "Occupational Information in the Elementary School", by Willa Norris (Science Research Associates, 1963)." (2)

In general, however, the literature would indicate that most structured efforts toward vocational appreciation now begins at the junior high or high school level.

Again reflecting upon the research which points out that the roots of intellectual curiosity are formed at a very early age, schools might well wonder whether or not they might fine efforts productive by taking a good look at vocational appreciation and information at the elementary school level.

DELAWARE STUDY

A study in Delaward showed many children are denied vocational training from which they could profit because they drop out of school before the tenth grade or lack basic education for entry into vocational school. This problem is caused by ". . . lack of relevancy of the curriculum to the life needs and desires of these youths, to inadequate basic economic needs." (16)

This study which was conducted at an N.D.E.A. Workshop, developed some very useful occupational booklets.

MORE STUDIES

The Detroit proposal (4) recognizes that the child's career development actually develops during pre-school years and that formal career development starts in the elementary grades but they leave this up to the academics, the fine arts and crafts, the sciences, the health programs, and the social programs and start their project in the seventh grade.

The Oklahoma study (21) sought to communicate the world of work to youth through the identification of concepts and generalizations considered important for such.

A New Mexico junior high school put together a booklet which they said would provide under one cover optimal use of vocational information in the junior high school. The study pointed out, ". . . The junior high school age is not a time for refined occupational decisions, but a time for exploratory,

tentative and a few important decisions. These latter decisions deal with which general curricula to pursue in high school, e.g., college preparatory versus technical training, etc." (14)

Dr. John W. Letson of the Atlanta Public Schools is conducting a five-year study, (11) beginning in 1966 based on the premise that all pupils, grades three through twelve, regardless of their social economic environments, are in need of occupational information.

Donald C. Agnew, of the Southern Association of Colleges and Schools, developed a project called, "The Development of Tool Technology as a New Approach to the Elementary School Curriculum." It's purpose was to "establish the basis for reorganization of the elementary school curriculum to accomodate a systematic introduction of study and experience with the hard tools that have shaped man's physical environment." (1)

THE GOOD OLD DAYS

Eckerson and Smith said:

> "Fifty years ago, the school boy's world was small, and men remained in it. Cities were communities in which people had roots and knew each other, and the streets were safe at night.
>
> "Jobs were plentiful, the schools were uncrowded, the dullard dropped by the wayside, and teachers could teach those who wished to learn.
>
> "Now fifty years later, the child in elementary school begins to feel adult pressures and youth problems relating to college admissions as well as underachievement, dropouts, and delinquency.
>
> "The times demand that children be prepared to meet the challenge of a forward-looking society, to be equipped in education, physical health, and emotional stability to work at jobs which do not yet exist.

"Guidance starting in the early school years and continuing at least throughout school is a partial solution to the gigantic problem of preparing youth for the unknown future." (5)

ELEMENTARY COUNSELORS

In a booklet, "New World to Explore . . . views on elementary guidance," by the Euclid City School District, Euclid, Ohio, Dr. Walter M. Lifton, Coordinator Pupil Personnel Services, Rochester City Schools, Rochester, New York, says ". . . Why do we need elementary school counselors? We need them because teachers need help. Teachers are quite competent but we need to do a little differently in the classroom than we have been doing up to now. We'll try to cut down the number of casualties. We ought to be doing many things with the curriculum that would help the youngsters see a reason for wanting to study. There are things we need to do with parents. We need to look at our own biases and the degree to which we try to force on others the values that are important to us." (13)

The Beavercreek Ohio Public Schools conducted a guidance pilot project for the elementary school. The "distinctive features of their project were:

1. Identification of and working with potential school dropouts and other students in grades 3 through 6 experiencing educational adjustment problems.

2. A research study designed to compare changes observed in experimental group students (receiving special guidance services) with changes observed in control group students.

3. Use and evaluation of current commercial materials in elementary school guidance, such as the "SRA World of Work" and the Ojemann materials.

4. Utilization of Kephart body management techniques in the elementary school program.

5. Program in the elementary grades focusing attention on "Our Fathers' Jobs"." (19)

MICHIGAN MODEL

The Vocational-Technical Education Curriculum Committee in Michigan has developed a model for curriculum improvement on an integrated basis vertically throughout the school. Their comment regarding the specific role of the elementary school was:

> "The role of the elementary school should be to provide each student with opportunities to acquire positive attitudes about work, to understand the merits of continued employment, and to create an awareness of the world of work. Students should learn that all citizens in a democracy are producers of services, products, and ideas.
>
> "Occupationally oriented learning at the elementary level should be integrated as part of the total instructional program. Elementary reading, social studies, and science are examples of subjects which can be easily enriched by including occupational concepts. Educational television, field trips, and movies are some of the media which have great potential for providing experiences or an atmosphere which would help each youngster better understand the world of work." (20)

OHIO P.A.C.E.

Project P.A.C.E., in the state of Ohio, explored the role of elementary guidance. They vocationally oriented the elementary guidance program. The conclusions were:

1. Measurable increments in vocational knowledge, level of occupational aspiration and realism of occupation choice can be attained following a planned vocational-occupational program.

2. The 'best' approach to the instruction and counseling in a vocational-occupational program is undetermined from experimental data obtained in this project.

3. Teacher and parent response to a vocational guidance program at the elementary school level is generally positive and supportive. This is particularly true in disadvantaged areas."

Unanswered questions were:

1. Is the vocational guidance approach important enough and significant enough to be incorporated into the instructional program of the elementary school?

2. Is the vocational guidance approach an adequate and proper vehicle to establish the elementary counselor in a non-problem centered role? (7)

SUMMER SCHOOL PROGRAM OBJECTIVES

1. To determine what concepts regarding vocational readiness and appreciation might be appropriate and meaningful for children at the fourth, fifth, and sixth grade level.

2. To study the various community resources in relation to an elementary school vocational appreciation program.

3. To provide guidelines as to ways in which vocational appreciation might be incorporated in the mainstream of the elementary school curriculum.

4. To provide significant experiences for the thirty children who participated in the program in relation to the building of a positive self-concept and in relation to vocational appreciation.

DESCRIPTION OF ACTIVITIES

Thirty boys and girls from the southeast community area of Yakima, who had just completed grades four, five or six, participated in a four-week program in which activities were directed toward the building of a positive self-concept and awareness of occupations. The students participated for a four-week period from June 17, 1968 to July 12, 1968 on a half-day basis.

One full-day trip was held and one overnight program was conducted. The Project Director and other personnel were hired for six weeks in order to set up the program and evaluate it at the end. Main activities of the program were field trips, classroom activities and visiting speakers.

PARENT MEETING

Before the program got underway, an evening meeting was conducted for parents of the participating children. Our purpose for the meeting was to describe the program intent for the parents to be sure that they were fully cognizant of the happenings. The parents indicated a good deal of interest at this time. About fifty percent of the parents were in attendance.

Every day, during the program, the director and/or assistant director recorded on tape the activities of that particular day. Many times throughout this report it will be quoted as recorded.

OCCUPATIONAL AREAS EXPLORED

Occupational areas proposed for visiting were as organized under the State Division of Vocational Education from the State of Washington, and as offered in our own and other school systems throughout this State and Nation.

1. Agriculture
    - Production (visited farms)
    - Processing (cannery)
    - Business (grocery, retail)
    - Marketing and Distribution (grocery, wholesale)
    - Forestry and Wildlife

2. Business
   - Secretaries
   - Bookkeeping and Accounting
   - Data Processing
   - Newspaper

3. Distribution
   - Clerks in retailing
   - Wholesaling
   - Personnel management - interviews, etc.

4. Home Economics
   - Hospitality occupations
   - Service
   - Better family members (cooking, sewing, cleaning)

5. Trade, Industrial and Technical
   - Various Technicians
   - Various apprenticeable trades
   - Television production
   - Cardboard box manufacturing
   - Plastics industries

6. Miscellaneous
   - Professional Boy Scout workers
   - Fireman
   - Registered Nurse
   - Government Service

ACADEMIC RELATIONSHIP

Efforts were made to show the realtionship of the Vocational Appreciation Program to the academic program. For example, questions such as the following: (1) "When did we see arithmetic used during yesterday's field trip? Let's tru some of that kind of arithmetic." (2) "Did you see any people doing writing?" (3) "What kinds of reading did the Secretary have to do?"

PROGRAM ACTIVITIES

The first activity was to administer the test.

To establish a basis for further study the discussion went

way back in history to use the Nomads as an example of how man started without any specialization. His sole means of survival was what food he could find. Then without going into great detail it was discussed how man found that he could domesticate animals, plant seeds, and raise crops. It was pointed out that as man was able to learn this, he was able to develop art and music and other finer things of life. Then as the years progressed, and farmers learned to farm better, workers were released from the farm and as they went to the city, they were able to develop industry and manufacturing. They were able to manufacture the things that make the standard of living higher. It was pointed out how rapid man's progress in civilization has been in the last few years. Electronics was an example, showing first an old-fashioned tube and then the metamorphosis through the newer types of tubes on through the peanut size tubes to the transistor. Using an integrated circuit as an example, it was illustrated how one tiny bit of electronic matter can perform the function of perhaps, five transistors, five or six resistors and four or five condensors. The students were very impressed with the progress that electronics has shown. One component from the Minute-Man Missile, that was really quite small, was very impressive when compared with a similar component from the lunar orbitor satellite which was much smaller.

The students were impressed with the progress that man has been able to make. It was pointed out, as man was able to specialize that there were many occupations developed. The Dictionary of Occupational Titles contains 21,000 different occupations. This group has the opportunity to select their occupation from these. It wouldn't be as difficult as one would think because one is able to narrow down the occupations by several categories. This led up to discussion of the first field trip, which was to examine Farming as an occupation.

What follows now is a direct quotation from the tape recorded notes of the visit on Tuesday, June 18, 1968 to the Del Monte Corporation Farms and Cannery in Toppenish, Washington. Jim Crook had this to say:

"We began our trip to Toppenish at 8:40 a.m.. We came to

visit Mr. Ed Wilmeth from Del Monte Corporation. At 10:10 a.m. we stopped for a rest break at Camp No. 3, one of the migrant labor camps provided by Del Monte in Toppenish. Thus far we have seen processes of various crops in the valley, including corn, hops, peas, potatoes, asparagus. The irrigation process was explained to us. We were particularly impressed with the fact that irrigation water from the valley itself is pumped up to higher elevation; that is, to two different elevations with pumping units. We have been riding also through Del Monte experimental areas where they're working on different ways, different methods of making better utilization of the land and better ways to develop crops. At Camp No. 3, we were also impressed with the relatively clean units provided for the migrant workers. They are made of pumice block. There are green lawns provided and trees. The camps are completely maintained by the company. Particularly interested in the asparagus process; we have been proceeding through many asparagus fields watching the different processes. We were told the company hires about 400 pickers, who were employed right now. The workers are paid in such a way that a man could theoretically make as much from a low-yield field as he could from a high-yield field. We saw some processes dealing with alfalfa, wheat and sugar beets. The remainder of the trip was composed of a tour through the Del Monte Corporation Canning Plant in Toppenish. We followed asparagus that had been cut from the fields that we just visited. We followed it through the complete process, from the time it entered the plant when it was washed, until it was cooked, canned, labeled, and boxed ready for shipping out. It was most interesting to note along the way, in talking to two or three workers, that one of the most important considerations for employees is education. In some cases where a run of cans had come through one process, the worker on the job, in turn, handed the clipboard to the foreman who had to make the correct number tally. This was done because the worker himself was unable to read or write."

John Wilson's narratives of the day's activities included the following:

"Today's field trip - in evaluation of it - I think,

overall, was a success. But we did have some problems; such as, it was very often difficult for the students to hear what was being said; and so, although we made observations of things, they didn't always know what they were going to see. So we're going to endeavor to patch this up by a discussion in the classroom on the following day in order to find out what they were able to comprehend of what they saw on the trip. Now out trip did consist of two phases basically with a trip to the farm - and I think it is important for us to note that this was a rather large corporation farm, compared to the regular private farm. It had the advantages of seeing very efficient farming. A wide variety of occupations were represented on the farm, but it lacked the family aspect of the normal family size farm.

"Now on the way to the farm we had quite a number of other crops pointed out to us, such as asparagus, mint, sweet corn, alfalfa, sugar beets, potatoes, hops, peas, and lima beans. We also noticed some livestock and dairy on the way. On the farm, we noted quite a number of different occupations. Of course, there was Mr. Ed Wilmeth, who was head of the field department and has been for thirty-seven years. Actually, as I understood it, he came out to Washington to develop the sweet corn industry for the Del Monte Corporation. So he was very knowledgeable on the subject. One of the features of our trip was a view of migrant labor housing. It has been quite a controversy in the Yakima Valley of late, as to the adequacy of housing for migrant labor. Our view was that the corporation had provided very excellent housing, but apparently the people didn't take a great deal of pride in maintaining it that way. So what we saw were nicely built, nicely laid out facilities but a little less than 100% desirable.

"Another observation regarding the trip was this: it was a real warm day and we had quite a bit of trouble with the bus, so we were riding and the children were in the bus a lot more than normally should have been. Our trip included a total of eighty miles, including from where we picked up the bus at the Administration Building and returned it.

"Our observation is that the children certainly enjoyed

especially the visit to the cannery, more so than the farm. They were awed especially by the automatic devices such as the weighing machine. They were very well behaved, very attentive for the most part, even though we had the tremendous disadvantage that only two or three near the tour leader could hear what was actually going on. This is the greatest disadvantage, I would say, that we encountered on this field trip; that the children did not always hear what was going on."

The students maintained a notebook of some of the activities. One of the things included in the notebook was a vocabularly list. On this vocabulary list were words such as, "vocational", to insure they had an understanding of words that were used from day to day.

On the day following the farm and cannery field trip, these occupations were related to the rest of the world of work by using the bee, as an example, by showing how there was specialization among the various members of the beehive and how this related to the specialists in the world of work. During the program books regarding occupations were made available. The students were encouraged to check these books out. It was noted that students didn't naturally desire to check the books out. They had to be held up front and be explained what they would gain by reading them and then they would check them out. When there was a field trip a discussion of it was held on the following day. The chalk board was used to list the types of occupations that had been observed. Then dittoed copies of these occupations were given to the students a day or two later for their notebooks.

WHOLESALE FIRM VISITED

A field trip was taken to a wholesale grocery warehouse. The stage was set for the field trip by reviewing briefly and pointing out the relationship and the continuity from the farm through the cannery and now on to the wholesale warehouse. One of the things that was insisted upon in this field trip was that whoever was leading the tour use the public address system. It was the investigator's opinion that the interest of the students was held better on this trip because they were able to hear everything that was going on. Quite a few variations in degrees of interest was

observed. Some of the more mature students were listening with rapt attention, while some of the others were listening because of courtesy. There were a few, who apparently weren't listening at all. At the conclusion of the field trip to the wholesale grocery, John Wilson had the following observation to record:

"It's a little hard for the managers or personnel that take us on the trips to orient their discussion toward occupations, rather than the commodities or processes of their particular industry. This is one little feature that we'll have to figure out a way to overcome. Perhaps, by an advance visit or letter or some kind of communication with the person to get him thinking "occupations". However, there is quite a bit of variation. On the Associated Grocer field trip, Mr. Loomis did an exceptionally good job of pointing out occupations and I believe he pointed out very well that there still are occupations that do not require formalized training that a student, with the right background, who has graduated from high school may find a place to begin a life's work that may work him right up the ladder of success, as he has illustrated with examples within his business. As fine a job as Mr. Loomis did for us on our trip, it was noticed that he did seem to fall into a trap that most of us do in modern society; that was, he made a comment to the students regarding the salary of one of the secretaries employed for Associated Grocers, probably more than one secretary involved. He said, 'I don't want to tell you how much these people make, because that may deter you from going to college, and I would like to see all of you go to college'."

At the conclusion of the field trip, upon return to the classroom, a panel was conducted with students reporting on what they had seen. The discussion showed that they had comprehended pretty well the activities that occur in a wholesale house and how it relates to the other steps. Letters of appreciation were composed and written by the students in the class.

RESOURCES WERE CLOSE

It was fortunate that right in the building a remodeling project was underway and it was possible to witness some of

the skills necessary in the fields of carpentry, plumbing, and electrical work. The class went to this room and were shown how people from these three occupations had been cooperatively working toward the completion of this remodeling project.

SPEAKER

Mr. Robert Heimgartner, Instructor Vocational Agriculture at Eisenhower Senior High School made a presentation regarding the field of agriculture and related areas. He noted that forty percent of the total population is engaged in some phase of agricultural work, with three or four percent of that total actually engaged in farming. Mr. Heimgartner pointed out that there are many people involved in these occupations related to agriculture, such as those who work with farm chemicals and fertilizers, lubricating work, welding, tire work and so on. He pointed out that many of these occupations require less than four years of college; often two years in a technical program.

FILMS

One of the activities was the showing of films. The first one was, "Why Study Home Economics?" (See appendix 1 for a complete bibliography of films used.) This film was developed before the 1963 Vocational Education Act and its subsequent amendments, and therefore emphasized the family living aspect. Some of the jobs that it did mention, however, were extension work, nursery school work, research work, writers for radio and television.

DISCUSSION

It was suggested that they might use the counselors that are available to them at the elementary and junior high level in helping them determine what their life's work might be. It was pointed out that much like a triangle they should start thinking broadly in terms of occupations and narrow to a point of specialization eventually.

A point of discussion was that vocational education classes

would be available to them when they reached high school. These classes are in five different areas; Industrial Education, Business Education, Distributive Education, Consumer and Home Living Education, and Vocational Agriculture. Throughout the summer course the occupations within each of these fields were related to the extent of the training that would be necessary for the different occupations. The youth organizations that were co-curricular and developed leadership, character and social aspects of the individual were discussed. These organizations included the Future Farmers of America, Future Homemakers of America, Distributive Education Clubs of America, Future Business Leaders of America, and Vocational Industrial Clubs of America.

FIELD TRIP

Though it was somewhat outdated, the film strip, "As Others See You", gave a point of departure, for a field trip, for an excellent digression on manners, grooming and etiquette. The trip on the bus itself was not wasted, as one can note from the notes regarding the trip to the Chalet Mall, as quoted on June 24, 1968:

"Along the way, many different occupations were pointed out by Mr. Wilson and Mr. Crook. Some of them included a few of Washington canning cooperatives and the many related areas in that field, which of course we already covered with our trip to Del Monte in Toppenish. We then talked a little bit about the many different kinds of construction work involved in creating the Nob Hill Overpass. Another bit of attention was paid to the Pumice Block Industry along the way and, eventually, we came to Yakima Valley College where another phase of a vocation, which we have not gotten into much yet, was considered; that is, college teaching and those related areas. Along the way we also passed an experimental station operated by the U.S. Department of Agriculture, where we hope to be able to visit in the near future. They deal with weeds and insects and different ways of dealing with weeds and soil. We then pointed out, along the way, different schools as we passed them, including Whitney Elementary School, Wilson Junior High School, and Eisenhower Senior High School. We then

also passed Westpark Shopping Center and eventually arrived at the Chalet Mall, which is probably Yakima's newest shopping center. Special note was made concerning the different architecture of this center, which is patterned, somewhat, around a Swiss Chalet type village. (A brief discussion of the different skills and occupations which must have been involved in erecting this kind of a shopping center was had.)

GROCERY STORE

The tour of the grocery store revealed many occupations, starting of course, with that of the Manager, who in this case, was a college trained man with youthful experience also in the store. Managers of the various departments explained their work and the work of those who work for them. On this trip, as on others, individuals were asked details of their occupations. For example, a driver salesman for a pop company did an excellent job of explaining the different facets of his job. The manager did an excellent job of explaining career opportunities in the grocery business which are really great/unlimited. He explained that though he is a college graduate, it is not absolutely necessary to have college training. However, should one desire an occupation in the management bracket of the business, it would be to a person's advantage to have baccalaureate training because it would make the steps somewhat shorter and faster. He explained that the two people with whom the buying public is most familiar in a super-market is the checker and the courtesy boy. It is therefore important that these people be able to work math well and have done well in other academic subjects. It is also important that these people be able to meet the public well. There was an opportunity to consider the apprenticeship program because the manager of the meat market explained how he was required to do a three year apprenticeship in meat cutting before he could acquire his position. He learned in that three year period every phase in the meat cutting business from the different varieties of meat that are available and the different cuts that are available on through pricing, weighing, etc.. This provided an opportunity later on in a classroom setting to discuss the apprenticeship program more fully.

The following observations were made on June 25, 1968:

> "I feel that even though many times the specifics of the narration of the field trips, film strips or films is above the heads of the students that they do apprehend the overall pattern of the field trips. In other words, I believe that our ideal of an attitude toward the world of work will emerge, even though they would not have the ability to give you all of the particulars of a given occupation."

It was interesting to note that on the grocery store field trip, a list of occupations which we had observed, was made. Then on the following day a list was made on the chalk board during class discussion. It was interesting to note that the students brought up exactly the same occupations, and using the same exact names as we had listed them.

The film strip, "Why Study Science?" was used as an opening to discuss the many occupations related to science.

PRIMITIVE, ANTIQUE AND COLLECTABLE

It was a pleasure to have Mr. Wilbur Magness, Industrial Arts Mathematics Instructor at D.D. Eisenhower Senior High School, as a guest on June 27, 1968. He brought with him part of his collection of Primitive, Antique, and Collectable items. He used them in a very excellent manner to illustrate the work and home life of the family, the work of man and the leisure time activities of people in ancient days on up through the early part of this particular century. The children were very attentive and very interested in the old tools and household items. They were an excellent beginning point for a discussion of the modern counterpart of each particular tool and the occupations related to them. It was easy to point out how occupations have therefore changed through the years.

FIREMAN

Mr. Eugene O'Dell, a Fireman with the City of Yakima, came in on June 27, 1968, and presented a discussion and answered questions regarding the Fireman as a career. The

students were very interested, perhaps more in the activities of the Fireman than the career aspect, but several of the students asked very intelligent questions regarding promotions and career opportunities, salaries, etc..

SERENDIPITY

As opportunities to capitalize upon circumstances presented themselves, it was done. As an example, one of the girls brought in a doll that she had made. It was used as an example of how in an occupation one must consider the materials used and their cost, their labor, which in this case was $4.00 to $5.00 per doll, and how much she would have to charge if she were to make a desired profit for her time. Another student had an interest in radio and electronics so he was shown how he might make a radio using a razor blade, a piece of lead, and a set of earphones. To everyone's surprise he came back the next day and had already completed the radio.

PLASTICS

The emerging industries in Yakima revolve around the use of plastic. One such industry that was visited is the corporation which manufactures an item that is widely used for closing plastic bags. It was invented by a local man and is currently being manufactured here. The corporation also manufactures machinery that is necessary for rapidly utilizing the bag closure. The tour guide did a very good job of pointing out the need for accurate spelling, grammar, math, and good work habits. The design engineer at the Plastics Corporation pointed out the need for taking all of the mathematics that a person could if he were interested in going into engineering. He also agreed that Industrial Arts and Drafting was desirable, as far as determining one's interest in this line of work is concerned. He pointed out that he had five years of college himself. But that he was training, on the job, a boy who had graduated from Eisenhower High School and that if a person had enough design, imagination and initiative, he could get ahead with only a high school education. He pointed out that this young man was going to night school and taking corres-

pondence courses along with the training that he was getting on the job.

NEWSPAPER

A weekly newspaper is located next door to the plastics corporation. The class visited it and was able to see several occupations, starting with the composing machine that justifies copy, the layout and pasteup. The use of the camera was reviewed. This particular weekly farms out it's actual printing, but it was possible to see the addressing machine.

One of the things that was endeavored was to relate the students' present and future educational activities to their future employment. It was pointed out how it was more important to relate their arithmetic, spelling and language activities to their future employment than to the high school diploma or plans to go to college.

On July 1, 1968, to try to apply some of the math that the class had run across in the field trips, the example of soft drinks was used. It was found out that pop wholesales for $3.15 a case, and this lent itself to all kinds of interesting mathematical problems like: how much was the pop worth on a pop truck, when there are 24 bottles to a case, 28 cases to a bin, and 6 bins on a truck? Then it was pointed out that the $3.15 included the bottles. What were the bottles worth? At 3¢ apiece this multiplied out to only 72¢. The class helped to determine that the additional 28¢ was therefore the value of the case, in which the pop is delivered. They then were able to determine the value of the load of pop at wholesale price.

CAMPING TRIP

Our next activity was a two-day trip which involved an overnight stay at Camp Fife, which belongs to the Boy Scouts. The first stop was at the Oak Creek Game Range Station, where the GAme Manager "pointed out many of the occupations that were related to the Game Department, showing that there were many careers available that required only high school

education, particularly Game Warden. There were careers extending on up through those requiring four or five years of college, including such things as Fish or Game Biologists. Also, he pointed out that there are a number of careers available for women too, and this was mostly in the Secretarial area , but also included those involved in laboratory work or research."

FORESTS

Another stop was in the forest area to observe the operations involved with logging and to discuss occupations related to it. The overnight stay at Camp Fife was partly a social activity with a special program planned by the Boy Scouts of America. This included a camp fire program, dinner and later on, refreshments, and all of the pagentry of the flag lowering and raising ceremonies. A professional Scouter explained his occupation and also related it to the Girl Scout and Camp Fire Program, as it would apply to girls.

A representative of the United Stated Forest Service pointed out the many occupations that were related to the United States Forest Service, Department of Agriculture, occupations as they related to wood, water, forage, recreation, and wildlife. So he went on to point out that there were occupations for girls, such as in the office primarily, and also in research related activities.

STUDENTS COMMENT

On the way back to Yakima from this two-day trip, the investigator visited among the students and asked questions and recorded their answers on a tape recorder. Some of these comments, in part, are listed below:

A boy was asked:

> "What job did you see along the way that you think was the most interesting to you?"

His response was:

> "At the Elk Creek Game Reserve that we stopped at on

the way up to Camp Fife, the Game Warden there interested me with his talk and stuff about the animals and the cover and forage and stuff. And also, up at Camp Fife this morning, a Ranger met with us and told us about fire fighting and about his plans of yesterday, today, and tomorrow. And about having no fireworks in forests and what lightning can do to forests."

"Now if you had to choose today, Danny, between one of these jobs of the Game or the Forest Ranger, which would you prefer?"

"Forest Ranger."

" I see, Now how do you think you'd get to be a Forest Ranger?"

"Well, I'd keep in school and go to college and a Ranger's job requires four years of college, and at the end of these four years is a year training course outdoors."

Another boy, when asked what occupations he saw in the last two days were most interesting to him replied:

"The Snack Bar."

"What kind of work was the person doing there?"

"Well, he was selling candy and stuff to people that wanted it."

"I see. Do you think that you are interested in that because you like to eat snacks or do you think it's actually the kind of work that you'd like to do?"

" I would. I would like to work there because it looks like it's fun."

"You think you might like to work in a restaurant, or something like that even?"

"Yes."

MORE COMMENTS

The same questions with another boy brought the following interchange:

"The Forest Ranger."

"All right, now what makes you think that you would like to be a Forest Ranger?"

"I like the outdoors, and if you'd be up in the woods and stuff, I'd like to be up there because it smells better because of the pine and stuff."

"Yes, it's real nice in the summer isn't it? Have you thought about the winter?"

"I don't know about the winter."

"The snow gets pretty deep up in the hills in the wintertime. Do you think that would bother you at all?"

"No, not too much."

Another boy replied:

"Yes, the one that drives the big crane and lifts up logs and puts them on the truck."

Another boy was asked:

"Did you see any particular occupation that was maybe the most interesting to you?"

His response was:

"I sort of liked the Boy Scout Leaders."

"Do you think you might like to be a professional career scouting man?"

"Yes, I think so."

"What part of that kind of job do you think would be

most interesting to you?"

" I like to help people and work with people - well, just help people."

One girl who joined us just a little late in the program was asked:

"No, because I want to be a typist."

The dialogue continued:

"You could be a typist for the Forestry Department or the Game Department. Do you think that kind of thing might interest you?"

"Yes."

Another feature of our trip back to town was a stop at a park for refreshments. The Nurse who had accompanied us on the trip made a presentation to the students regarding medical careers. She pointed out that there was a wide variety of occupations in the medical field, from those requiring only high school graduation, or even less, to those for which advanced education is necessary.

BACK IN CLASS

The next day in class, after this two-day field trip, the students listened to the tape recordings that were made of their comments. This helped to bring things up to date and review the field trip. An observation regarding the people who spoke to the students on the trip was that, "All of them were professionals and therefore emphasized the importance of a college education for their job. It required a drawing-out process for them to even mention that there were jobs available of less than a professional nature and those requiring less than a baccalaureate preparation. This was reflected in the recording that we made on the way back. Several of the students indicated a desire to hold jobs similar to those of the speakers, who invariably pointed out the necessity of a college education."

Because of this, a few minutes were spent in pointing out that 80% of the jobs require less than a four-year baccalaureate education for success. The purpose for doing this was so that students would not become discouraged if they lacked the ability for college or lacked the financial sources to go. It was emphasized that there are job openings in which they can be successful with high school preparation or one or two years post high school. Attempts were made to arrange tours with three different large industries in the puget sound area. One was an aircraft corporation engaged in shipbuilding and another was a steel firm. Neither of these firms would permit the students to make a tour because of their age. Perhaps, in the future, some of these firms might prepare an abbreviated tour that students can see and hear, and perhaps get the feeling of their industry from a safe distance. It is believed that these basic sensory perceptions are very important to the educational background of every student.

RADIO VISIT

One speaker came to class by way of two-way radio. Using a citizens band transceiver set up in front of the class, contact was made with a fellow with whom previous arrangements had been made. Parts of the conversation are recorded below:

> "Good morning John, you're coming in a little weak this morning."
>
> "Yes Fred. Good morning to you. I'm talking to you from my class here, where we have about 25 young people listening to us this morning. They're in the fourth, fifth, or sixth grades. We're studying occupations, so I thought I would show them how communications worked a little bit this morning."
>
> "Yes, well good morning to your class then, John. The channels are pretty noisy this morning. But I think I gathered you said you were discussing or elaborating on the different means of communications with your class. Is that right?"

"10-4 and also studying occupations involving communications."

"Oh, I see, it's how it all applies to occupations. It seems to me that there isn't really any occupation where communications isn't an essential part, even the so-called custodian or janitor has to receive instruction from time to time. And the electronics field, I think, has a great deal to offer in the field of communications and in occupations. Your radio, your television, your own radio operator aboard ship and aboard aircraft. A lot of people get started on these by working on these sets such as you and I are doing; the citizen's band radio, the ham radio and so forth."

"Yes Fred, that is an interesting way of finding out if you're interested. You might be interested to know that one of our students in this class built a radio out of nothing but a razor blade, a pencil lead, and some wires to connect it to an earphone.

"In my own job of a Vocational Rehabilitation Counselor, communication is most important. You have your written work, manuscripts, your hand-written letters; you have your hand language used by the deaf; you have your one-hand language used by the deaf and the blind; and you have the Braille used by a blind person. You have the talking book records, which is a way of putting a voice onto records, rather than onto a printed page. We have our telegraph system. We have our short-wave radio; we have our AM and FM radios; we have citizen's band; we have television. Of all of these, I think the one that is most important, when possible to use, is the good old person-to-person communication. This way you get a good exchange of ideas back and forth, works out the best. The more personal communication that people can have, whether it's on a job or socially, I think the better off everybody is."

"Well Fred, that's real good and I think the students appreciate what you say. Would you like to tell them anything about your job?"

"I think I got a little bit of that John. I think so. I am known as a Rehabilitation Officer and I work for the State Department of Public Assistance. Now I don't deal with public assistance grants, as such. My job is vocational rehabilitation; working with visually handicapped individuals. These persons don't have to be totally blind, just so that they have a visual problem that causes a vocational handicap. The main object of our job is to work with this individual to help him medically to see if something can be done to restore vision or to stop the loss of his vision and, then eventually, to work with this person getting him to accept the limited vision that he does have and make him socially acceptable to his family, to his community, and eventually, to put him back into the employment field so that he can again be the bread winner of the family."

"Well, thank you so much Fred for your really interesting remarks. We have learned something from them. And thanks again. We'll be talking to you again later on. I'll clear with you now. KRD0255, KRD3155 will be clear. 10-7."

The gentleman with whom we talked on the radio is especially well qualified to work with the visually handicapped because <u>he is totally blind</u>.

SHOP TOUR

A tour was conducted through some of the shops at Davis Senior High School and available training there was pointed out in such areas as automotive mechanic, welding, metals, machine shop, aircraft manufacturing training program, and electronics. Also viewed was the department where Home Economics is taught. A summer school Home Ec. program was in progress and the teacher took time out to say:

"Even though a person may not use Home Economics for a vocation, it's very helpful for a young lady to have experience and background in many of these related Home Economics areas, if for no other reason than to

more efficiently run a household, raise children, cook meals, etc.."

The Business Education area was visited where a summer school typing teacher told us of some of the occupations available for people who have business education training. In the Distributive Education classroom it was explained that retailing, wholesaling, etc, are taught to students in that area.

The next field trip was to Richland, Washington, where the Hanford Science Center was toured. That was followed by a meal at a fine dining room and a tour of a motel. At the Science Center, occupations related to all of the atomic energy projects in the Hanford area were explored. It was found that there are a good number of jobs that would rate at technician level, that are supportive to the professional scientists and engineers. There were also many skilled trades represented.

At the dining room, in addition to experiencing, perhaps for the first time, eating in a formal setting, the children had the opportunity to explore occupations related to food service. Occupations relating to the management and operation of a larger motel were explored.

One boy's response to the question, "What would you like to be?" was: "A Waitress."

"A Waiter you mean. When it's a man we call it a Waiter and when it's a girl we call it a Waitress. What do you think you'd like about being a Waiter?"

"Serving food and the money that you make from tips."

An interesting question and response was:

"Would you tell us what occupation you saw here today at the Rivershore Motor Inn that impressed you the most?"

"Dishwashing."

"Dishwashing! Why would you like to be a dishwasher?"

"I like to wash dishes."

"Is this a good job, do you think?"

"Yes, for people who like to keep their hands clean."

The following conversational exchange indicated something about the influence that relatives may have upon career selection:

> "Cindy, you have a relative working here at the Rivershore Inn. How is she related to you?"
>
> "She is my aunt."
>
> "Do you know what kind of work she does?"
>
> "She's the woman that works at the register."
>
> "Oh, she's a Cashier. What occupation did you see here today that interests you Cindy?"
>
> "A Cashier."
>
> "You'd like to be a Cashier? Kind of because your aunt is maybe, huh?"
>
> "Yes."

The following dialogue indicates one of the ways in which we capitalized upon conversational opportunities to discuss occupations:

> "Did you see an occupation here that interests you particularly?"
>
> "Well, - yes."
>
> "What was it?"
>
> "That lady, the manager."
>
> "The Catering Manager. What kind of work does she do?"

"Well, she has some waitresses and some cooks doing what she tells them and stuff."

"Actually, did you know that Mrs. Parrish, the Catering Manager, is the lady that I called on the telephone yesterday to arrange for our lunch here? That's why we were able to meet her today. In the time between when I called her and now, she had to order the food and get it ready, make sure there were waitresses on hand, and take care of all the details that go with that. So she has quite a job, doesn't she?"

A film called, "The Road Ahead" was shown. The film got two points across very well. One was the importance of completing high school. The other point was the fact that members of minority races can achieve success if they make the proper preparations, including education and training. Since the group had members of minority races, it was important for them to understand that they would be considered on their own merits when it comes to employment. The film led to a lively discussion regarding early career choice. The students were, perhaps, more serious during this discussion than at any time during the course. An example was given of how a student had achieved better in school and had improved in behavior because he had selected an occupational objective and began to pursue it. Other examples were given of how one may change his occupation objective several times during this education without serious effects.

The final field trip was to the facilities of the local educational television station. The Manager showed the students the facilities and explained the occupations within the television industry. The students viewed a video tape on vocational education, which had been taped earlier by the students in the Vocational Electronics class at A.C. Davis Senior High School. The students then were able to step in front of a television camera and give their name. This was video-taped and played back to them so that they could better understand this process.

EVALUATIONS AND CONCLUSIONS

How does one measure the gleam in a little girl's eye as she fondly rubs her hand on a polished table in a fine restaurant? Or when a boy watches the adults to see which fork to use first? It is impossible to record the reactions of students to the clatter of tin cans that are noisily marching single file to be filled with the products from nearby farms. Paper and ink cannot record the smell of the pine tree. Photography cannot record the moment when a child says "Ahah, that's a job I would like to do." A cookie in a bake shop - the end product of a baker's skill is a gustatory experience. Black print on paper cannot duplicate because the total impact of sensory experience are difficult to convey. In addition to our test, we have attempted to evaluate on the basis of student comments, many of which were cited in the previous chapter.

We also had an evaluation by the parents. A questionnaire was filled out by parents who came to the concluding meeting. Some who were not there responded by mail.

In response to the first question, "Did your child enjoy the course?", all parents responded "Yes". The comments cited some of the field trips that were especially enjoyed. A parent said, "I believe it gives an opportunity to know some jobs by observing firsthand people at work."

"Did your child tell about the activities of the course?" was the second question, to which all replied affirmatively. Some of the comments were:

> "The course held his interest from the beginning to the end."
>
> "With two children in the program, each tried to tell me first what they had done that day, so I had to limit each a turn to talk."
>
> "He kept family and friends well-informed."
>
> "We had discussions about each day and I feel we all learned new things."

All respondents answered affirmatively to the third question,

"Do you feel that your child learned about quite a few new occupations?" Significant comments included:

"Many that he didn't know existed."

"Bruce had always wanted to be a doctor, and it hasn't changed."

"When we buy a can of food we talk about the whole process from field to retail market."

"It has made her aware of the opportunities available in things she likes to do."

"Has your child discovered an occupation in which he would like to become involved someday?", was our fourth question. All but two replied in the affirmative here. Examples listed were: Forest Ranger or Forestry, Work in T.V. Station, Cashier or Typise, Secretary, Doctor's Receptionist. A girl cited, "Veterinarian or Veterinarian's helper." The student who wanted to be a doctor also indicated an interest in radiation. Science was mentioned and electronics.

The fifth question asked of the parents was, "Have you noticed that your child has any new attitudes or feelings toward jobs?" All replied in the affirmative but one, who left this blank. The comments included the following:

"He knows that there is a much wider field."

"He was definitely more interested in how money is earned."

"Acted more interested in jobs that require training, didn't want to be employed seasonal."

"He was inclined to be a bit lazy and take things for granted, but not any more. He is job conscious."

"She has always asked about different kinds of work."

"Scott weems to have a new awareness of vocations that are available."

"She realizes she will have to prepare for the job she wants."

"He has tried to find jobs since the course and has started a savings."

Question number six invited comments for changes or suggestions. Among the comments were:

"No changes."

"Denise would have liked the program to be longer as she got a chance to go and find new interests."

"Bruce said he could surely find a good job to help put him through college and medical school."

"I would like to have the children make several visits to a trade school so that they will know how long and how many they can be taught and also how the rate of wages compare."

"Perhaps even more occupations could be covered. Just wish especially every sixth grader could have this opportunity, including my five who are yet in K through sixth grade."

Individuals who conducted a tour for us or came to the classroom to speak were asked to fill out a questionnaire evaluating the experience. A copy of the questionnaire is attached as Appendix item No. 3. The first question was, "Do you see value in presenting occupational information to youngsters of this age, along with what you would usually expect to explain on such a tour?" Eighteen responded, "Yes." Four responded, "No." Some of the comments of the affirmative respondents were:

"Too many kids in group, not enough time."

"During regular course at school year - not summer months."

"I do, however, feel that older children would receive

more benefit."

"If the information is presented at an appropriate level of understanding."

"This age group should be carefully selected."

"However, I feel much of what I said may have been over their heads in relation to employment opportunities."

"I feel the impressions one receives when quite young have a direct bearing on future decisions."

"I have found that explaining the plant information relative to nuclear energy to varied type visitors is a challenging assignment at best. To do a complete job in explaining occupational classifications to this age group is a little early."

"Of course this is harder for all concerned since you are juggling two subjects, but I feel it's a very worthwhile effort."

The negative respondents made the following comments:

"I doubt that what was explained on the trip would affect the occupation of these youngsters - The trip was informative and many youngsters will remember some of the things they saw and heard."

"Actually in my opinion I think this age group is too young."

"Believe they are too young to understand really just what was going on in regards to motel business."

Question number 2 was - " Do you feel that the children gave proper attention during the tour?" Twenty responded "yes", one "no", and one gave no response. The person who responded "no" was a newspaper reporter who accompanied us on the field trip to the farm. It had been very hard to hear the tour director on this one, so she had the following comment:

"It's hard to pay attention when you cannot hear what is being said."

The negative respondent said:

"Possibly due to my presentation but not what I had hoped."

The affirmative respondents made the following comments on the questionnaire:

"As well as could be expected for the number involved; some indicated more interest, but were unable to derive full benefit due to others who were ready to move on."

"I thought the children were very attentive."

"I felt their attention was much better than average."

"Consistent with their age group."

"Excellent, this is encouraging."

"Very attentive generally."

"The particular group I toured were most alert, responsive and well behaved. I felt that they were well pre-conditioned prior to their visitation the Science Center."

"In this age group an important key to attention is a prior knowledge and interest in the subject and adult control - these elements were all evident in your group."

"Yes, for their age group."

In question no. 3 we asked, "Did the children seem to comprehend what they saw and heard?" Sixteen responded "yes", two responded "no", and four commented without selecting yes or no. Some of the comments of the affirmative respondents were:

"The questions asked were very good for the age."

"Compared favorably with other groups their age."

"To the extent that we made it meaningful, which, I fear, was not entirely the case."

"As to what I do in my job, I feel they now have a better idea."

"The children seemed quite alert and responsive."

"Yes, at this age they seemed to understand that they would be looking for jobs in a few years."

"Their questions indicated that they did grasp the major points about the plant and its employment possibilities."

"The ones who paid attention seemed to understand very well."

Comments of the negative respondents were:

"I believe they could have comprehended more than they did had they paid attention."

The other negative respondent said "no" without commenting.

(It should be noted that <u>most</u> of the negative comments <u>all</u> came from the first two field trips.)

The comments of the respondents who did not check yes or no were:

"Yes for their age group."

"Hard to evaluate with no chance to talk to them afterward; a few of the questions indicated comprehension and greater interest."

"What they saw-yes. What they heard-no."

Some of the additional comments included the remarks by the reporter who accompanied us on the farm tour. Her comments included:

"I believe it would have been more effective if the bus could have stopped during each explanation - during cutting, - especially to hear how the families live and earn. I believe your program is good and the youth - at least the girls I talked with in the rest rooms wanted no part of this life. I heard a couple boys say, "Not a bad way to spend a summer - it's like camping out."

The management personnel at the wholesale grocer firm had the following comments:

"This program should be more adaptable to junior high students in my opinion."

"In my opinion occupational information to youngsters of this age or for that matter, any age should be given during the regular school term, as the children's minds are on school work. These children on this tour didn't give me the impression that they were too much interested in detailed facts, only in what they saw going on around them. Therefore I doubt if they comprehended too much of what they heard."

The grocery store manager commented:

"Would be more than happy to do this again."

A manufacturing plant manager said:

"I believe it is excellent and very much needed for all age groups. Would suggest that such tours be kept as small as possible so that maximum attention can be given to the children individually."

The vice-president and public relations manager of another manufacturing firm made the following comment:

"The youngsters were well-behaved and well supervised."

The T.V. station manager stated:

"With more time for the visit and with better planning on our part, we could have offered these youngsters a far more productive experience, including their involvement in planning and preparing a realistic production exercise and in handling the studio equipment."

A U.S. Forest Service Fire Control Officer said:

"This type program is well worth-while."

The nurse who accompanied us on the overnight field trip commented:

"Might not this program be carried out for all children during the year? Of course, some trips wouldn't be possible. I would suggest a trip to hospital for films and explanations of various occupations needed to maintain care of patients. (I could think of about 20 different jobs.) And I'd suggest a pert student nurse leading some of discussion."

A Regional Forester said:

"More of this type of exposure can only help young persons as they enter high school and have to decide on college prep courses and other alternatives. Results of this program will necessarily be an intangible, but education in any field is best started with this age group."

One of the specialists who conducted us on the tour of the Hanford Science Center said:

"I believe the ideal tour situation is advance study of the subject being toured and a review of the tour later. I understand both practices are followed with your groups. It was a pleasure working with the group and their instructors."

The other said:

> "If you plan on this type visitation at a future date, keep in mind that the disciplines and job classifications at Hanford will vary with the many contractors (eight in number). For example, Douglas United Nuclear has many work and job classifications mainly concerned with reactor process production. Atlantic Richfield has the chemical separations process, chemists, etc.. Battelle-Northwest has chemical laboratories, engineering, metallurgy and physics groups constantly doing research. Many scientists. ITT Federal Support Services, Inc. has personnel handling many diverse functions such as transportation and maintainance groups, purchasing and stores, plant protection (safety, fire, patrol) and utilities. Plant services are many and varied such as engineering files, printing and duplicating, Hanford Project News. In the future you may wish to contact some of the various contractors about requesting a speaker from their Speaker's Bureau to appear before your groups and be more qualified to tell their story."

The editor of a local weekly paper, whose facilities we toured, said in part:

> "Why not make it a part of the semester work. Maybe have business or professional men come to school for introductory class before tour, so kids could be clued in on what to look for during tour. . . . better start them young, but stay with it, increasing the contact between kids and business as high school years approach. You're welcome anytime around here."

EVALUATION MEETING

On November 26, 1968, a meeting was held to describe and evaluate the Vocational Appreciation Program.

Those in attendance from the Yakima School District No. 7 were:

Jim Crook	Elementary Counselor and Assistant Director of the Program
Calla Whiteley	Principal, Jefferson Elementary School
Mona Stacy	Elementary Consultant
Helen Peterson	Executive Director of Elementary Education
Nedra Callard	Elementary Counselor
Donald Barngrover	Industrial Arts Department Head
Glenn Edmison	Industrial Education Department Head, A.C. Davis Senior High School
Betty Grandstaff	Aide in the Program
Elaine Moore	Aide in the Program
Lester Zehr	Vocational Counselor, A.C. Davis Senior High School
Gary Dietzen	Vocational Counselor, D.D. Eisenhower Senior High School
John Wilson	Director, Vocational Education and Director of the Program

Others included:

George Pilant	Director of Research Coordinating Unit, Superintendent of Public Instruction, Olympia, Washington
Bob Davido	Vocational Guidance Consultant, Intermediate District No. 5, Yakima, Washington

John Wilson showed slides taken during the program and described the activities of the program.

Jim Crook described the testing program. He gave the data and some of the indications of the data.

Miss Peterson indicated that she was extremely excited and thrilled with what happened to these children this summer. She felt that the main value would be in communicating to the 350 classroom teachers in the Yakima District about the experiences of the children, possible field trips and orientation. The other problem is: not bridging the gap; from an all day summer program in the regular classroom situation, Miss Peterson indicated. She felt that a particularly

valuable field trip was the one to the vocational facilities at the high schools because the children may not be in industry but will soon be facing a high school situation. She indicated that we must make the experience of these thirty children reach hundreds.

Mr. Pilant suggested that it would be well to correlate visits to the high schools with follow up visits to industry to show that the training is actually being used on the job.

It was brought out by Mr. Crook that he continues to hear reports from the children and teachers that the children felt that they had learned a lot and had had an enjoyable time.

The group decided that it would be a good thing to tape a narration to accompany the slides describing the program. This would be made available to all of the elementary schools and serve to disseminate the valuable aspects of the program.

Mr. Crook, for whom this was the first experience with anything relating to vocational education, pointed out that since this experience, "everything about it is exciting to me and now everything I see and hear about vocational education, I relate to elementary."

Mr. Pilant made the following statement:

> "Well, this whole thing was very much a pioneering effort. You're not the only pioneers in the country, but you happened to hit it right at the moment when the U.S. Office of Education was recognizing the fact that vocational information, or experience, or appreciation, however you want to phrase it, needs to come to children of a much younger age than has been in the past."

Miss Peterson pointed out the importance of the interdisciplinary aspect which would be the most meaningful approach. Miss Peterson added that she was delighted to see the involvement of parents in the program but suggested

that we put an even greater emphasis on this because it is being learned more and more that if a permanent attitudinal change is to be made in the community, one has to reach into the environment.

Mr. Dietzen pointed out that one of the major values of the program was to provide the students with kinds of experiences that were different from what they had had in the past.

Mr. Pilant hoped that it would be possible to follow up these same children for six, seven or eight years to determine what happens to them, particularly how many drop out. He pointed out that theoretically we should lose about ten of these thirty as dropouts, maybe more, because Yakima County has the highest dropout rate in the State. Mr. Pilant thought we should make this comparison with the program group, as well as with the control group, is possible.

It was pointed out that social studies, and more particularly, economics in the area where vocational awareness can fit best into the mainstream of the curriculum.

A recommendation that came out of this meeting was that more transportation ought to be provide to give students field trip opportunities such as the program students experienced. It was recommended that an abstract of this program be made available to every elementary teacher in the district. This would be in addition to a complete report for each building.

EVENING EXTENSION CLASS

One of the disseminatory activities was to offer an evening extension course from Central Washington State College. Dr. Ronald Frye, Chairman of the Department of Industrial Education in Technology, and John Wilson, the Director of the Vocational Appreciation Program, taught the class. The purpose of the class was to communicate the findings of the summer program to elementary teachers from throughout the district. There were some who attended from other districts also. Another purpose of the class was to

determine means of integrating vocational appreciation into the mainstream of the elementary curriculum. After the stage had been set for the class, by showing the slides of the program and describing the activities, further groundwork was laid by having representatives of various vocational services explain their programs. Also included, by Dr. Frye and Mr. Wilson, were general discussions on the philosophy and opportunities of vocational education.

The class was relatively structured form this point on so that the participating teachers could assist in determining how an interdisciplinary approach could be used. This group, after much discussion, decided that the economics curriculum was the logical place for incorporating vocational awareness. As a class project, the participating teachers developed some job cards which relate to the State Guide, (3) "Economic Education for Washington Schools, Kindergarten through Grade Six."

Mona Stacy of the Yakima School District has developed a transitional guide (18) to accompany the State Guide.

Samples of the job cards, which were developed as a part of this class, are attached for various grade levels and for various ability levels within a grade level, thus promoting individualization of tasks.

FINDINGS AND ANALYSES

As indicated in the original program proposal, an attempt would be made to assess, with a pre and post pencil and paper test, the program participants' understanding of various vocations, and their feelings about themselves in relation to these vocations.

An extensive search was conducted for a test that would help make these assessments. During this attempt to obtain materials that would be appropriate, one staff member consulted with publishers and test makers at the National Conventions of both the American Personnel and Guidance Association and Association for Childhood Education. To their knowledge, nothing was available at that time for this age level.

These persons asked to be informed, should any materials be developed from this project because they would be interested in the possibility of publishing them. After it became evident that such a test was not available for elementary age youngsters, a decision was made to devise a test for this specific program; a test that would touch on the six general occupational areas as outlined in the proposal. (Test in Appendix)

The test was administered to the participating students on the first day of the program. Approximately two weeks prior to opening day, the test was administered to a control group who had been matched with the program participants on grade levels, sex, Lorge Thorndike I.Q. scores, general areas of parents' occupations, and schools. At the conclusion of the program, the test was again administered to both groups of youngsters; program and control.

The results of the testing are rather obscure. That is, they don't lend themselves to statistical observation. For instance, it was explained to all who took the test that a mark in the first column would signify this job to be, in the student's opinion, a job for the opposite sex. Such a mark, then, would eliminate the need for marking any other columns, with respect to that particular job. Upon close inspection of the individual tests it became evident that this desired procedure was not followed by all. For instance, a mark in column one was often

followed by marks in columns two, five, six and seven. And such patterns of marking were quite inconsistent when comparing individual tests taken before and after the program.

The following examples are other observed inconsistencies which added to the problems encountered in compilation: (1) Marks were placed in column two instead of in column one. For instance, after jobs which are obviously best suited for a woman - such as "mother" and "housewife" - marks were noted in the "I wouldn't" column rather than in the "woman" column. (2) Some tests revealed no marks in columns one or two. (3) One test revealed no marks in columns four, five, or six. (4) One test revealed marks in one or two columns, obviously made in an effort just to finish the test. (5) A number of tests revealed inconsistent markings across the page. During the test administrations, students were observed having difficulty lining up their marks horizontally, in the correct columns. Fingers were used extensively in an effort to keep the place. (6) The test proved to be rather lengthy. A testing session was about forty minutes in length. Fatigue was a noticeable factor in the performance of many students.

Any analysis of this kind of data would necessarily have to be computed in terms of numbers of responses in the various columns. Because of the many variables outlined above, there was a large variation in response totals between the pre and post tests. Consequently, the four test tabulations reveal unequal "N's".

Consultation with personnel of Yakima School District No. 7, Intermediate District No. 5, and Central Washington State College points up the crudeness of this testing instrument. Statistical analysis seems unattainable. These thoughts would tend to verify the need for research in the area of vocational tests and measurements at the elementary school level.

Though difficult to prove, statistically, and, keeping in mind the inconsistencies in test markings, observation points to the following trends, when comparing total responses on the program students' pre-tests with the total responses on their post tests: The post test

tabulation shows (1) an increase in "I might" responses, (2) a decrease in "nothing" responses, (3) an increase in "a little" responses, and (4) an increase in "a lot" responses.

These outcomes would tend to support the feeling of the participating personnel that the students became more aware of occupations, and, in general, acquired some related knowledge.

Many evaluatory remarks were made throughout previous parts of this report which could have been included in this section. This method was chosen so that the remarks would be presented in the context of the situation which lead to the comment. There are a few subjects that require amplification.

One of the observations tends to being into focus the idiomatic expression that, "there are two reasons children go to college." One is that their parents went; and the other is that their parents didn't go. This was found to be true as individuals explaining occupations to our group discussed training for their occupation. These non-college trained, but successful, persons still thought in terms of college training for their particular job.

One barrier to making the sensory experiences of industry available ot elementary children is the reluctance of some industries in permitting visits. Their reasons for hesitating to accept field trips by youngsters are certainly valid. That is their fear of lack of control on the part of the teacher and the possibility of accident. But one might well wonder if the benefits of the experience ultimately might outweigh the risks.

The comprehension of activities in industry certainly was well above what was apparent by casual observation. The classroom discussions, after field trips, showed that the children <u>were</u> hearing and seeing, even sometimes more than their teachers.

The opportunities for stressing the values of academic skills are numerous in a program of vocational awareness.

The alert teacher should be able to capitalize upon the students' occupational interests as a motivating factor to the study of mathematics and communications skills. Much of this is negated, however, when the material is not relevant to the needs and interests of the student.

The idea of following a product from farm to family worked out well. It helped the students to be able to see the interrelationships of occupations. They realized the division of labor that exists within a community. In an industrial setting, the same procedure could be used with a manufactured item from raw material to consumer. It is then easy to show the related occupations in reference to the production occupations.

Comment on Parent Response

It appeared that parental attitudes toward occupations were being affedted along with the children's. Their knowledge and attitude toward the world of work was broadened. They joined their children in realizing that early exploration of occupations was important and that many educational and training opportunities were available.

One opportunity that presented itself, that the investigators failed to grasp, was active parental involvement. The parents made offers to assist at the outset. We did not utilize their assistance. The total value of the program would have been greatly enhanced by utilizing as many parents as possible. This bears further study.

Tour Host Speaks Out

Our field trip hosts found this type of approach challenging. They were not used to presenting their facilities in terms of occupations. Most of the individuals had mixed emotions. They "knew" that the children were too young to understand, but at the same time, keenly expressed that there is a need to make children aware of business and industry at an earlier age. The value of

field trips, as it has always been, is in direct relationship to the efficiency of the planning and execution. This is well stated in so many textbooks that it does not need repeating.

Program Objectives Were Realized

Succinctly stated, the first objective was,"To determine what concepts regarding vocational readiness and appreciation might be appropriate and meaningful for children at the 4th, 5th, and 6th grade levels."

The following concepts were meaningful to the children of this study:

a) Children enjoy learning about occupations.
b) Children gain a better understanding of occupations when they can see, hear, touch, taste, and smell the processes involved.
c) Children express a positive attitude toward a broadened knowledge of the world of work.
d) Society needs all citizens to be productive. Man works to be happy, useful and successful. Productive work has dignity.
e) Education and training are made available so that people can learn to be productive members of society and earn money.
f) Work has many compensations. These include pay, fringe benefits, personal satisfaction, status and security.
g) Students must learn their own potentials (abilities, interests and aptitudes) in order to intelligently prepare for the world of work.

Objective No. 2 was, "To study the various community resources in relation to an elementary school vocational appreciation program."

An agricultural community is rich in resources. A teacher desiring to incorprate an appreciation of vocations into their classroom may discover the best businesses and industries to explore by several means. Perhaps the

simplest is a survey of the yellow pages in the local telephone directory. Another means is through the local director of vocational education or vocational counselor. The Employment Security Department may prove helpful. Each teacher must make his own contacts to make it meaningful. The teacher should be careful to explore the world of work broadly.

Objective No. 3 was, "To provide guidelines as to ways in which vocational appreciation might be incorporated in the mainstream of the elementary school curriculum."

Our objective was to return the experience of the program to all of the children in a way which it would be most practical and find its most extensive use. It was decided not to set it up as a separate course of study but to use an interdisciplinary approach. The study of many occupations lends practical examples that can be applied to mathematics. History may be made interesting through a display and discussion of the tools, materials and processes of days past. Communications (written, spoken and visual) become more relevant when taught within the framework of iminent useage in the world of work. Alert teachers can grasp many concepts from the world of work and apply them to existing curricula.

The area of social studies, most specifically economics, seems to correlate well with vocational awareness. The teachers who helped evaluate this program through the extension course, previously mentioned, considered many ways of returning this to the classroom and felt that economics would work best for them. Sample units are attached as appendix items.

Objective No. 4, "To provide significant experiences for the thirty children who participate in the program in relation to the building of a positive self concept and in relation to vocational appreciation," was accomplished. The opinions of the parents and children, previously expressed, establish the fact that these thirty children in Yakima School District No. 7 received an experience which for them will be memorable. They all became "experts" in the field of occupations.

Implications for Further Study

Much work remains to be done in the area of vocational awareness in the elementary school. Many questions remain unidentified. Many questions remain unanswered.

There are implications indicating that a vocational guidance person could be well utilized in the elementary framework. It would appear that specialists, to present a coordinated vocational effort may some time be necessary at the elementary level. It is definite that there is a shortage of instruments to measure students attitudes and knowledge of occupations. Much work could be done along this line. This study was with fourth, fifth, and sixth graders and even though much work remains in this area, immediate work must be instituted in grades K through 3.

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Note: The following reference numbers 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 may be referred to in the text as 10, 11, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24 respectively.

APPENDIXES

VOCATIONAL EDUCATION 440x

COMMUNITY HELPERS

1. Fireman
2. Policeman
3. Postman
4. Supermarket Workers and Department Store Workers
5. The Farmer and other Farms
6. Telephone Repairman
7. Miscellaneous

INSTRUCTORS

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Objectives:

1. To make young children aware of community helpers.
2. To make young children aware of vocations.
3. To provide for individual differences.
4. To increase vocabulary.
5. To correlate vocational education in all phases of the curriculum.
6. To learn to appreciate the value and dignity of all kinds of work.
7. To provide for excurison into the community in order to gain information regarding resources of the community.
8. To learn the skills of gathering data from books, newspapers, magazines, interviews, and library.
9. To learn to work democratically with others in group planning.
10. To assume roles of leadership as chairmen of committees.
11. To assume individual responsibility for projects in carrying out group plans.
12. To learn to arrange and organize, exhibit materials, and present them to other children.
13. To provide opportunities for children to think creatively in planning reports.

Materials:

1. 5x8 filing cards (several packages)
2. Felt tip pens (narrow and broad tips)
   red, blue, orange, black, green, brown, yellow.
3. Cigar box or other kinds of box.
4. Contact paper (¾ yd.) to cover box.

Directions:

1. Color code the 5x8 cards with broad felt tip pen by putting a 1/4-inch stripe across top of cards.
2. Mark card as: Red - Job 1.
3. Make a separate card for each job.
4. Print job on card with fine tip felt pen in same color as code.

Suggestions:

1. Arrange cards from easiest jobs to the more difficult, then number them.
2. Some jobs you may not want or use, so discard. You may have other jobs you want to add, etc.
3. Correlate the jobs with all phases of the curriculum.

THE FIREMAN

1. Draw a picture of a fireman.
2. Draw a picture of a fire truck.
3. Draw a picture of someone putting out a fire.
4. How do fires start? See if you can list 5 ways. Draw a picture showing one way.
5. Draw a fire engine and label the different parts of the engine.
6. Make a picture of helpful fires.
7. Make pictures of harmful fires.
8. Find or draw pictures of ways to prevent fires at home, at school, and outdoors.
9. Use these words in sentences:
   1. hydrant 4. fire engine
   2. ladder 5. protect
   3. prevent 6. firehouse
10. Write a story about a make—believe fire; can you make your story exciting?
11. Make a list of things you need to remember during a fire drill at school.
12. What are some useful things a fireman does besides putting out fires? Illustrate them.
13. Would you like to be a fireman? Write a story and tell me why you'd like to be a fireman.
14. Find some poems about fire or firemen. Copy the one you like best. Practice so you can read it to the class.
15. Look in some music books. Find a song we could learn to sing. Write down the name of the book, the name of the song, and the page number. Talk to me and we will arrange for the class to sing your song.
16. What should you do if you see a fire? Draw pictures to show me.
17. How do you report a fire? Draw pictures to show as many ways as you can.
18. Why must some firemen sleep at the fire station? List as many reasons as you can find. Book will help you.
19. Find some library books about firemen. Write down the name of the books and the author of each.
20. Make a book report on a book you have read. Plan to tell the class about the book.
21. Can you find any poems or stories about fire or firemen in our set of Childcraft? Write down the book and page number. Maybe we can arrange for you to read it to the class.
22. Find out from a fireman or from a book the things he needs to practice. Report to the class, or illustrate them.
23. Make pictures of duties that a fireman needs to do during the day.
24. Make pictures of duties that a fireman needs to do during the night.

25. What do you think is the most exciting thing a fireman does? The most dangerous? The most helpful? Write them down, or illustrate them.

26. Find out the best ways to put out fires. What would be the best way to put out a fire in a car, in a house, in a frying pan, in a forest, a camp fire, in the oven, in an electric light, in a chair or bed, on your clothes, in our school, in some weeds, in a gas truck, and on top of the stove in your kitchen.

27. Can you find 4 safety rules for preventing fires. Write them down so you can read them to us.

28. Does a fireman need to go to school? What are some things he needs to learn in school? Make a list of them.

29. How long does a fireman need to go to school? Can you find out? How can you find out? Write what you found out.

30. Does a fireman make money for his work? How much? Can you find out? Write and tell how you found out and what you found out. Arrange with me to read your report to the class.

31. List as many different kinds of fires as you can find out about. You may look in books, ask people, etc. Draw pictures of each.

32. Find out and report to your class where the fire box, and fire bells are in your school.

33. If your clothes caught on fire what should you do? Draw a picture of your clothes on fire and how you put out the fire.

34. What are some tools a fireman needs? Write how the tools are used or plan to tell the class about them. Draw pictures of the tools.

35. What are some of the safety things a fireman uses? Can you write and tell why he uses them? Draw pictures of them.

36. Write a letter to the Fire Department inviting a fireman to visit our room and tell us about their work.

37. What are some questions you would like to ask a fireman? Can you think of 5 questions and write them down?

38. Plan a trip to the fire station for us. Maybe you could work out the plans by forming a committee. What important things would you need to arrange?

39. Draw a picture of the section of the firehouse you liked best, such as where the firemen sleep, their kitchen, where the hoses are hung, where the fire reports come in, or where the equipment is kept.

40. Write a thank you letter to the Fire Department or fireman for visiting us or letting us visit them.

41. Write a fire prevention slogan. Illustrate your slogan by making a poster.

42. Write a "cinquain" poem about fire or firemen.

43. Arrange an exhibit of toy fire engines. Ask other people in our class to help you.

44. Make a firehouse using big blocks or boxes.

45. What things can you find out about firemen in the encyclopedia.

THE POLICEMAN

1. Ask your parents what a policeman does. Report to the class.
2. Ask your parents about laws which have to do with pets and bicycles. Report to the class.
3. Make a list of things that a policeman would do to help a boy or a girl.
4. Make pictures of tools a policeman needs.
5. Make a report on how you can respect property at home, in your neighborhood, and at school.
6. With a small group of children make a chart for a bulletin board of community laws, traffic laws, litter laws, dog laws, and others that children should obey.
7. Find out what you would need to know to become a policeman.
8. Make a roller movie of:
   a. Police work in the daytime
   b. Police work at night.
9. What do drivers and people crossing streets need to know?
10. With a group of children dramatize safety rules for getting on the bus, riding on the bus, and getting off the bus.
11. Make a mobile using a metal coat hanger. Show the policeman and the services he performs around the clock. You might like to form a committee to do this.
12. From cardboard boxes and paper, make street traffic signals, police cars and policeman. Show how traffic lights work.
13. Make sentences of these words:

1. policeman	6. safe
2. badge	7. friend
3. station	8. patrol car
4. uniform	9. traffic
5. service	10. police station

14. Make a puppet of a policeman. Show the class how you would direct traffic.
15. Make a safety poster for the bulletin board.
16. Write a poem about a policeman, using the following as the first line:
    The policeman is our friend.
17. Copy this poem, learn it, and say it to the class.

P's the Proud Policeman

P's the proud policeman
With button polished neat.
He's pleased to put his hand up
When you want to cross the street.
By daylight he protects you:
He protects you through the dark;
And he points the way politely
To playground or the park.

THE POLICEMAN (cont'd)

18. Copy and learn this poem and say it to the class.

Safety

Stop! Look! and Listen!
Before you cross the street,
Use your eyes; use your ears;
Then use your feet!

19. Copy and learn this poem and say it to the class.

Stop and Go

The traffic lights we see ahead
Are sometimes green and sometimes red.
Red on top, and green below;
The red means STOP, the green means GO.
Green below—GO—GO—GO.
Red on top – STOP—STOP—STOP!

20. Find poem about a policeman and read it to the class.
21. Make a "cinquain" poem.
22. Look in some music books and find a song we can learn in our room. Give the name of the song, the name of the book, and the page number.
23. From the library check out the book entitled I Want to be a Policeman. Read it and tell the class what you need to know to be a good policeman.

THE POSTMAN

1. Draw a picture of a postman.
2. Build a post office with blocks or draw a picture of the post office.
3. Bring envelopes from home with canceled stamps.
4. Find out from your postman what you need to do to prepare to be a mailman.
5. Put your own name and address on an envelope.
6. Find where mail is delivered in your school. Where is it left to be picked up by the postman?
7. Draw pictures of things that can be sent by mail.
8. Find out the correct way to wrap and mail packages. Report to the class.
9. Write or draw pictures to show four ways by which mail is carried from one place to another.
10. Ask a postman–
    a. Where do postmen deliver mail?
    b. Why must stamps be put on letters?
11. Write a letter to your aunt, grandmother or relative. Thank them for a present.
12. Write a letter to the post office. Ask if we can come and visit.
13. Ask post office to send postman to visit us at school.
14. Write a thank you letter thanking the postman for coming.

15. Write a thank you letter to the post office for our visit.
16. Plan a trip to the post office for us. Maybe you can work out the plans by forming a committee. What important things would you have to arrange?
17. Write a make-believe story about a postman. Can you make your story exciting?
18. Look in our music books and see if you can find a song about a postman that we can learn. Write the name of the song Write the name of the book where you found the song and the page number.
19. Check out from your school library the book entitled I Want to be a Postman. Read it and report to the class what you would need to know to be a good postman.
20. Find a poem about a postman.
21. Write a "cinquain" poem about the postman.
22. See what you can find out from the encyclopedia about the postman. Report to the class.
23. See what you can find out from the encyclopedia about the post office and report to the class.
24. Learn to read this poem. Read it to your class.

The Postman

You must, I think be very strong
To be a postman all day long
For though it rains, or snows or sleets
You still go walking through the streets.

25. Make a scrap book of workers who help deliver mail. Write a sentence under each picture.
26. Copy these sentences. Number them from 1 to 5 in their proper order.

    Wavy lines are stamped on each letter at the post office.

    The postman takes the mail from the mailbox.

    The postman takes the mail to the post office.

    The postman delivers mail to homes.

    Letters are put into small boxes at the post office.

27. Read these sentences. Choose one that you wish to illustrate. Draw what the sentence tells you. Write a sentence or several sentences that tell about your picture.

    I deliver mail to farms.

    I work in the post office.

    I collect mail from the mailbox.

    I sell stamps at the post office.

    I take care of packages in the post office.

    I take the mail to a _____ so that it can travel to other cities.

SUPERMARKET WORKERS

1. What are some things families need to buy almost every week?
2. Cut out from magazines all household things you can buy in a supermarket that is not food.
3. Arrange to visit a supermarket.
4. Draw pictures of the supermarket helpers. Write under the picture who the helpers are.
5. Make a Mural showing the departments of a supermarket.
6. What must you need to know to be a good supermarket clerk?
7. Cut out pictures from magazines of trucks, boats, and trains which transport foods and other goods to supermarkets.
8. Collect and arrange food wrappers and other containers used in the supermarket.
9. Draw pictures of machines that help do work of the supermarket.
10. Pretend you are the checker. Pretend a classmate is a customer. Use play money. Practice making change.
11. Draw pictures of 3 things you could buy in a supermarket if you had a dollar to spend.
12. Draw a picture of what you could buy in a vegetable department, fruit department, meat department, and the canned goods department.
13. Write stories about supermarket workers. Draw pictures of the workers and tell what their jobs are.
14. Make a roller movie showing workers in a supermarket.
15. Write a story and draw pictures that show you and mother when you went to buy something in a supermarket.
16. Cut out newspaper advertisements of food sales and compare prices for a week.
17. Draw pictures of foods that would cost less in the summer than in the winter.
18. Make sentences using these words:

1. fruit	5. park
2. frozen	6. clerk
3. wash	7. cart
4. supermarket	8. pay

19. Arrange an exhibit of empty food containers that are weighed, foods that are measured in cartons as in pints, quarts, and one-half pints. Also foods that are counted like eggs.

SUPERMARKET WORKERS (cont'd)

20. Copy this poem and draw pictures.

A grocer puts out on display
The foods we need to have each day.
The fruits and vegetables we eat,
The butter, cheeses, soups and meat,
Cold milk, fresh eggs and loaves of bread--
These foods help us to be well fed.

DEPARTMENT STORE WORKERS

1. Draw a picture of the place where your family shops.
2. Cut out pictures of stores where we buy things to wear. Write down what you can buy.
3. Cut out from newspapers things advertised to wear. Make a bulletin board using your pictures.
4. Write a story and draw pictures of when you went with mother to buy something to wear for school.
5. Make a roller movie of workers who work in a department store.
6. Draw pictures of clothing you would need for:
   a. a picnic in the mountains
   b. hot summer weather
   c. a picnic on the beach
   d. a walk to school in the rain
   e. a snowy day
7. Collect pictures of stores that sell only one thing.
8. Write a paragraph about shopping in a department store with mother and father.
9. Lear to read this poem. Read it to your class.

SHOP WINDOWS

Mother likes the frocks and hats
And pretty stuffs and colored mats.
Daddy never, never looks
At anything but pipes and books.
Auntie's fond of chains and rings
And all the sparkly diamond things.
Richard likes machines the best
He doesn't care about the rest.
Nanny always loves to stop
In front of every single shop.
But I don't want to wait a minute
Till we get to one with puppy dogs in it.

THE FARMER

Dairy Farmer

1. What do we get from a dairy farm?
2. What animals are most important on a dairy farm? Make pictures.

Dairy Farmer (cont'd)

3. What buildings would you find on a dairy farm? Use paper boxes to make a model of a dairy farm.
4. Draw a picture of cows in a barnyard.
5. Draw pictures of some foods you eat that are made of milk.
6. Make a list of some machines the dairy farmer needs. Draw pictures.
7. Make a bulletin board that will show pictures of different kinds of dairy foods. Use magazines or newspaper pictures.
8. Begin at the farm and tell where the milk goes before it reaches your home or supermarket. Draw a picture of a big milk truck carrying milk to the creamery.
9. Use these words in sentences.

1.	pasture	5.	graze
2.	grain	6.	hay
3.	crop	7.	milk
4.	grass	8.	silage

10. What size containers is milk sold in?
11. Bring some empty milk containers from home to share with the class.
12. Tell how milk is measured.

Other Farms

1. What foods would you find on a truck farm?
2. Make a bulletin board of vegetables that come from a truck farm. Cut pictures out of magazines of vegetables that come from a truck farm.
3. Bring vegetables from home to make vegetable men.
4. Draw five vegetable men.
5. Find where farmers in our community get water for growing plants.
6. How can food be made to keep for winter?
7. Make a list of fruit grown in our community.
8. Make pictures of fruits grown in our community which grow on trees.
9. Make pictures of fruits grown in our community which grow on bushes.
10. Make pictures of fruits grown in our community which grow on vines.
11. Cut pictures from magazines or newspapers of fruits grown in our community which grow on trees.
12. Cut pictures from magazines or newspapers of fruits grown in our community which grow on bushes.
13. Cut pictures from magazines of newspapers of fruits grown in our community which grow on vines.
14. Visit a supermarket and make a list of fruits that are used for making frozen or canned fruit juice.
15. Make sentences using these words.

1.	vine	5.	pump
2.	bush	6.	pipe
3.	orchard	7.	ditch
4.	insect	8.	crush

16. Make pictures of how you could have fun on a farm in the summer.
17. Make pictures of how you could have fun on a farm in the winter.
18. Make pictures of how you could have fun on a farm in the spring.
19. Make pictures of how you could have fun on a farm in the fall.

Other Farms (cont')

20. Write a poem about a farmer.
21. Find a poem about a farmer and prepare to read it to the class.
22. Look in the encyclopedia and read about farming. Report to the class.
23. There are many kinds of farms. Write down at least 5.

TELEPHONE REPAIRMAN

1. Make a list of people who work for the telephone company.
2. Find the emergency number listed in front of the directory.
3. Think of some important rule in using the telephone.
4. List 5 good reasons for using a telephone.
5. Look in the yellow pages of a telephone book and list services. Find out and list special workers who performed services for your family last week.
6. Write a letter to the telephone company asking them to send a man to our school to tell us about the telephone.
7. Think of some questions you will ask the telephone man when he comes to see us at school.
8. Write a cinquain poem about the telephone repairman.
9. Write a letter thanking the telephone man for coming to our school to tell us about the telephone.
10. Draw a picture of a telephone repairman at work.

MISCELLANEOUS

1. From a magazine cut out pictures of 5 community helpers that produce goods. tell what they produce.
   Find five helpers who produce services. Arrange pictures on charts as follows:
   Producers of Goods Producers of Services
2. Write a poem – If I were a _____
   or When I grow up _____
3. What services do you need to run a city?
4. What services do you need to run a school?
5. List five things that you have used since yesterday.
6. List five things that you have eaten since yesterday.
7. What does your father produce?
8. What does your mother produce?
9. What do you produce?
10. Act out or pantomine the work your father does.
11. Act out or pantomine the work your mother does.

VOCATIONAL EDUCATION - Elementary Level

T & I E

Fall 1968

Paul Jenkins

"High School For Randy"

In the past, the special education student student has had very little to look forward to after completion of formal education due to a lack of experience and knowledge. Often this formal education has ended with the completion of junior high because of the lack of a motivating program at the senior high level. With the development of the work experience program at this level, the vacuum seems to be filling.

A student is accepted into the program by a board consisting of the teacher (pre-vocational advisor), vocational rehabilitation officer, psychologist, physician, and social worker. A conference is held with the student so his wants, needs, and ambitions can be considered. The student's parents are also a part of the planning.

Armed with the students interests the teacher finds a job placement within the community. The student may have several different job placements to help him gain experience. With completion of senior high school, the Department of Vocational Rehabilitation continues to counsel the student should he need further training and also may help with a permanent job placement.

High School for Randy is a small booklet explaining the special education work experience program. Based on a cartoon story it is for use with elementary students and parents. In many instances the modification of parental attitudes is essential for the formation of desirable and constructive attitudes of the child. Therefore, parental attitudes are quite significant and having these parents understand the program is very important.

Sometimes when planning with parents of special education students, it is difficult to explain long range goals and programs which are available in the higher grades. With the availability of High School for Randy to supplement a personal contact, parents as well as students will gain a more graphic understanding and awareness of what public education has to offer the special education student.

HIGH SCHOOL FOR RANDY

BY

Paul Jenkins

Illustrations
by
Sue Underwood

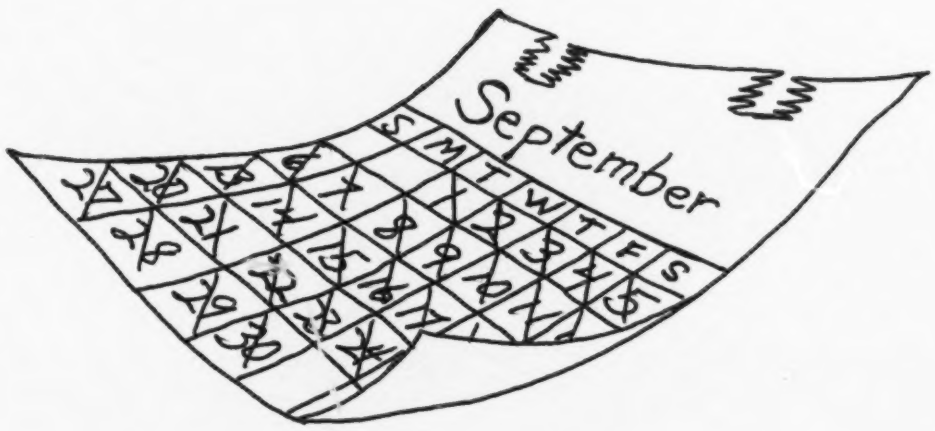
This is Randy

Randy goes to High School. He is in the Work Experience Program.

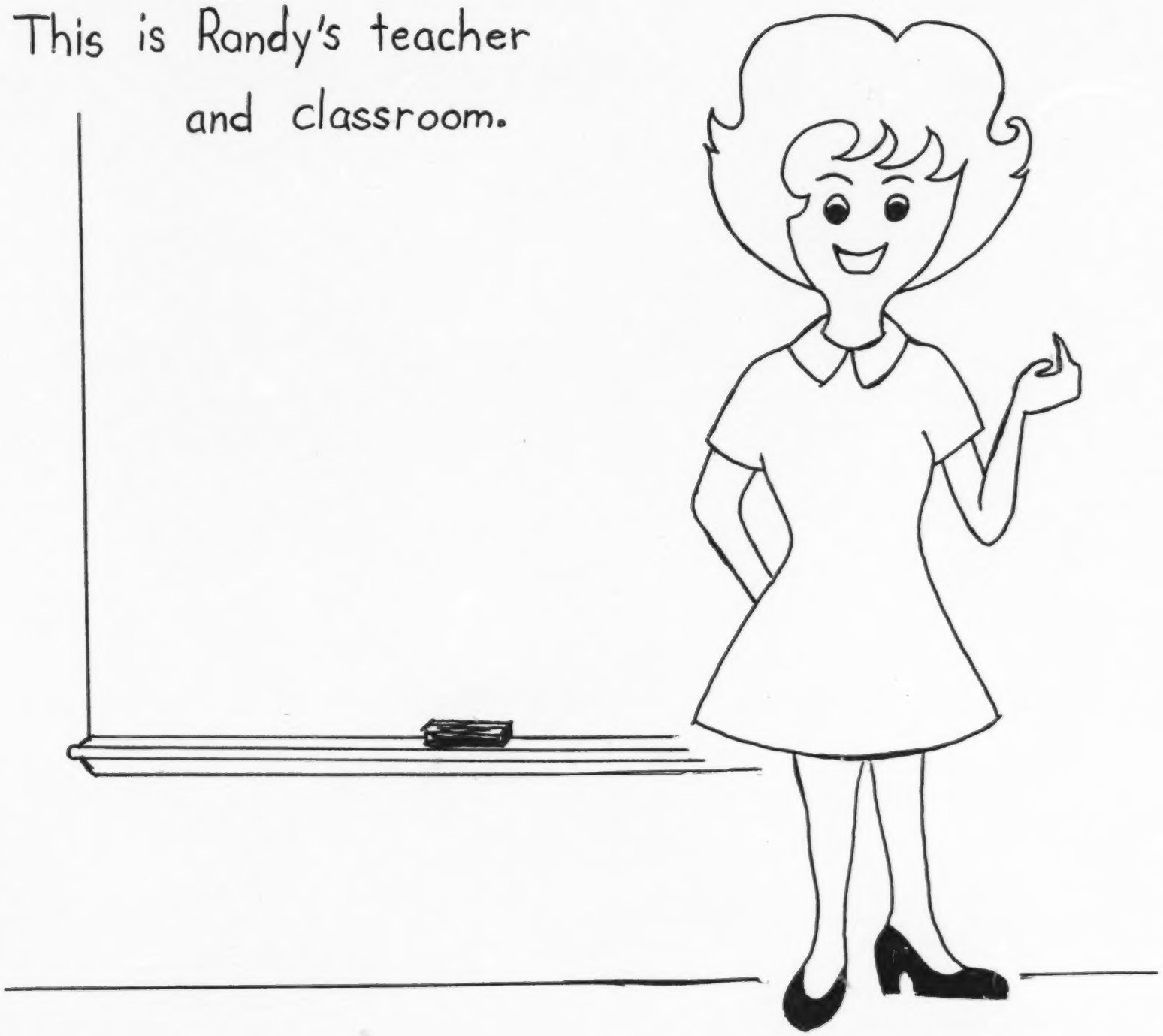
Randy likes High School

He likes to learn!

Randy goes to school every day.



This is Randy's teacher
and classroom.

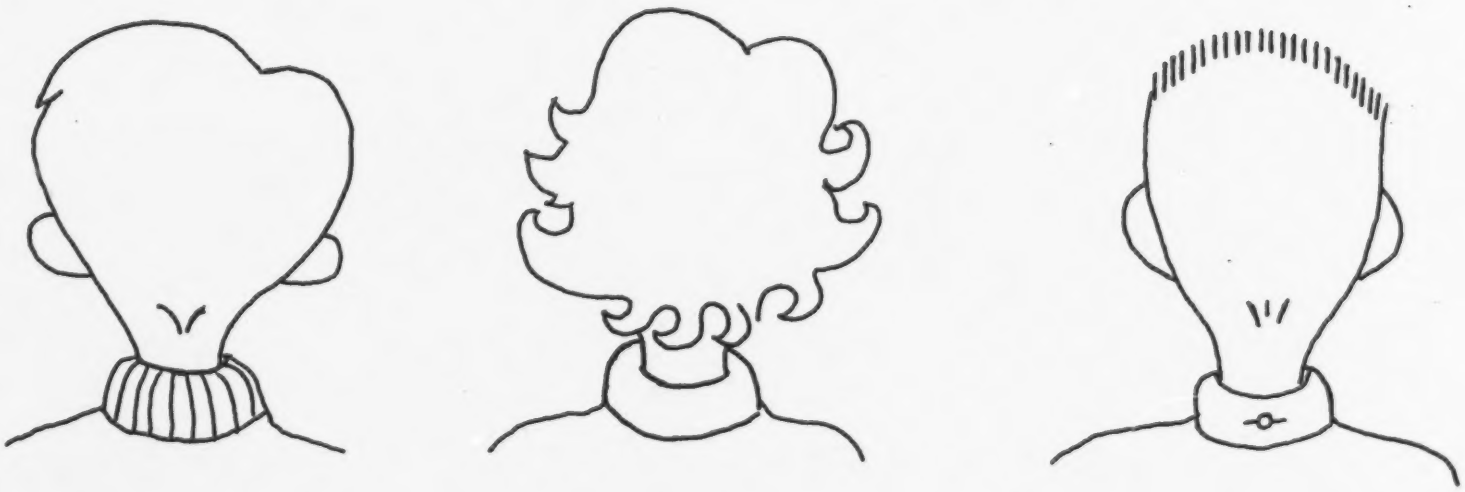


At the start of school, Randy talked with his teacher. Randy would like to be a meat cutter.

Randy's teacher found him a job placement in a butcher shop.

Randy attends classes all morning.

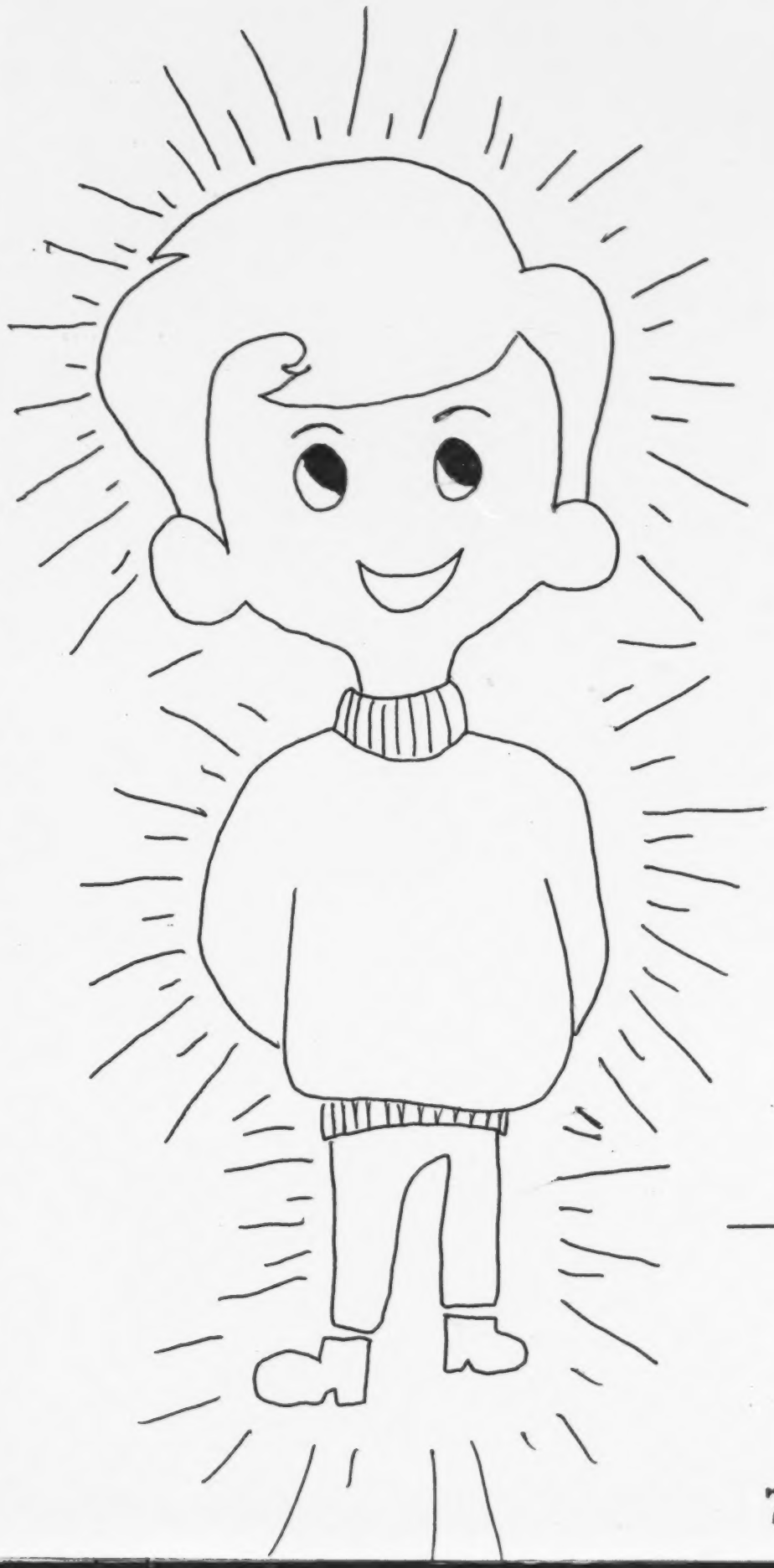
Reading
Spelling
Arithmetic
Writing
English

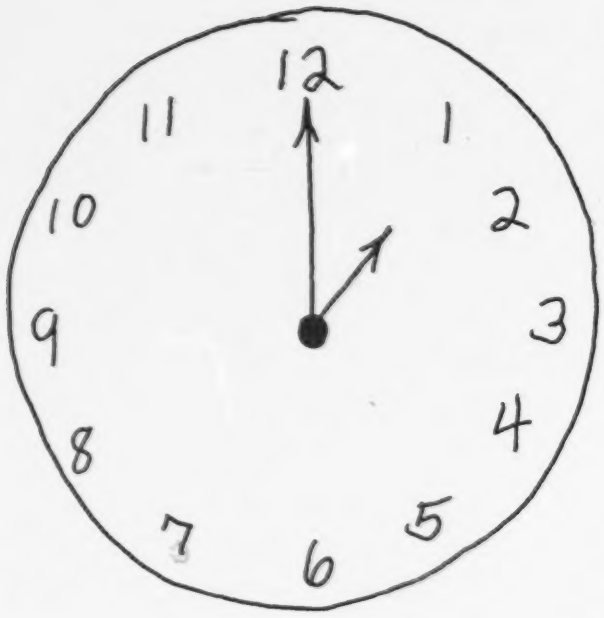


After lunch, Randy goes to the Butcher Shop.

Randy learns on the job.

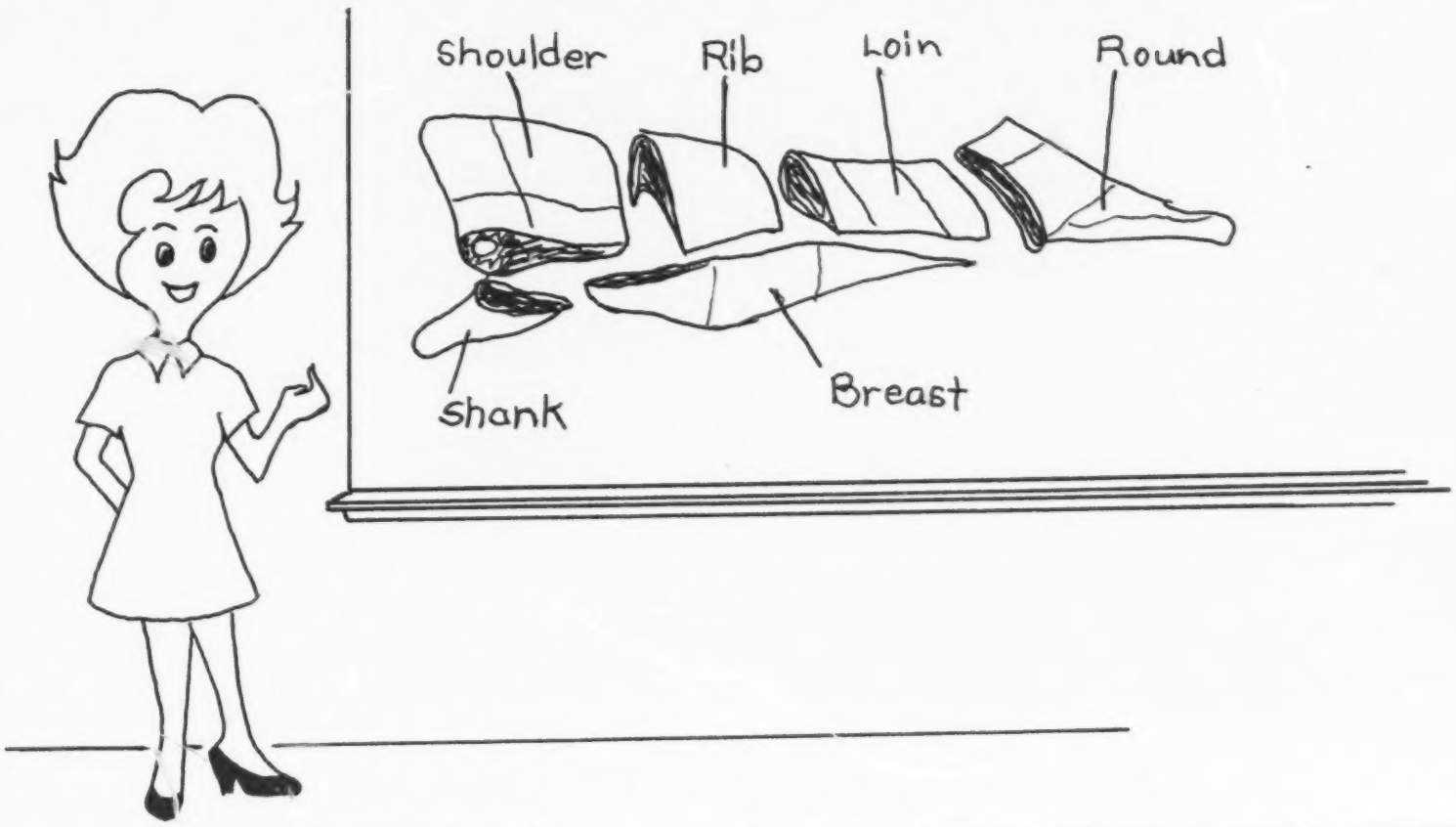
Randy also learns it is important to be on time and to dress well.





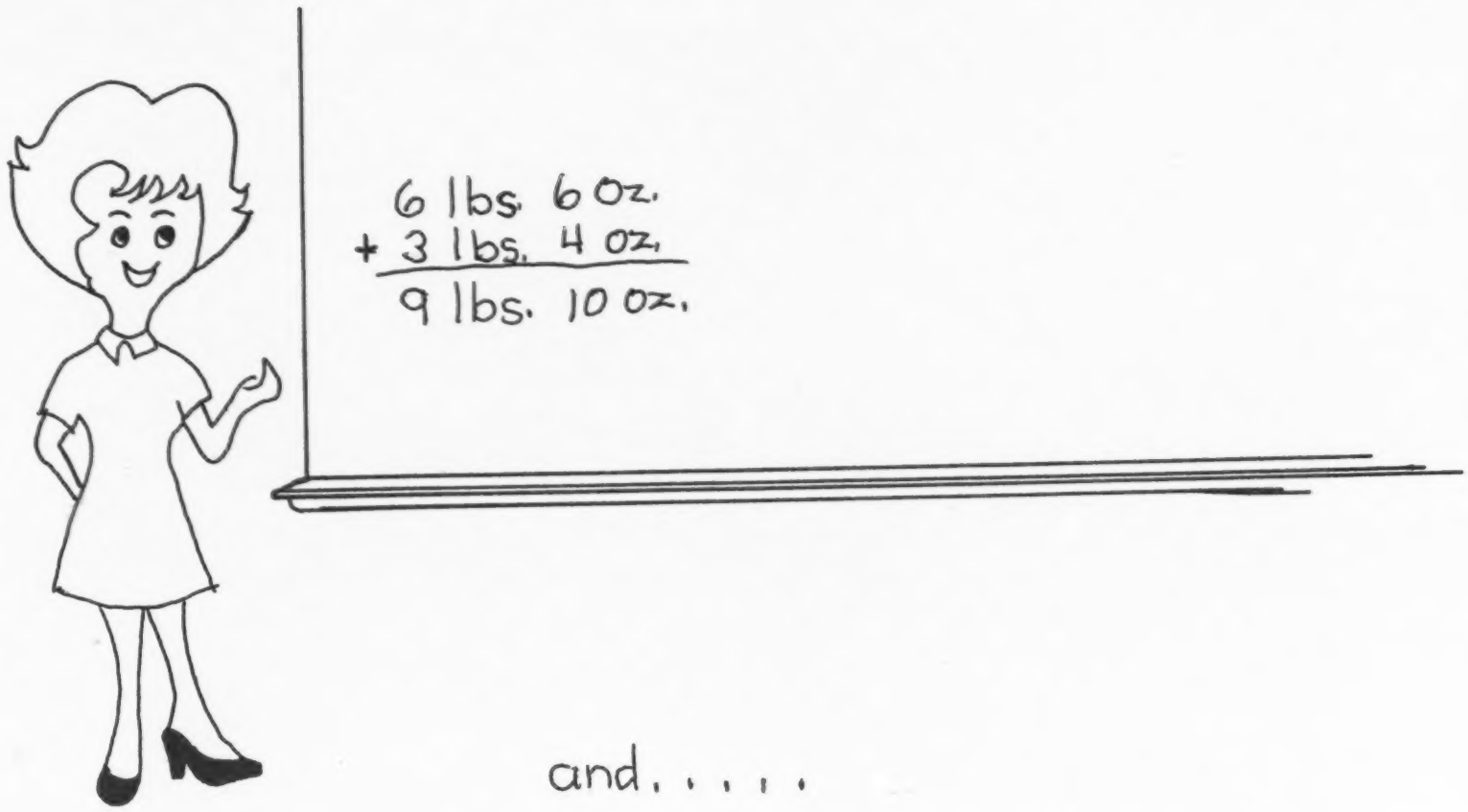
Randys' teacher visits him at the job - The job is part of school

Randys' teacher helps him learn about the job.



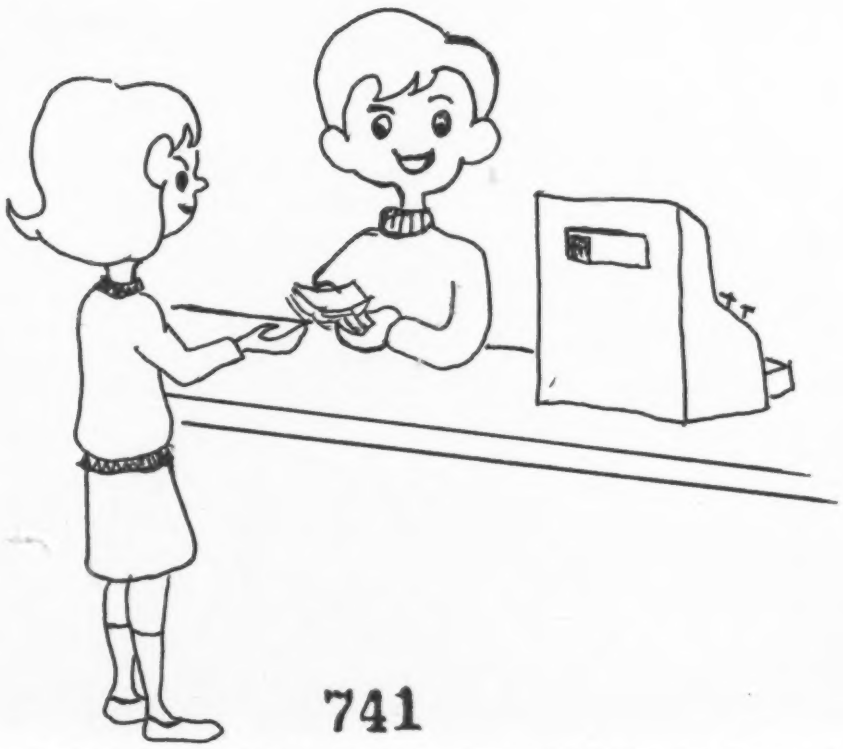
Randys' boss helps him.

In the classroom, Randy learns pounds and ounces—

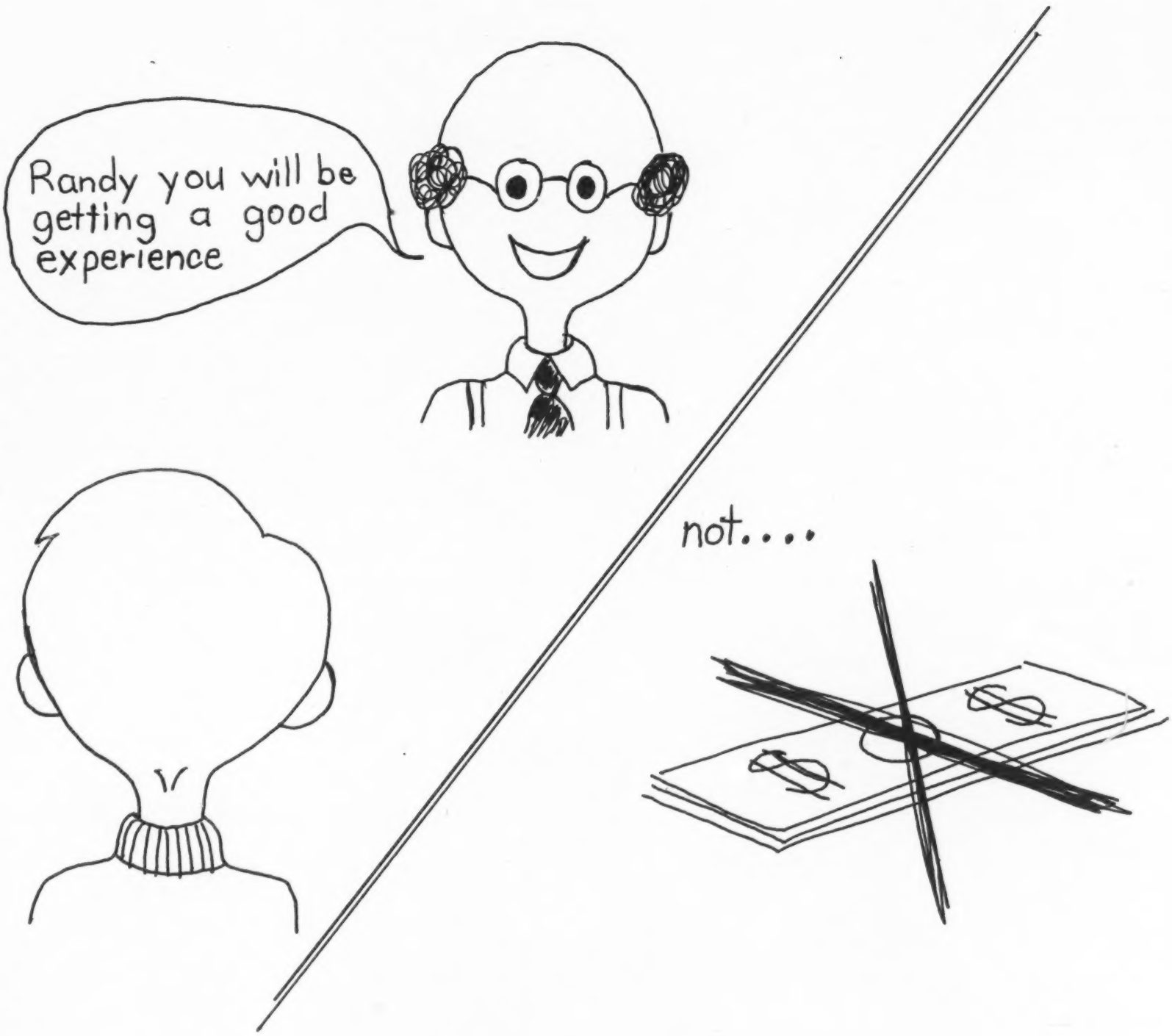


and.....

making change.



He is paid by the experience he is getting—



Some of Randys' classmates have other jobs in....

Hospitals

Schools

Libraries

Paint shops

Grocery stores

Bakery

Nursing Homes

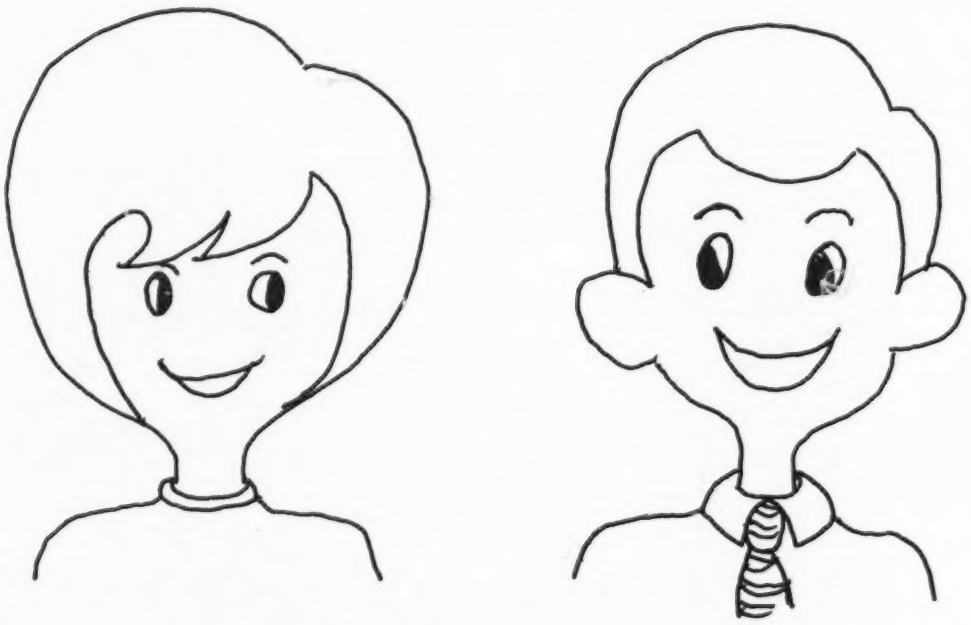
Tire shops

Upholstery Shops

Department stores

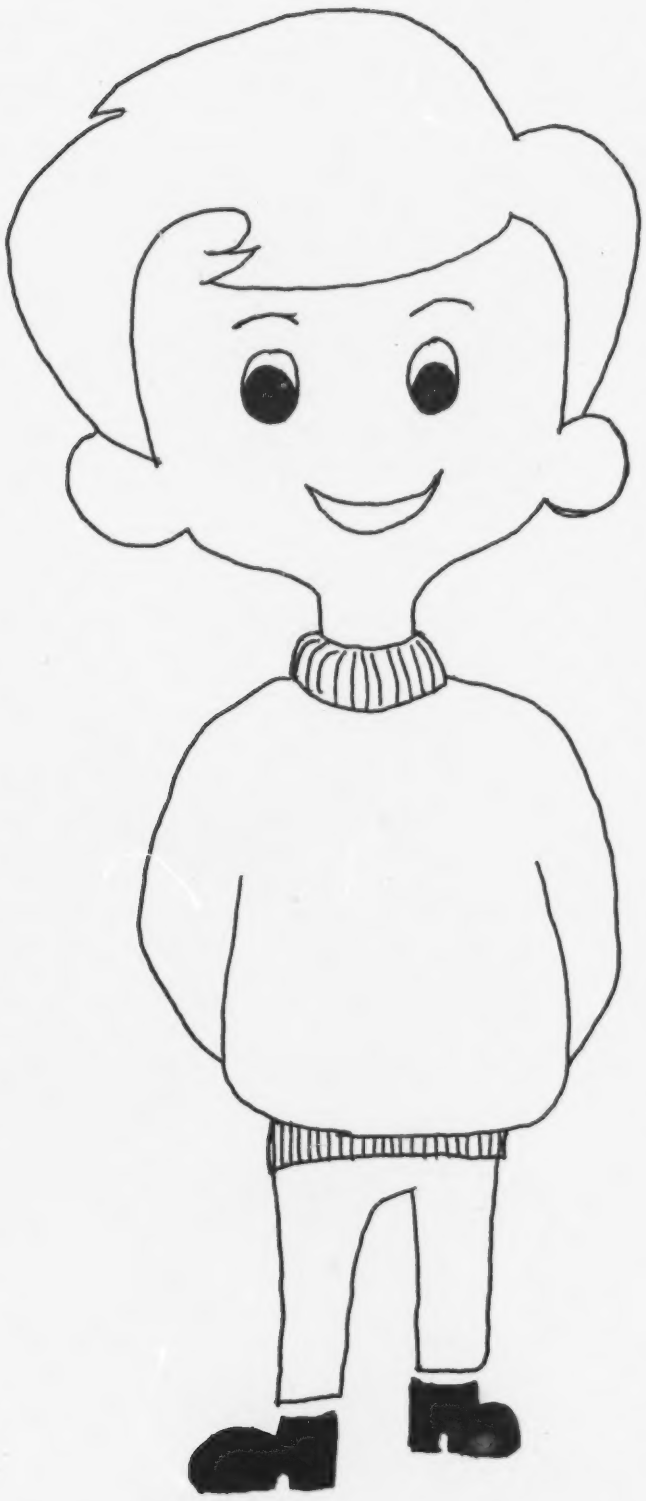
Randys' teacher is happy.

Randys' boss is happy.



Randys' parents are happy.

But most of all, Randy is HAPPY!!



The END

	Would I like to do this job when I grow up or wouldn't I?				How much do I know about this job?		
		I WOULDN'T	I MIGHT	I KNOW I WOULD	NOTHING	A LITTLE	A LOT
1. service station attendant							
2. veterinarian							
3. housewife							
4. mechanic							
5. lawn mower							
6. typist							
7. farmer							
8. ship loader							
9. cafeteria manager							
10. radio-TV repairman							
11. telephone repairman							
12. bank manager							
13. cannery worker							
14. advertising artist							
15. electricity company pres.							
16. dress maker or taylor							
17. welder							
18. nurse's aid							
19. orchard worker							
20. office manager							
21. pop truck driver							
22. baby sitter							
23. plumber							
24. air line stewardess							
25. fertilizer salesman							
26. bookeeper							
27. salesman							
28. dietician							
29. carpenter							
30. beauty operator							
31. farm machine repairman							
32. accountant							
33. insurance man							
34. mother							
35. newspaper printer							
36. nurse							
37. spray salesman							
38. computer operator							
39. warehouse worker							
40. cook							
41. brick layer							
42. ambulance driver							
43. logger							
44. shipping clerk							
45. store clerk							
46. home economics teacher							
47. electrician							
48. barber							

	do this job when I grew up or wouldn't I?	I WOULDN'T	I MIGHT	I KNOW I WOULD	I know about this job? NOTHING	A LITTLE	A LOT
49. newspaper reporter							
50. dentist							
51. game warden							
52. newspaper advertising							
53. doctor							
54. motel manager							
55. kitchen worker							
56. policeman							
57. bulldozer driver							
58. soldier or sailor							
59. druggist							
60. cleaning lady							
61. forest ranger							
62. pilot							
63. grocery checker							
64. fireman							
65. lawyer							
66. janitor							
67. highway engineer							
68. actor or actress							
69. factory president							
70. night watchman							
71. minister							
72. X-ray technician							
73. teacher							

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ABSTRACT - This document contains the final report of the initial evaluation of the UNICEF-UNESCO-assisted industrial arts education and vocational guidance project in Taiwan, Republic of China. The project was designed to enrich the curriculum and instruction in 803 secondary schools. Major topics considered in this evaluation are: (1) Present Status of Project, (2) Plan and Organization of Initial Evaluation of Project, (3) Training of Industrial Arts and Vocational Guidance Teachers, (4) Industrial Arts Workshop, Tools and Equipment, (5) Evaluation of Other Aspects of Project, and (6) Various background information. Recommendations are included. The portion of this publication in the Chinese language has not been reproduced. (GR)

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REPORT
ON
INITIAL EVALUATION
OF
INDUSTRIAL ARTS EDUCATION AND VOCATIONAL GUIDANCE PROJECT
TAIWAN PROVINCE AND TAIPEI SPECIAL MUNICIPALITY
REPUBLIC OF CHINA

DEPARTMENT OF SECONDARY EDUCATION
MINISTRY OF EDUCATION
REPUBLIC OF CHINA

May 1969

VT011 290

INTRODUCTION

The Government appointed an Evaluation Sub-Committee under the direction of the National Advisory Committee of the Ministry of Education consisting of the following members to assist Government to conduct an initial evaluation of the UNICEF-UNESCO-assisted industrial arts education and vocational guidance project in Taiwan, Republic of China.

1) Professor Tsung Liang-tung, Department of Education, National Taiwan Normal University, Taipei.
2) Professor Kang Tai-kuang, Convener of Resident Members, Committee for Promoting Co-operation between Economic Development and Education, Ministry of Education.
3) Dr. Chiang Chien-pai, Chairman, Chinese Guidance Association.
4) Professor Chien Cho-sheng, Department of Home Economics, National Taiwan Normal University, Taipei.
5) Miss Wang Ya-chuan, Director, Department of Secondary Education, Ministry of Education (Convener).

The Sub-Committee had the advantage of advice and assistance of Prof. T. K. N. Menon, Educational Adviser, Messrs T. C. Antoine and G. W. Kendrick, ILO Adviser, and Mr. Y. C. Chen, Chief, UNICEF China Liaison Office. This document is the final report of initial evaluation conducted by the Sub-Committee.

Thanks of the Government are due to the Members of the Sub-Committee for their elaborate study of all aspects of implementation of the project and for their comprehensive report containing valuable suggestions for more effective working of the project. The Government wishes to convey its thanks to ILO for providing it with the consultative services of Messrs

T. C. Antoine and G. W. Kendrick on evaluation of industrial arts education. It is indebted to Professor T. K. N. Menon whose experience and expertise in education and evaluation techniques have helped the Evaluation Sub-Committee considerably to make a comprehensive study of the programme and activities carried out under the project, evaluate them and also prepare its report. The Government is grateful to UNICEF for the valuable cooperation, help and counsel they have received from Mr. Y. C. Chen, Chief, UNICEF China Liaison Office, who actively participated in the initial evaluation.

The Evaluation Sub-Committee in the course of its work visited many educational institutions in Taiwan, held discussions with several educational administrators and teachers, and received questionnaire returns from a large number of persons involved in the implementation of the project. The Government records its appreciation of the excellent co-operation that all these persons rendered and hope that such co-operation would be forthcoming also for the implementation of the recommendations of the Evaluation Sub-Committee.

Wang Ya-Chuan
Director
Department of Secondary Education
Ministry of Education

1 May 1969

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1 Present Status of UNESCO-UNICEF-Assisted Industrial Arts Education and Vocational Guidance Project

1.1 Introduction

The UNESCO-UNICEF-Assisted Industrial Arts Education and Vocational Guidance Project attempts to enrich the curriculum and instruction in secondary schools in the Province of Taiwan in the Republic of China. There are at present (1968-69) in Taiwan 803 secondary schools composed of 487 junior high schools, 97 senior high schools and 219 general high schools with both the junior and senior divisions. The 803 secondary schools have an enrolment of 921,166 pupils and a teaching staff of 35,149 teachers. The over-all teacher pupil ratio of 1:26.5 compares favourably with that in many other Asian countries.

The UNESCO-UNICEF-Assisted project seeks to enrich the curriculum of junior high schools by strengthening the teaching of industrial arts and home economics and by organizing a functional vocational guidance programme in the schools. It is a happy coincidence that soon after the project started getting implemented the Government made a bold decision to extend the six-year compulsory elementary education with a programme of three-year universal free education in the junior high school. This pioneering educational effort has far-reaching consequences and has psychological, social and economic implications. The extension of education of the pupil from the age of twelve to the age of fifteen ensures for him instruction and guidance during the most vital years of early adolescence. Recent advances in adolescent psychology stress the importance of this stage of development often called the Renaissance Age of an individual. Before the enactment of the three-year universal

free education in the junior high school about half the number of elementary school graduates drifted into the world of unskilled labour and only the rest proceeded to further education. This bought with it social and economic difficulties because the pupil without guidance during early adolescence could develop into a problem for society and one without proper training and unable to contribute to national economy could be a drag on the community. The new programme of industrial arts and home economics education along with that in vocational guidance, if properly carried out, could mitigate against these dangers, and prepare pupils for healthy living in the community better fitted for the world of work and able to contribute to national development. Therefore in identifying the areas of industrial arts, home economics and vocational guidance, the Government, UNESCO and UNICEF have shown considerable foresight and wisdom because of all the school subjects taught and other educational activities carried out in the junior high school, the areas chosen for intensified effort assume unique importance and significance in the context of the new extended three-year programme of universal free education.

The curriculum of junior high schools along with that of elementary schools got revised during 1968 when the Government started to extend the six-year compulsory education programme with a three-year universal free education in the junior high school. The present status of industrial arts, home economics and vocational guidance in the revised curriculum of junior high schools will be evident from the following:

Courses of study of junior high schools

Hours per week / Academic year / Courses	Junior high school		
	9th grade	8th grade	7th grade
Civics & Moral Education	2	2	2
Health Education		1	1
Chinese	6	6	6
English	2-3	2-3	2-3
Mathematics	3-4	3-4	3-4
History	1	2	2
Geography	1	2	2
Natural Science	4	4	3
Physical Education	2	2	2
Music	1	1	2
Fine Arts	1	1	2
Industrial Arts & Home Economics	2	2	2
Vocational Information		1	
Drawing		2	
Horticulture		2	
Abacus		2	
Agriculture	4-6		
Industry			
Commerce			
Home Economics			
Sciences			
English			
Music			
Art			
Scouting	1	1	1
Guidance	1	1	1
Total Hours	31-35	31-35	31-35

Electives

1.2 Objectives of Project

The plan of operations of the project enumerates the following long-term objectives:

"1. To provide, improve, and expand industrial arts education in junior high schools with a view to strengthening the foundations of work among school children, developing positive attitudes towards manual labour, establishing desirable appreciation and good patterns of conduct, and functional knowledge and usable practical skills so that the trainees may become worthy members of the home and the community;

2. To understand and appreciate the technological changes in the form of materials, processes and tools and in the production of goods and services and the problems connected with these changes; to develop sympathetic attitudes toward the problems of labour and its relationships with management;

3. To provide a functional guidance programme in junior high schools and utilize, among other things, the work experience programme of the schools as a means of identifying aptitudes, interests, and talents of pupils, thereby enabling them to make their own decisions regarding the choice of their future vocation or career; and

4. To provide a relationship of training between the foundation of vocational education in the lower grades with vocational technical education in the upper grades for man-power development of the country."

The immediate objectives of the project are stated as follows:

"1. To improve the pre-service and in-service training of

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teacher-educators, administrators, supervisors, guidance teachers, and school teachers in industrial arts and vocational guidance at the National Taiwan Normal University where training courses of various durations will be conducted for selected personnel over a period of five years from mid-1967 to mid-1972;

2. To institute a comprehensive educational system in all schools in Taiwan by establishing 66 demonstration schools to teach industrial arts (30 of them to teach also home economics) which will be strategically situated throughout the Province and serve as models for further expansion in future and
3. To publish supplementary books, booklets, pamphlets, leaflets and periodicals, make film strips and slides in industrial arts and vocational guidance and establish "norms" through preparation and administration of pupil inventory tests"

1.3 Plan of Action of Project

The plan of action to implement the project consists of i) organizing teaching of industrial arts in 66 demonstration schools i.e. 3 schools in each county or city and organizing teaching of home economics in 30 among these schools; ii) providing the schools with the necessary teaching aids, tools and equipment for the purpose: iii) organizing an in-service training programme to prepare teachers to teach industrial arts in the schools; iv) providing similar in-service training to prepare teachers to carry out a functional vocational guidance programme in the schools; v) arranging for follow-up supervision of industrial arts teachers who received in-service training; vi) preparing and administering a battery of pupil inventory tests to establish norms for use in vocational guidance; vii) publis-

hing a number of books, booklets, pamphlets, leaflets and charts in the field of industrial arts, home economics and vocational guidance; viii) providing three fellowships for key personnel engaged in implementation of the project for observation and study of working of industrial arts and vocational guidance in appropriate foreign countries and ix) holding of annual seminars for teacher educators, educational administrators, principals and teachers of schools for planning, reviewing and evaluating the programmes included in the project.

1.4 Plan of Action and Implementation of Project

The following describes briefly the programmes mentioned in the plan of action and the status of their implementation up the time of initial evaluation.

i) **Demonstration schools:** 66 demonstration schools would be set up during five years to teach industrial arts at the junior high school level; 30 among the schools will teach also home economics. UNICEF should supply the necessary additional tools and equipment necessary for teaching the two subjects.

14 schools have been selected by the Government to be developed into demonstration schools during the first year and they have been provided with work shops to teach industrial arts. UNICEF tools and accessories were distributed in time among the 14 schools to enable them to start teaching industrial arts according to the plan of action. 16 schools had received aid from US AID in previous years to teach industrial arts. They are also functioning as demonstration schools.

ii) **Training of teachers:** The project envisages the training of 500 teachers, at the rate of 100 teachers a year, to teach industrial arts, and 400 teachers, at the rate of 80 per year, to implement the vocational guidance pro-

gramme. The in-service training would be conducted at the National Taiwan Normal University which has good facilities for the purpose. The industrial arts teachers would do a 24-week training course in two instalments of 16 and 8 weeks and the guidance teachers a continuous 3-week course.

During July 1967 to January 1968 and July 1968 to January 1969, batches of 102 and 66 teachers respectively were trained in 24-week courses in industrial arts. A batch of 82 vocational guidance teachers underwent training of 3 weeks duration during August 1967 and another batch of 92 teachers did in August 1968 a similar training, but of 4 weeks duration.

iii) **Seminars**: The plan of action stipulates that annually eight 5-day seminars with 50 participants for each seminar should be held to plan, review and evaluate various programmes of the project.

Ten sessions of 5-day seminars were held before the end of December 1968, and they were attended by a total of 498 participants consisting of principals and teachers of junior high schools, supervisors and educational administrators.

iv) **Publications**: The plan of action envisages publication of sufficient literature in industrial arts, home economics and vocational guidance during the five-year period The publication should include i) 2,000 copies each of 20 supplementary books, ii) 5,000 copies each of 100 booklets, iii) 4,000 copies each of 30 pamphlets, iv) 4,000 copies each of 150 leaflets and v) 1,500 copies each of 20 charts.

Authors have been selected for 41 of the above titles and they have submitted the synopsis of manuscripts of publications that they have undertaken to prepare. Manuscripts in respect of 22 of the titles have been received, and edited, and

4 published·

v) **Pupils inventory tests:** It has been agreed that during the five-year period a battery of pupils inventory tests would be prepared to support the vocational guidance programme.

This work has been assigned to the Research Institute of Education of NTNU which has undertaken to construct the following 10 tests during the five-year period: i) general aptitude test, ii) Chinese aptitude, iii) English aptitude test, iv) mathematical aptitude test, v) mechanical aptitude test, vi) manal dexterity test, vii) personality inventory, viii) vocational Interest inventory, ix) study rabits inventory and x) academic achievement test.

The general ability test has been constructed, administered on the required sample and norms have been established for pupils of seventh grade. The study rabits inventory and manual dexterity test have been composed, try-out procedures completed and final forms of tests have been fixed.

vi) **Fellowships:** The plan of operations provides for three fellowships to be awarded to key personnel at present engaged in the industrial arts and vocational guidance programmes to enable them to undertake a six-month tour of observation and study of working of similar programmes in appropriate foreign countries. On their return they are expected to render more effective service to implement the project with the expertise that they develop during the observation tours.

UNESCO fellowships have been awarded to three experienced officers who are engaged in implementation of the project. They have proceeded to Japan to study and observe teaching of industrial arts and organization of vocational guidance at the junior high school level in the country.

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2. Plan and Organization of Initial Evaluation of Project

2.1 Introduction

Article X of the plan of operations of the industrial arts education and vocational guidance project stipulates that there should be an initial evaluation of working of the project towards the end of first year with emphasis on a) teacher training; b) components of the set of tools and equipment supplied to the demonstration schools and c) other aspects of the project which may be decided, in order to form a base-line for such modifications as may be necessary for successful implementation of the project in subsequent years.

2.2 Evaluation Sub-Committee

Since according to procedure and practice, the responsilibity of project assessment vests with the Evaluation Sub-Committee of the National Advisory Committee of the Ministry of Education, the following members were appointed to the Sub-Committee to assist Government to make the initial evaluation:

1) Professor Tsung Liang-tung, Department of Education, Provincial Normal University, Taipei.
2) Professor Kang Tai-kuang, Convener of Resident Members, Committee for Promoting Co-operation between Economic Development and Education, Ministry of Education.
3) Dr. Chiang Chien-pai, Chairman, Chinese Guidance Association.
4) Professor Chien Cho-sheng, Department of Home Economics, Provincial Normal University, Taipei.
5) Miss Wang Ya-chuan, Director, Department of Secondary Education, Ministry of Education (Convener).

The above Members of the Sub-Committee are university

professors or similarly placed specialists and are not connected directly with implementation of the project. So they have independence to take a detached view of the project and have also very good understanding of relevant local conditions and circumstances. Since the Sub-Committee works under the direction of the Ministry of Education, it has the backing of the Government at the highest level.

The Sub-Committee was assisted in planning, conducting and preparing the report of initial evaluation by Prof. T.K.N. Menon, UNESCO Educational Adviser and it had the advantage of the expertise of Messrs T.C. Antoine and G.W. Kendrick, I.L.O. experts assigned to the Republic of China to evaluate the teaching of industrial arts including its role in educational guidance. Mr. Y.C. Chen, Chief, UNICEF China Liaison Office took an active part in the initial evaluation and he and his office lent valuable assistance in a variety of ways to arrange the conduct of meetings of the Sub-Committee and field visits to demonstration schools and training centres.

2.3 Programmes for Evaluation

At the first meeting of the Sub-Committee held on 1 November, 1968, it was agreed that besides evaluating the training of teachers for the industrial arts education and vocational guidance programme and tools and equipment supplied by UNICEF to the demonstration schools, the Sub-Committee should also assess the present status of the publication and testing programmes, and examine the lists of home economics equipment to be supplied to the demonstration schools. It was also agreed that the Director, Department of Secondary Education, Ministry of Education, should make available to the Sub-Committee all the data, documents and literature relevant to implementation of the programmes to be evaluated.

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While the initial evaluation of the programmes mentioned above as a whole was to be the responsibility of the entire Sub-Committee, it was understood that the four members of the Sub-Committee in which their names appear above would deal respectively with the order following programmes: i) training of teachers in industrial arts and vocational guidance; ii) tools and equipment in industrial arts supplied to the demonstration schools and their use; iii) present status of publication and testing programmes; and iv) list of equipment in home economics to be supplied to 30 demonstration schools.

2.4 Criteria for Evaluation

After discussing various aspects of the project and their implementation., the Sub-Committee decided on the following main criteria to decide the techniques and procedures to be used for evaluation:

i) Has the implementation of the programmes chosen for evaluation been carried out according to the schedule in the plan of operations?

ii) Are the duration, courses and methodology of the in-service training programmes for industrial arts and vocational guidance teachers adequate?

iii) Do the teacher educators who carry out the in-service training programme possess the necessary competence? Do the concerned Departments in the National Taiwan Normal University possess enough workshops, equipment, tools and other facilities needed to organize an effective in-service training programme?

iv) Is the follow-up and supervision of trained teachers adequate to ensure that they are able to carry out satisfactorily teaching of industrial arts and organize a functional vocational guidance programme in their schools?

v) Is the selection of teachers for in-service training according to the needs of teaching industrial arts and organization of vocational guidance in the demonstration schools? Do the schools make proper and sufficient use of the professional competence that teachers develop during their training?

vi) What is the quality of this competence? Does it measure up to the needs of industrial arts education and vocational guidance in the junior high school?

vii) Are the equipment and tools supplied by UNICEF for industrial arts teaching of good quality? Are all items suitable for teaching and learning industrial arts? Are they put to proper use?

viii) Are the workshop facilities in the demonstration schools sufficient and convenient for a) teachers' demonstration, pupils' practical work, and b) storage of industrial arts equipment and tools?

ix) Is the publication programme well planned and organized to ensure that books, booklets, pamphlets etc. contemplated in the programme will be issued regularly? Do the titles chosen for the publications cover the present and developing needs of instruction in industrial arts eduation and programme of vocational guidance in the junior high school?

x) Does the battery of pupils inventory tests planned for construction meet the needs of vocational guidance in the junior high school? Do the methods of construction of tests conform to the scientific procedures prescribed for test construction? Have the persons entrusted with this work the necessary competence to do this assignment? Will it be possible at the present rate of progress to complete the work according to plan? What arrangements

have been made for the use of the tests in vocational guidance as and when they get ready?

xi) Above all, what are the chances and possibilities that the programmes hold out for the realization of the long-term and immediate objectives set forth in the plan of operations?

2.5 Techniques and Procedures of Evaluation

In choosing techniques and procedures of evaluation there were, besides the above criteria, three more considerations viz. a) evaluation should as far as possible be objective, systematic and comprehensive; b) the time and funds available for evaluation would not permit highly refined techniques and therefore relatively simple procedures which are possible within their limits should be developed and c) there should be no choice between quantitative and qualitative assessment; quantitative and qualitative approaches should be complementary and should confirm the findings of each other.

In view of all the above considerations, the Sub-Committee adopted the following techniques and procedures for evaluation

i) Preliminary discussion with officers of the Ministry of Education and Provincial Department of Education on all aspects of project implementation.

ii) Visits to the National Taiwan Normal University a) to observe the in-service training of teachers industrial arts and vocational guidance, b) to examine the workshops and other facilities that were utilized for training and c) to discuss with the teacher educators concerned all aspects of training-courses, duration methodology, selection of trainees, follow-up of trainees etc. Two visits were made for the purpose.

iii) Visit to a random sample of demonstration schools (7 out

of 30) a) to observe the workshop, tools and equipment supplied by UNICEF and their use in teaching and practical work, b) to examine the organization and working of vocational guidance and c) to discuss with principals, trained teachers and educational administrators the strengths and limitation of the two programmes.

iv) Construction, issue and analysis of returns of three questionnaires, viz. a) the first sent to all demonstration schools, seeking comprehensive information on all aspects of teaching of industrial arts and organization and administration of vocational guidance; b) the second issued to all teachers who received in-service training in industrial arts, asking for their reactions in detail on all aspects of training, facilities for teaching industrial arts in the schools and the extent to which follow-up supervision has helped their work and c) the third sent to all teachers who had received in-service training in vocational guidance asking for detailed information comparable to that in the second questionnaire, but related to vocational guidance.

v) Periodical meetings of the Sub-Committee to check, discuss and review findings and conclusions after making some of the visits mentione dabove so that during later visits necessary additional data could be gathered through observation and discussions, and the findings and conclusions be finalized.

2.6 Meetings of the Evaluation Sub-Committee

The Evaluation Sub-Committee held five meetings during November 1968 to March 1969. The meetings were attended by the UNESCO Educational Adviser, the two ILO experts, the Chief of the UNICEF China Liaison Office and representatives

of the Ministry of Education and Provincial Department of Education. The first meeting was to discuss the plan and procedures of evaluation, the second, third and fourth to review the findings after visits to the National Taiwan Normal University and demonstration schools and discussion with teacher educators, teachers and educational administrators concerned with the implementation of the various programmes of the project. At the last meetings of the Sub-Committee held on 28 March, 1969, the recommendations that had been formulated were discussed in detail, some major recommendations for more effective implementation of the over-all project formulated and the draft report of initial evaluation adopted unanimously

3. Training of Industrial Arts and Vocational Guidance Teachers

3.1 Introduction

An important objective of the UNESCO-UNICEF-assisted industrial arts education and vocational guidance project is to improve the pre-service and in-service training of industrial arts and vocational guidance teachers. The plan of operations stipulates that the National Taiwan Normal University, formerly called Taiwan Provincial Normal University, will conduct training courses of various durations over a period of five years from mid-1967 to mid-1972 to achieve this objective.

The plan estimates that 1,500 industrial arts teachers and a large number of guidance teachers will be needed for the programmes proposed in the plan. The following courses of training for the two types of teachers are planned during the five-year period of the project subject to the condition that the training courses proposed for the first year will be treated as experimental and modifications may be made during subsequent years in the light of experience gained. In the context of the initial evaluation modifications will also be made in terms of its recommendations.

i) **3-week training courses:**

Eighty teachers per year will be trained as guidance teachers; they will attend a training course of three weeks, consisting of a total of 72 hours, at the National Taiwan Normal University. A total of 400 guidance teachers will be trained during the project period of five years. A programme for carrying out vocational guidance will be developed for pupils in demonstration schools organized under the project.

ii) **24-week training course:**

A 24-week training course will be conducted to prepare industrial arts teachers on the basis of one teacher teaching all the industrial arts courses utilizing the general shop organization in the area of general metal, general wood, general electricity, masonry, and handicraft. The training programme will be arranged annually in three sessions in the following manner and 500 teachers in all will be trained during the five-year duration of the project.

a) One 8-week initial session commencing in July each year will be conducted and 100 teachers will be trained in classes of 20 trainees each.

b) Two 16-week continuing sessions per year will be conducted during September to June. The 100 teachers who have received 8-week training, will receive this further training in two groups of 50 each in 2 or 3 classes.

According to the above stipulations, the Provincial Taiwan Normal University conducted during the first year of the project the following in-service training courses for industrial arts and vocational guidance teachers:

Number of teachers	Period of training
102 Industrial arts teachers	July 1967 to January 1968 (24 weeks)
66 Industrial arts teachers	July 1968 to January 1969 (24 weeks)
82 Vocational Guidance Teachers	August 1967 (3 weeks)
92 Vocational Guidance Teachers	August 1968 (4 weeks)

The industrial arts and vocational guidance teachers received training in the following courses for the duration mentioned against the courses:

Courses in Industrial Arts	Hours
Philosophy of Industrial Arts Education	16
Methods of Teaching Industrial Arts Subjects	16
Management of General Workshop	16
Industrial Observation	24
Drawing and Industrial Arts Design	96
Industrial Arts Shopwork (Woodworking)	64
Industrial Arts Shopwork (Metal Work)	64
Industrial Arts Shop Work (Electricity)	96
Industrial Arts Shop Work (Sheet Metal)	64
Industrial Arts Shopwork (Bamboo & Rattan Work)	64
Industrial Arts Shopwork (Ceramics)	64
Vocational Guidance	16
Practice in Industrial Arts Design	32
Industrial Arts Shopwork (Graphic Arts)	64
Industrial Arts Shopwork (Auto-bicycle)	32
Industrial Arts Shopwork Practice (General Shop)	32 to 64
Industrial Arts Shop Work (Masonry)	32
Course Construction in Industrial Arts Education	16
Audio-Visual Aids	16
Seminars in Industrial Arts Education	16
Courses in Vocational Guidance	Hours
Principles of Guidance	8
Counselling, Theory and Practice	10
Vocational Guidance	10
Educational and Occupational Information	10
Group Guidance	8
Personality Adjustment of Adolescents	8
Educational and Psychological Testing	14
School Records	4
Discussion	
Field Trips	

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3.2 Criteria for Evaluation

The following criteria were kept in view for formulating techniques and procedures of evaluation:

i) Implementation of all items of the training programme including number of teachers in industrial arts and vocational guidance to be trained as set forth in the plan of operations.

ii) Effectiveness of contents of courses prescribed, time allotted for various and methods employed for training.

iii) Professional competence of teacher educators who conducted the training programme, according to their qualifications and experience.

iv) Adequacy of workshop, tools and equipment to meet the required needs of training.

v) Selection of trainees, their age, background education and experience, and posts held before deputation for training.

vi) The extent of utilization of competence developed by training as revealed by work allotted to them when they return to their schools after training.

vii) Impact of training as seen from the trainees' own reactions and those of principals of schools based on their work after training.

viii) Assessment of impact of training by members of staff of the Taiwan Provincial Normal University as revealed during follow-up supervision of teaching of industrial arts by trained teachers.

ix) Suggestion, if any, of the Taiwan Provincial Normal University, principals of demonstration schools and trainees to make the programme of training more effective.

x) The extent to which the objectives of the training programme are being realized as revealed in the review of all

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aspects and implications of training listed above.

The in-service training of both industrial arts and vocational guidance teachers were kept in view in developing techniques and procedures of evaluation based on the above criteria.

3.3 Techniques and Procedures of Evaluation

The techniques and procedures of evaluation of the training programme included the following:

i) Visit the Department of Industrial Arts and Department of Educational Psychology of the National Taiwan Normal University which are respectively in charge of the in-service training of industrial arts and vocational guidance teachers, watch the training programme, examine the facilities available for this enterprise and hold discussions with members of the staff on all aspects of the training and follow-up supervision programme. The Evaluation Sub-Committee made two visits to the National Taiwan Normal University for the purpose.

ii) Visit an adequate sample of demonstration schools, examine trained teachers at work and hold discussions with the teachers, and principals on details of industrial arts education and vocational guidance programmes in the school including the facilities that are available for the two programmes. 7 out of the 30 demonstration schools were visited.

iii) Analyse returns to a questionnaire sent to teachers who received in-service training in industrial arts and another to those who were trained in vocational guidance to find out their reactions on all aspects of training, and particularly on their strengths and limitations.

iv) Analyse returns to a questionnaire sent to all the 30 demonstration schools, asking for particulars about work-

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shops, their equipment and tools, and the impact of the in-service training programme on their proper utilization.

3.4 *Findings and Conclusions*

A. General

i) Industrial arts education and vocational guidance in the demonstration schools have begun to assume for the pupil, teacher, principal, supervisor, and parents a new significance and importance because of the provision of workshops, equipment and tools, a new curriculum, and above all, due to teachers who receive an in-service training in the theory and practice of industrial arts education and vocational guidance.

ii) According to the opinion of principals and supervisors of demonstration schools and of the trainees themselves, the in-service training has been worth-while and valuable and it has improved the status of teaching and learning of industrial arts as well as the organization of vocational guidance in the junior high school.

B. Industrial Arts Education

i) As stipulated in the plan of operations, teachers for in-service training in industrial arts education were selected and deputed by the Provincial Department of Education, and the Industrial Arts Department of the Provincial Taiwan Normal University carried out the training programme after careful planning and preparation.

ii) Though sufficient in number, the teachers deputed for inservice training during the first year of the project constituted a heterogeneous group in terms of their educational background. About 25% among them were university and college graduates, another 25% were junior

college graduates, about 20% were products of military academies and the rest had other educational backgrounds. About 50% among the candidates had undergone teacher training and about 35% had already been trained to teach industrial arts and were qualified teachers for the purpose. Only a little over 15% among the teachers deputed had previous experience of teaching industrial arts subjects. It would appear that during the first year of the project the teachers deputed for training were chosen from the 30 demonstration schools and therefore it was not possible to have a homogeneous group of trainees.

iii) On their return to their schools after training teachers are assigned to teach industrial arts. Only 30% among them, however, are full-time teachers of industrial arts; the remaining 70% of trained teachers teach other subjects as well.

iv) Industrial arts is not taught in some junior high schools during the first two or three periods which are assigned to the teaching of the so called "more important" subjects like languages and mathematics. This mistaken educational significance of certain school subjects arises out f the cramping influence of the senior high school entrance examination which continues to dominate teaching and learning in junior high schools. Industrial arts education suffers in this context because the trained teacher and the workshop are not used to their maximum capacity which is very necessary to give all pupils of junior high schools a chance to study the subject according to the curriculum prescribed and the terms of plan of operations of the project.

v) The instructors who conduct the in-service training pro-

gramme are members of the staff of the Industrial Arts Department of the National Taiwan Normal University; they are all well qualified and experienced to undertake this work.

vi) The Department of Industrial Arts makes use of its various workshops for the in-service training and the workshops are well equipped. Though general shop is provided in the curriculum and a definite period of time is allotted for the purpose, the unit workshop approach seems to be, by and large, the basis of in-service training. The tools and equipment provided by UNICEF to the demonstration school have not been supplied to the University; therefore they not available in the general workshop for demonstration of their use in teaching and learning.

vii) The members of staff of the Department of Industrial Arts who conduced the in-service training progrmme and the trainees themselves are of the opinion that the training period of 24 weeks is adequate for achieving the objectives of training; they, however, feel that better results could be achieved through a continuous in-service training programme of 24 weeks than through one of 16 weeks and 8 weeks with a break in between.

viii) While appreciating the programme of in-service training, a good number of trainees are of the opinion that more stress on practical work and more time allotted for the purpose will add appreciably to the value of the programme.

ix) The trained teachers display a good deal of skill and inte rest in their teaching of industrial arts and supervision of practical work. The training has appreciably improved their professional competence.

x) There was no evidence that the trained teachers use industrial arts as a tool for vocational guidance. This course

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in the training programme does not appear to have been adequately understood.

xi) Only 14 out of the 30 demonstration schools had the benefit of follow-up supervision of trainees by members of staff of the Industrial Arts Department of the University. The schools visited profited by follow-up supervision which consisted of observation of teaching and practical work, examination of tools and equipment, their use and maintence, and discussion with teachers and principals.

xii) Realizing the vital need of organizing on a firm and systematic basis supervision of industrial arts education first in demonstration schools, and later in other schools to which the programme will be extended, the Provincial Department of Education has drawn up a plan according to which a) Taiwan will be divided into 7 regions viz. the regions of Keelung, Hsinchu, Taichung, Tainan, Kaohsiung, Pingtung, Taitung and Penghu, b) three teachers of industrial arts in a selected high school in each region will conduct the supervision of teaching of industrial arts in demonstration schools in the region, c) each of the teachers selected for supervision will devote two full days a week for the purpose, d) the teachers concerned will be given a special training to supervise industrial arts education in the junior high school and e) a request will be made for assistance from UNICEF for training supervisors, transport for supervision and extra equipment for the seven regional high schools.

C. Vocational Guidance:

i) As stipulated in the plan of operations, the programme of in-service training of vocational guidance teachers was planned and conducted by the National Taiwan Normal University, and teachers were selected and deputed

for training by the Provincial Department of Education.

ii) Nearly 70% of teachers deputed for training in vocational guidance were university and college graduates, about 50% had practical experience in guidance work for over a year, but none of them had any previous professional training in guidance.

iii) On return to their schools after training about 70% of teachers are assigned guidance work in junior high schools, nearly 30% have been responsible for the planning phase of work for promotion of guidance activities in junior high schools, but only about 10% of trained teachers are full-time guidance workers in their schools.

iv) The trained teachers show interest and some skill in guidance work and the training has resulted in improving their professional competence.

v) In spite of the interest and enthusiasm of the trained teachers, guidance work in the junior high school suffers from three major limitations viz. a) lack of facilities for an organized guidance programme in the school; b) absence of educational and occupational information needed for guidance and c) trained teachers made to teach school subjects in addition to doing guidance work.

vi) The members of staff of the National Taiwan Normal University who conduct the in-service training in vocational guidance are all qualified and experienced teacher educators and are competent to do this important work.

vii) The above members are of the opinion that an in-service training programme in vocational guidance for candidates who do not have any previous background knowledge in the subject should be of a much longer duration. Realizing the limitations of a three-week programme of training, the University on its own initiative, lengthened the

training course from three to four weeks for the second batch of trainees. They are convinced that even four weeks will be too short a period to achieve the objectives of training.

viii) The construction of psychological tests-pupil inventory tests-envisaged in the plan of operations is for the benefit of vocational guidance in the junior high school. The tests are gradually getting ready, but are not yet used for guidance.

ix) Since guidance programme in junior high schools is a new field of activities, teacher educators, principals of schools, trained teachers and others involved in this work are of the view that more concerted efforts are needed and more facilities be provided to put the pro ramme on a firm basis.

x) Unlike the industrial arts teacher whose work after training is followed up by the National Taiwan Normal University the guidance teacher is left with no follow-up or supervision of his work after his training.

3.5 Recommendations

A. Industrial Arts

i) The in-service training programme of 24 weeks duration for industrial arts teachers which has produced valuable results during the first year of the project should be continued in the Industrial Arts Department of the National Taiwan Normal University.

ii) There should be a more systematic selection of techers for in-service training so that they have more less the same educations and experience and are also below the age of 45.

iii) The methodology of training should strees the require-

ments of curriculum in industrial arts in the junior high school. In this context the general workshop approach is very important because the trainees when they return to their schools will be required to adopt this approach to ensure maximum utilization of the workshop equipped with UNICEF assistance. The Industrial Arts Department in future training courses should stress the general workshop approach It is suggested that the trainees should be first oriented in the general shop approach, then should work in unit shops and conclude their training with a thorough understanding and appreciation of the work in the general shop.

iv) In future programmes of in-service training, more stress should be put on practical work, as suggested by the trainees

v) The following courses and time allotment are suggested to make the in-service training programme for industrial arts teachers more effective:

Courses in Industrial Arts	Hours
Philosophy of Industrial Arts Education	16
Methods of Teaching Industrial Arts in General Shop	16
Management of General Shop	16
Industrial Observation	24
Drawing and Industrial Arts Design	96
Industrial Arts Shopwork (Woodwork)	64
Industrial Arts Shopwork (Electricity)	96
Industrial Arts Shopwork (Metal Work)	96
Industrial Arts Shopwork (Bamboo & Rattan Work)	64
Industrial Arts Shopwork (Masonry)	64
Industrial Arts Shopwork (General Shop)	240
Vocational Guidance	16
Audio-Visual Aids	16
Seminars in Industrial Arts Education	16

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vi) The Department of Industrial Arts should prepare a teachers manual on teaching of industrial arts which should include for the benefit of the teacher a) guidance to teach industrial arts curriculum in the junior high school, b) clarification of the aims and objectives of industrial arts education and c) the general workshop approach and its implications in teaching industrial arts. The manual could be used also in training teachers to teach the subject.

vii) The Industrial Arts Department should be supplied with two sets of tools and equipment which are being distributed among the demonstration schools so that instructors of the Department who conduct the in-service training could demonstrate to the trainees their use and the general workshop approach and also carry out studies and research on these aspects.

viii) To derive the maximum benefit of the in-service training programme, teachers on their return to their schools after training should be allotted teaching of industrial arts to the maximun extent possible. The needs of industrial arts education in the junior high school will require their fulltime services for the purpose.

ix) Safety precaution in the workshop should be an integral part of the training course so that teachers after training could teach and practice the same in the junior high school.

x) Follow-up and supervision of teaching of industrial arts in junior high schools carried out by trained teachers should be more systematically planned and implemented by the Industrial Arts Department so that they cover teaching of industrial arts in all demonstration schools.

xi) The above follow-up and supervision satisfy only a limited purpose and for a limited time; it is necessary to organize a programme of supervision of industrial arts teaching

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on a longterm basis. The plan made for the purpose by the Provincial Department of Education may be accepted in principal. The country may be divided into 7 regions and three industrial arts teachers in a selected high school in each region may be entrusted with supervision of industrial arts education in demonstration schools of the region. The following further suggestions are offered to train supervisors and organize such supervision: a) The training of supervisors should be a joint effort by 1) the three persons who have been awarded UNESCO fellowships to observe and study industrial arts education and vocational guidance in foreign countries, 2) industrial arts educators who had training in the subject in foreign countries and who are now working in senior high schools and 3) selected personnel from the Department of Industrial Arts in the Taiwan National Normal University; b) Three industrial arts teachers from each of the regional high schools should be trained to conduct supervision and after training each teacher should devote at least two full days every week to do this work; c) the candidates chosen for training should have undergone at least the in-service training course of 24 weeks; d) the duration of training should not be less than two weeks; e) the course for training should include 1) theory and practice of supervision of teaching junior high school subjects, in general, 2) theory and practice of supervision of teaching industrial arts, in particular and 3) the general workshop, its organization, administration and use in teaching industrial arts in the junior high school; and f) the training programme could be conducted with advantage at the Wu-Lin High School which has an ideal workshop and a very competent teacher as ths principal of the school, who

had his training in industrial arts education in USA.

xii) The UNICEF tools and equipment have been supplied to five out of the seven schools which are proposed to function as regionals schools in charge of supervision. Though they have now abolished the junior high school sections. the tools and equipment should not be withdrawn from them because at these regional centres should be held in future seminars and workshops to upgrade the competence of industrial arts teachers. The tools and equipment are needed for the above seminars and workshops; they also help teacher supervisors to conduct studies on their meaningful use to implement the industrial arts curriculum.

xiii) The Taiwan National Normal University should award credits for the courses in in-service training on the same basis as they do for courses in pre-service training in industrial arts. Such a procedure will upgrade the status of in-service training and will help the Provincial Department of Education to dispense with the separate examination that it now conducts for the trainees for the purpose of awarding certificates.

B. Vocational Guidance

i) The National Taiwan Normal University which has the necessary competence to conduct the in-service training programme in vocational guidance should continued to organize the programme during the remaining years of the project.

ii) Vocational guidance is a new programme in the junior high school. It is also a very important and difficult programme. To administer guidance the teacher should have competnece to gather comprehensive data about the abilities the aptitudes of pupils from all available records

of pupil behaviour and achievement in the school, conduct pupil inventory tests and weigh the test scores and all other data against the possible educational and vocational opportunities. The competence to do this, and particularly to administer tests and interpret test scores, cannot be developed through an in-service training programme of 3 or 4 weeks. A minimum period of at least 12 weeks will be needed for the purpose in case of candidates who do not have any previous background in this area and at least 6 weeks for graduates with education or psychology as their major subjects of study at the university. Therefore it is recommended that the duration of the in-service course should be extended from 3 weeks to 12 and 6 weeks respectively for the two types of candidates.

iii) The in-service training course so lengthened should stress in greater detail the administration of pupil inventory tests and interpretation of the test scores. Since the battery of tests are under construction and a good many tests are not yet ready, trainees should be given in the meanwhile knowledge and practical experience to deal with comparable tests that are in use in other countries.

iv) Besides possessing all the tests necessary for demonstration by the instructor and practice by the trainee, the National Taiwan Normal University should have complete documentation of all educational and occupational information that are required for guidance in the junior high school. Their use should be demonstrated during training.

v) After increasing the duration of the in-service training in vocational guidance to 12 or 6 weeks as suggested in recommendation number ii) above, the National Taiwan Normal University should award credits for th courses as they do for courses in pre-service training.

vi) It will be a great advantage if the candidates chosen for training are graduates from the Department of Education or Department of Psychology. They should be below the age of 45.

vii) To achieve the best benefit of in-service training of vocational guidance teachers, teachers after training should be allotted guidance work in their schools to the maximum extent possible. The needs of guidance work in schools will require their full-time services for the purpose.

viii) At present guidance work in the junior high school sufferes seriously from want of a) educational information and b) occupational information. The publication programme should give prioity to preparing a teachers' manual dealing with the educational programmes and possiblities for the junior high school leaver and another with the occupational opportunities and possibities that are open to him. These two may be followed by publliications dealing with detailed information on various courses of study and occupations as contemplated in the programme.

ix) The guidance teacher besides being provided with the two manuals mentioned above, should also be kept uptodate with the latest information on educational and vocational opportunities for the junior high school graduate. This could be done by including such information, as and when they become available, in the monthly periodical on industrial arts and vocational guidance published by the Provincial Department of Education.

x) The importance and significance of vocational guidance in the present context have to be viewed not only from the total educational programme of the junior high school, but also from the educational, economic and social implications of the recent important decision of the Government

to extend the six-year compulsory elementary education with a programme of universal free education in the junior high school. Vocational guidance in the junior high school assumes an added importance and significance in the latter context and therefore it becmes an imperative necessity to develop the programme on right lines and provide follow-up supervision to the trained guidance teachers.

xi) With a view to develop a functional vocational guidance programme on right lines and give it a firm basis in the 66 demonstration schools and facilitate its extension later to all junior high schools in Taiwan, the following plan of action is recommended:

a) An experimental programme in vocational guidance based on modern trends in guidance and functional in approach should be organized in seven regional schools chosen from the 66 demonstration schools, the regions being the same as proposed for the supervisory programme in industrial arts education.

b) The above experimental programme should be carried out by teachers who have received a twelve-week in-service training in guidance and it should be developed under the supervision of the National Taiwan Normal University. The teachers concerned should be allotted full-time guidance work in schools chosen for the experimental programme.

c) The organization of the experimental programme should be completed during the third year of the project and the training of guidance teachers concerned during the second year.

d) It is understood that for the in-service training of new teachers recruited in connection with the extension of universal free education to the junior high

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school, the National Taiwan Normal University, on the request of the Provincial Department of Education, proposes to organize during the next summer vacation a guidance course of 20 credits and 12 weeks duration along with other courses. It will be advantageous to the experimental programme if as many guidance teachers as possible are selected from the 66 demonstration schools to attend this guidance course. By convenient adjustment the regional schools for the experimental programme could be fixed towards the end of the in-service training so that good teachers among the candidates at the candidates at the rate of one teacher per school or preferably two teachers per school are available to conduct the experimental programme.

e) If the suggestion contained in d) above cannot be carried out, separate arrangements should be made for training guidance teachers of the seven regional schools that will be choen for organization the experimental programme.

f) The in-service training should stree the functional aspects of guidance and the trainees should be provided with enough practical work in the junior high school to administer guidance.

g) The National Taiwan Normal University should prepare under the publication programme of the project a teachers' manual on the educational programmes and possibilities for the junior high school leaver and another on occupational opportunities and possibilities that are open to him. The manuals are indispensable to the teacher educator to conduct in-service training of guidance teachers and to the teacher to administer

a guidance programme in the junior high school. The work on preparation of the manuals should be started immediately as inmediately as indicated in recommendation number viii.

h) At the end of the third year when the experimental programme are in good working order, four or five-day workshops on all aspects of the experimental programme should be organized at each of the regional schools for the benefit of guidance teachers of other demonstration schools in the region. It should be possible for them after attending the workshop to reorganize the guidance programmes in their schools on proper lines with the knowledge and experience gained at the workshop.

i) During the fourth and fifth year of the project, the reorganized guidance programme in the demonstration schools should have the benefit of follow-up supervision by the appropriate specialists from the National Taiwan Normal University and the Provincial Department of Education.

4. Industrial Arts Workshop, Tools and Equipment

4.1 Introduction

According to the plan of operations of the industrial arts education and vocational guidance project, the Government has agreed to establish during the five-year period of the project 50 demonstration schools to teach industrial arts by providing funds for the construction of workshops and UNICEF has agreed to supply the necessary tools and equipment for the purpose. Sixteen demonstration schools had already been established in previous years to teach industrial arts with tools and equipment supplied with U.S. aid. It is envisaged that the abovementioned 50 and 16 schools i.e. 69 schools in all will function as demonstration schools in Taiwan, and they in turn will help industrial arts education and vocational guidance programme in the country. 30 among the 50 schools will be helped with home economics equipment by UNICEF and they will function as demonstration schools for teaching also home economics.

During the first year of the project the Government organized 14 demonstration schools and UNICEF provided them with the necessary tools and equipment for teaching industrial arts. The Evaluation Sub-Committee examined the workshop facilities and industrial arts education in the 14 schools and in the 16 demonstration schools that had been set up earlier with U.S. aid.

4.2 Criteria for Evaluation

The criteria for evaluation were the following:

1. Do the schools possess convenient workshops designed to meet the needs of teaching and learning industrial arts as prescribed in the curriculum of junior high schools?

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2. Are the tools and equipment supplied by UNICEF sufficient for the above purpose? If not, what additional items are needed?
3. Are there well-designed racks in the workshops to facilitate and simplify storage of tools and other equipment? Are the tools and other equipment properly classified and stored?
4. What measures are taken for safety precautions? Are pupils taught safety precautions? Are teachers trained to teach safety precautions?
5. What measures are taken to ensure adequate maintenance of tools and equipment?
6. How far has instruction in industrial arts helped pupils to understand and appreciate different aspects of industries in the environment, their organization, processes, raw materials used, products, occupations, labour, services etc?

4.3 Techniques and Procedures for Evaluation

The techniques and procedures of evaluation depended on finding out relevant data that could find satisfactory answers to the above criteria. The Evaluation Sub-Committee used the following techniques and procedures for the purpose:

i) Visit an adequate sample of demonstration schools, examine workshop facilities including tools and equipment, as well as teaching and workshop practice in industrial arts, and hold discussions with industrial arts teachers, principals and others concerned with the programme. 7 out of the 30 demontration schools were visited for the purpose.

ii) Visit the Department of Industrial Arts of Taiwan Provincial Normal University, watch the training programme, and hold discussions with members of the staff who conduct the training programme and follow-up supervision of teaching of industrial arts by trainees when they return

to work in their schools.

iii) Analyse returns to a questionnaire sent out to all the 30 demonstration schools, asking for particulars about workshop equipment and tools and their use, teachers, their professional qualifications and teaching load, and details of adequacy and impact of industrial arts education programme in the schools.

iv) The analysis of returns to another questionnaire sent out to all teachers who received in-service training in industrial arts to find out their reaction on the efficacy of the training and equipment and tools supplied for teaching industrial arts.

4.4 Conclusions

i) There was plenty of evidence to show that provision of workshops with tools and equipment supplied by UNICEF has upgraded teaching of industrial arts in the demonstration junior high schools, that pupils evince a good deal of interest in the study of the subject and that the workshop, tools and equipment provide further notivation to study the subject. The programme envisaged in the plan of operations when developed should achieve the objectives of learning the subject.

ii) There are two demonstration schools each of which have three workshops and two others which have two. The remaining demonstration schools have only one workshop. In view of the large enrolment in the demonstration schools, the workshop should be put to its maximum use to meet the needs of workshop practice of all pupils.

iii) The tools and equipment were supplied to the schools at the stipulated time and they were in good condition when supplied.

iv) The tools and equipment supplied by UNICEF are by and large satisfactory. There are, however, some items that are inappropriate, as for instance, tools that are too large in size or too heavy for children of the junior high school age-group to handle. The tools and equipment supplied do not include any for teaching electricity which is prescribed in the curriculum.

v) All the demonstration schools except one or two have facilities for storing the tools and equipment.

vi) In two thirds of the number of demonstration schools a mechanic has deen appointed to look after the workshops and maintain the tools and equipment in good condition. The remaining schools have no such arrangement; some of them ask pupils to do the job.

vii) Most of demonstration schools have provided fire extinguishers in their workshops; they also give their pupils instruction in safety precautions. There are a few instances where neither a fire extinguisher nor instruction in safety precautions is provided.

viii) A large number of the demonstration schools state that the following additional tools and equipment are necessary and suggest they should be supplied: Metal working lath, auto shapper, jet printing equipments, disk saw, punch press, spot welder, vise for good working, sheet metal working equipments and tools, and equipments and tools for electrical work.

ix) There is no evidence that in workshop practice the general workshop approach is followed so that maximum utilization in made of all the tools and equipment. The schools follow the unit workshop approach and therefore attempts are made to give practice to all pupils to use the same tool or machine during the workshop period.

4.5 Recommendations

i) The present large enrolment in the demonstration schools makes maximum utilization of workshops absolutely necessary so that all pupils get a chance to use the tools and machines and do meaningful practical work. The general workshop approach should be followed to achieve this and pupils should be divided into small groups during work shop period and assigned different items of work like wood, sheet metal, rattan etc. Training of teachers in the use of the general workshop approach rather than the present unit workshop approach which is referred to in an earlier recommendation becomes indispensable to achieve the maximum utilization of workshops.

ii) Demonstration schools which have not employed a mechanic to ensure maintenance of workshop should do it immediately. In workshop maintenance, the prevention of breakages and damages of tools and equipment should be stressed along with other aspects of maintenance.

iii) Hand tools should be properly classified, catalogued and stored in convenient racks so that they are easily accessible to pupils and teachers. The tool racks made by Wulin High School could be used as a good sample of a convenient rack.

iv) Use of safety precautions in the workshop should be an integral part of instruction in industrial arts for all pupils. This should also be an integral part of the inservice training course meant for teachers in industrial arts.

v) At present it is not possible to estimate correctly the needs of extra tools and equipment that the demonstration schools require. When they follow the general workshop approach in practical work, there will be a better utiliz-

ation of the materials already supplied. It should be possible to make a critical review of the needs after the schools have conducted their workshop practice on the general shop pattern for a year or at the time of a mid-term evaluation of implementation of the project. UNICEF supplies till then may be according to the present list subject to some modifications needed to meet the additions and alternations in view of conclusion 4.4 (iv) above. A revised supply list incorporating the necessary additions and alterations is included as annexure 1 to this report.

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5. Evaluation of Other Aspects of Project

5.1 Publications

5.1.1 Publication Programme in Plan of Operations

The plan of operation stipulates that during the five-year period of the project the Ministry of Education will arrange for the publication of the following supplementary books, booklets, pamphlets, leaflets and charts in industrial arts and vocational guidance for the benefit of teachers and pupils:

a) 2,000 copies each of 20 supplementary books on an average of 4 titles a year;
b) 5,000 copies each of 100 booklets on an average of 20 booklets per year;
c) 4,000 copies each of 30 pamphlets on an average of 6 pamphlets a year;
d) 4,000 copies each of 150 leaflets on an average of 30 leaflets per year and
e) 1,500 copies each of 20 charts on an average of 4 charts per year.

A detailed plan of the above-mentioned publications will be formulated and appended to the plan of operations as an annexure. It is envisaged that the publications will cover a wide field and that there will be no need to continue the publications after the five-year period of the project. Besides the above the Government will undertake to publish 3,000 copies each of a monthly periodical dealing with industrial arts and vocational guidance. This publication will be a continuing activity andthe Provincial Department of Education will provide funds in its budget forthe continuation of the publication on a long-range basis.

5.1.2 Procedure and Criteria for Evaluation

The Evaluation Sub-Committee discussed the various aspe-

cts of publication with the officers of the Ministry of Education and Provincial Department of Education who are in charge of this programme and examined the plan of publications prepared by the Ministry of Education and copies of the monthly periodical that are being brought out by the Provincial Department of Education. The Sub-Committee attempted through this exercise to find answers to the following issues which form the criteria for the effective implementation of the programme of publications:

i) Does the plan of publications formulated by the Ministry of Education ensure that the publications will be of the appropriate quality and be made available according to schedule? Before the plan is attached to the plan of operations as an annexure, does it need any modification to ensure the programme will be carried out as scheduled?

ii) Has it been possible to bring out the publications during the first year of the project according to schedule? If it has not been possible to do so, what are the causes for the delay and how may these be remedied in future?

iii) Do the publications programmed cover the needs of industrial arts education? Are there titles that are irrelevant and could be avoided? On the other hand, are there omission swhich are vital and which should be added?

iv) Does the schedule of publications fit in with the progressive formulation of new curricula and textbooks in the subjects?

v) Does the monthly periodical in industrial arts and vocational guidance give the subjects a balanced treatment?

5.1.3 Conclusions

i) The Ministry of Education has set up a sub-committee of competent persons to plan, direct and supervise the prog-

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ramme of publications. The sub-committee is also in charge of directing and supervising production of filmstrips and colour slides as well as preparation of pupil inventory tests contemplated in the plan of operations. The functions of the sub-committee have been defined and broad guide-lines formulated for its working. Similarly rules regulating the details of preparation and submission of manuscripts by authors have been formulated.

ii) The number of books, booklets etc to be published in industrial arts, vocational guidance and home economics during the first, second, third, fourth and fifth years have been fixed and the titles of books, booklets etc in the three subject areas have been listed except in industrial arts where the listed titles have not been classified under various types of publications.

iii) i) and ii) mentioned above constitute the tentative plan of publications. It contains the necessary details to get the publication programme started.

iv) At the end of 1968 the status of publications prescribed for the first year of the project was as follows:

	Manuscripts ready for printing	Manuscripts under editing	Total
Books	3	—	3
Booklets	10	2	12
Pamphlets	—	—	—
Leaflets	1	2	3
Charts	—	—	—
	14	4	18

Four issues of the monthly periodical dealing with industrial arts have been printed and issued by the Provincial Department of Education.

v) The programme of publications is appreciably behind sch-

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edule, and the following difficulties have been experienced to implement this programme: i) a programme like that on publications gets time to get organized; some of the initial delays are therefore inevitable; ii) it has not been possible to enter into a contract with a sufficient number of authors; iii) authors with whom contracts have been made delay to deliver manuscripts; iv) illustrations in manuscripts often require improvement and changes; it takes time to get the improvement and changes made; v) many manuscripts when first handed in do not measure up to the expected requirements of subject matter and presentation and require rewriting by the author or a good deal of editing by competent persons and vi) a serious limitation is the absence of a person conversant with production of books and the philosophy of industrial arts education and vocational guidance who is needed to work full-time on a publication programme of the present dimension.

vi) It was leant that the Department of Secondary Education in the Ministry of Education which is now in charge of the publications programme has decided to delegate the duties and responsibilities of the programme to the Provincial Department of Education. Therefore the difficulties enumerated above will have to be dealt with by the latter Department of Education.

vii) Though the plan of operations states that the monthly periodical among the publications should deal with both the subject areas of industrial arts and vocational guidance, the four issues of the journal so far published are devoted entirely to industrial arts.

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i) The present plan of publications formulated by the Min-

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istry of Education may be accepted as a tentative plan. Before it is attached to the plan of operations as annexure, it should be edited and elaborated to include rules to govern all aspects of preparation of publications from the choice of titles to printing and distribution of copies of the printed material. It is suggested that the plan should be finalized during the second year of the project and added as an annexure to the plan of operations. The list of titles of books, booklets etc in the plan should include the publications mentioned in recommendations 3.5A (vi) and 3.5B (viii). The list should be considered as tentative to allow for changes that will be required to meet the needs of new curriculum and textbooks in the subject areas that are being prepared, but not yet completed.

ii) Though the publications will cover a wide field by the end of the five-year period of the project, it is doubtful whether the programme could be discontinud afterwards. The developing nature of teaching industrial arts and home economics, the increasing demands of a dynamic guidance programme, the need of periodical revision as indeed replacement of most of the material published will make it necessary to continue the publication programme. It is therefore necessary to make the required adjustments in the plan to make the publication programme a continuing activity.

iii) The one factor more than any other that has caused the delay in keeping to the schedule of publications is the absence of a competent full-time officer in charge of the publications, who has the necessary competence in the subject areas of publications and of the mechanics of production of educational literature. Such a person besides

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ensuring regularity of publication could help to stress the modern trends in the philosophy and practice of industrial arts education and vocational guidance and maintain a uniformity of approach to the subject areas. It is recommended that such a person be appointed and put in charge of the programme. It will be advantageous if UNICEF meets the cost of this appointment for three years and the Government takes over and continues the appointment and programme for reasons stated in (ii) above.

iv) The monthly periodical should not be limited to discussion of teaching industrial arts; attempts should be made to include in future issues of the periodical problems of organization and administration of the programme of vocational guidance in junior high schools.

5.2 Pupil Inventory Tests

5.2.1 Plan and Programme of Tests

It has been agreed in the plan of operations that the Ministry of Education will construct a battery of pupil inventory tests, administer them among pupils of high schools throughout Taiwan and establish norms. Two tests per year i.e. ten tests in all will thus be constructed and norms established during the five-year project period.

The Ministry of Education entrusted the above work to the Research Institute of Education of the National Taiwan Normal University and the latter drew up the schedule of test construction as follows:

Year	Tests to be constructed
First	General ability test
	Study habits inventory

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Second	Personality inventory
	Vocational interests inventory
Third	Chinese aptitude test
	Mechanical aptitude test
Fourth	English aptitude test
	Manual dexterity test
Fifth	Mathematical aptitude test
	Achievement test

After the work got started in the first year according to the above schedule, the Government felt that the programme of test construction should take into account and synchronize more or less with the implementation of their important decision to extend the six-year compulsory education with a programme of universal free education of three years in the junior high school. Since the latter programme will be gradually implemented in the 7th grade in the first year, in the 8th in the second year and completed in the 9th grade in the third year, the Ministry of Education has asked the Research Institute of Education to modify the schedule of test construction and complete it in three years instead or five years. Accordingly the Research Institute is now working on the following revised programme:

Year	Tests to be constructed
First	General ability test
(April 1968 to	Study habits inventory
March 1969)	Manual dexterity test
Second	English aptitude test
(April 1969 to	Chinese aptitude test
March 1970)	Mathematical aptitude test
	Mechanical aptitude test
Third	Vocational interests inventory
(April 1970 to	Achievements tests
March 1971)	Personality inventory

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According to the changed programme, three tests viz. general ability test, study habits inventory and manual dexterity test should be completed by the end of March 1969. The general ability test was constructed and administered in August, 1968, and the norms of seventh graders have been established. When the factor analysis and statistical procedures which are being done by the China Processing Centre is finished, the test manual will be printed and the test will be ready for use in the seventh grade. The study habits inventory and manual dexterity test have been composed, the try-out procedures completed and the final forms of the tests have been fixed. It is planned to administer the two tests in April 1969. The Research Institute of Education is at present engaged in the preliminary work of composing the tests earmarked for the second year.

The procedure of test construction followed by the Research Institute of Education is as follows:

i) making an item pool
ii) selection of items
iii) deciding the weights and length of a test
iv) construction of the whole test booklet and directions
v) try-out
vi) items analysis
vii) construction of the final form
viii) deciding test-given time and scoring procedures
ix) administering the final form
x) establishment of norms
xi) establishment of validity and reliability

The Ministry of Education has decided that after the completion of the construction of a test and when norms have been established, schools may use it in consultation with the Research Institute of Education. A beginning has been made in such use of the general ability test in the seventh grade by a

few schools under the guidance of the Research Institute.

5.2.2 Criteria for Evaluation

The following criteria were fixed to evaluate the programme of test construction:

i) Are the reasons for the changes made in the schedule and plan of test construction valid and acceptable?

ii) Will it be possible for the Research Institute of Education to work according to the revised schedule and plan?

iii) Has the Research Institute of Education maintained progress uptodate according to the revised schedule?

iv) Has the Research Institute of Education the necessary competence to implement the test construction programme?

v) Are the tests planned for construction useful to schools, particularly for vocational guidance?

vi) Have the schools adequately qualified persons to administer and interpret the tests? If they have not, what arrangements will be needed for the purpose?

5.2.3 Conclusions

i) The reasons for the change of the test construction programme from five to three years are valid because it is to take into account and synchronize with the period of gradual implementation and completion of the new programme of universal free education in the junior high school.

ii) The Research Institute of Education which is entrusted with test construction has been able to maintain progress with the construction of seven out of the ten tests according to the revised plan.

iii) The Research Institute of Education employs three professors and one instructor for test construction and they are all well qualified and experienced to do this work. By

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systematizing the present work it should be possible for the Research Institute to complete the programme in three years.

iv) A beginning has been made by a few junior high schools to use the general ability test with the guidance of the Rese arch Institute of Education, and the results are satisfactory.

v) The tests are meant essentially for the vocational guidance programme in junior high schools; but as yet no systematic plans have been developed for their use for the purpose.

5.2.4 Recommendations

i) The following implications of the revised programme needs clarification: a) the norms of all the tests including those ear-marked for the first and second years could be established only during the third year because the administration of the final form of all the tests in respect of eighth and nineth grades will have to wait for the second year and third year respectively when universal free education will be extended to the eighth and nineth grades; b) with the extension of universal free education to the seventh, eighth and nineth grades, the number of pupils in attendance in these grades will increase substantially and therefore the size of the random sample for administering the tests will also increase; c) in view of the increased sample, the cost of administration of tests and establishment of norms will be more than the previous estimate and d) to complete the programme in three years, it will be necessary to start working on a broader basis of test construction which should include work on all the ten tests instead of only the first seven

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on which the Research Institute of Education is at present engaged.

ii) The revised programme of test construction to be completed in three years may be accepted subject to the above considerations and the UNICEF assistance may be increased to meet the increased cost of testing and adjusted to be paid in the first three years instead of in five years.

iii) The Research Institute of Education which has very competent personnel to do the specialized job of test construction should continue to be in charge of the programme.

iv) The tests are meant to be used for the programme of vocational guidance in the junior high school and therefore a plan should be drawn up for the use of tests as they get constructed and issued along with the corresponding manuals. In the initial stages of their use, schools should consult and be guided by the Research Institute of Education.

A) The tests should be administered and interpreted by guidance teachers who have received a longer in-service training in vocational guidance with emphasis on the construction, administration and use of the tests according to recommendation No. 8.5B (ii).

5.3 Home Economics Equipment

5.3.1 Secruitiny of Supply List

The plan of operations of the project stipulates that among the 66 demonstration schools to be organized to teach industrial arts 30 schools would also teach home economics. UNICEF has agreed to provide the schools with the necessary apparatus and equipment for the purpose according to a supply list included in the plan of operations. The programme of home economics

education in the 30 demonstration schools has not yet started and therefore UNICEF has not yet supplied the apparatus and equipment included in the supply list. The Evaluation Sud-Committee examined the supply list with the assistance of its member, Miss Chosheng Chien Lee who is Professor of Home Economics in the National Taiwan Normal University, and has felt it necessary to amend it taking into consideration that a) some items are not necessary. b) more sets of certain items are needed to meet the needs of practical work in junior high school grades which admit 50 to 55 pupils, c) the number of sets of some items could be reduced without causing any difficulty to demonstration and practical work and d) some additional items are needed because they are important for teaching of home economics. The Evaluation Sub-Committee accordingly has prepared a revised supply list which is included in annexure I to this report.

5.3.2 Recommendations

The revised supply list of apparatus and equipment in home economics contained in annexure I should be accepted and UNICEF supplies be made according to this list.

5.4 Industrial Arts in Junior Normal Colleges Fellowships: Mid-Term Evaluation

5.4.1 Review of Additional Items

The Evaluation Sub-Committee discussed at its last meeting held on 28 March, 1969, the need of additional fellowships in industrial arts and vocational guidance and supply of tools and equipment for teaching industrial arts in junior normal colleges to which the participating agencies have agreed in the plan of operations. The Sub-Committee also realized that there was a need for a mid-term evaluation of the implementation of the Project in view of the importance and significance of the major

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recommendations of initial evaluation. Accordingly it was agreed that the necessary recommendations in respect of the above be included in the report.

5.4.2 Recommendations

i) Considering the fact the curriculum of junior normal colleges is now in the process of revision and hoping that provision will be made for teaching of industrial arts in the revised curriculum for training teachers, it is suggested that equipment and supplies for teaching the subject in the colleges should be provided by UNICEF during the third year of the project according to a supply list to be prepared to meet the needs of the revised curriculum.

ii) According to the agreement contained in item 7 of Article III of the plan of operations, the Government should make arrangements in include in its request, under priority I of U. N. D. P. programme, additional fellowships to be arranged and administered by UNESCO. Two additional fellowships, one in industrial arts education and the other in vocational guidance, are the irreducible minimum needs of such additional fellowships. The Government should expedite action on the fellowship programme and also explore the possibility of initiating it from savings, if any, in the U. N. D. P. funds of the current year.

iii) Since the initial evaluation has made some major recommendations which are significant for the effective implementation of the project, and also considering the importance of the project in the context of the new nine-year programme of universal free education, it is suggested that there should be a mid-term evaluation to assess the implementation of the project according to the recommendations.

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6. Summary of Recommendations

6.1 Over-all Assessment and Recommendation

In presenting here a summary of recommendations on implementation of the various programmes evaluation, the Sub-Committee wishes to add its over-all assessment of the project and its recommendation on its future scope and possibilities. The Sub-Committee is convinced that a) the project is of considerable importance and consequence to the expanded programme of universal free education in the junior high school; b) the initial stages of its implementation have demonstrated its strenghths and potentialities and c) the importance of the project is not merely its educational values, but also its social, psychological and economic implications. In view of the above considerations, it is recommended that the project should continue to be worked according to the recommendations listed below and it should be strengthened and expanded according to its developing needs.

6.2 Recommendations

6.2.1 Training of Industrial Arts Teachers

A. Industrial Arts

i) The in-service training programme of 24 weeks duration for industrial arts teachers which has produced valuable results during the first year of the project should be continued in the Industrial Arts Department of the National Taiwan Normal University.

ii) There should be a more systematic selection of teachers for in-service training so that they have more or less the same educational qualifications and experience and are also below the age of 45.

iii) The methodology of training should stress the requirements of curriculum in industrial arts in the junior high school. In this context the general workshop approach is very important because the trainees when they return to their schools will be required to adopt this approach to ensure maximum utilization of the workshop equipped with UNICEF assistance. The Industrial Arts Department in future training courses should stress the general workshop approach. It is suggested that the trainees should be first oriented in the general shop approach, then should work in unit shops and conclude their training with a thorough understanding and appreciation of the work in the general shop.

iv) In future programmes of in-service training, more stress should be put on practical work, as suggested by the trainees.

v) The following courses and time allotment are suggested to make the in-service training programme for industrial arts teachers more effective:

Courses in Industrial Arts	Hours
Philosophy of Industrial Arts Education	16
Methods of Teaching Industrial Arts in General Shop	16
Management of General Shop	16
Industrial Observation	24
Drawing and Industrial Arts Design	96
Industrial Arts Shopwork (Woodworking)	64
Industrial Arts Shopwork (Electricity)	96
Industrial Arts Shopwork (Metal Work)	96
Industrial Arts Shopwork (Bamboo & Rattan Work)	64
Industrial Arts Shopwork (Masonry)	64
Industrial Arts Shopwork (General Shop)	240
Vocational Guidance	16

Audio-Visual Aids 16

Seminars in Industrial Arts Education 16

vi) The Department of Industrial Arts should prepare a teachers' manual on teaching of industrial arts which should include for the benefit of the teacher a) guidance to teach industrial arts curriculum in the junior high school, b) clarification of the aims and objectives of industrial arts education and c) the general workshop approach and its implications in teaching industrial arts. The manual could be used also in training teachers to teach the subject.

vii) The Industrial Arts Department should be supplied with two sets of tools and equipment which are being distributed among the demonstration schools so that instructors of the Department who conduct the in-service training could demonstrate to the trainees their use and the general workshop approach and also carry out studies and research on these aspects.

viii) To derive the maximum benefit of the in-service training programme, teachers on their return to their schools after training should be allotted teaching of industrial arts to the maximum extent possible. The needs of industrial arts education in the junior high school will require their fulltime services for the purpose.

ix) Safety precaution in the workshop should be an integral part of the training course so that teachers after training could teach and practice the same in the junior high school.

x) Follow-up and supervision of teaching of industrial arts in junior high schools carried out by trained teachers should be more systematically planned and implemented by the Industrial Arts Department so that they cover teaching of industrial arts in all demonstration schools.

xi) The above follow-up and supervision satisfy only a limited purpose and for a limited time; it is necessary to organize a programme of supervision of industrial arts teaching on a long-term basis. The plan made for the purpose by the Provincial Department of Education may be accepted in principal. The country may be divided into 7 regions and three industrial arts teachers in a selected high school in each region may be entrusted with supervision of industrial arts education in demonstration schools of the region. The following further suggestions are offered to train supervisors and organize such supervision: a) The training of supervisors should be a joint effort by 1) the three persons who have been awarded UNESCO followships to observe and study industrial arts education and vocational guidance in foreign countries, 2) industrial arts educators who had training in the subject in foreign countries and who are now working in senior high schools and 3) selected personnel from the Department of Industrial Arts in the National Taiwan Normal University; b) Three industrial arts teachers from each of the regional high schools should be trained to conduct supervision and after training each teacher should devote at least two full days every week to do this work; c) the candidates chosen for training should have undergone at least the in-service training course of 24 weeks; d) the duration of training should not be less than two weeks; e) the course for training should include 1) theory and practice of supervision of teaching junior high school subjects, in general, 2) theory and practice of supervision of teaching industrial arts, in particular and 3) the general workshop, its organization, administration and use in teaching industrial arts in the junior high school; and f)

the training programme could be conducted with advantage at the Wu-Lin High School which has an ideal workshop and a very competent teacher as the principal of the school, who had his training in industrial arts education in USA.

xii) The UNICEF tools and equipment have been supplied to five out of the seven schools which are proposed to function as regional schools in charge of supervision. Though they have now abolished the junior high school sections, the tools and equipment should not be withdrawn from them because at these regional centres should be held in future seminars and workshops to upgrade the competence of industrial arts teachers. The tools and equipment are needed for the above seminars and workshops; they also help teacher supervisors to conduct studies on their meaningful use to implement the industrial arts curriculum.

xiii) The National Taiwan Normal University should award credits for the courses in in-service training on the same basis as they do for courses in pre-service training in industrial arts. Such a procedure will upgrade the status of in-service training and will help the Provincial Department of Education to dispense with the separate examination that it now conducts for the trainees for the purpose of awarding certificates.

6.2.2 Training of Vocational Guidance Teachers

B. Vocational Guidance

i) The National Taiwan Normal University which has the necessary competence to conduct the in-service training programme in vocational guidance should continue to organize the programme during the remaining years of the project.

ii) Vocational guidance is a new programme in the junior high school. It is also a very important and difficult programme. To administer guidance the teacher should have competence to gather comprehensive data about the abilities the aptitudes of pupils from all available records of pupil behaviour and achievement in the school, conduct pupil inventory tests and weigh the test scores and all other data against the possible educational and vocational opportunities. The competence to do this, and particularly to administer tests and interpret test scores, cannot be developed through an in-service training programme of 3 or 4 weeks. A minimum period of at least 12 weeks will be needed for the purpose in case of candidates who do not have any previous background in this area and at least 6 weeks for graduates with education or psychology as their major subjects of study at the university. Therefore it is recommended that the duration of the in-service course should be extended from 3 weeks to 12 and 6 weeks respectively for the two types of candidates.

iii) The in-service training course so lengthened should stress in greater detail the administration of pupil inventory tests and interpretation of the test scores. Since the battery of tests are under construction and a good many tests are not yet ready, trainees should be given in the meanwhile knowledge and practical experience to deal with comparable tests that are in use in other countries.

iv) Besides possessing all the tests necessary for demonstration by the instructor and practice by the trainee, the National Taiwan Normal University should have complete documentation of all educational and occupational information that are required for guidance in the junior high school. Their use should be demonstrated during training.

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v) After increasing the duration of the in-service training in vocational guidance to 12 or 6 weeks as suggested in recommendation number ii above, the National Taiwan Normal University should award credits for the courses as they do for courses in pre-service training.

vi) It will be a great advantage if the candidates chosen for training are graduates from the Department of Education or Department of Psychology. They should be below the age of 45.

vii) To achieve the best benefit of in-service training of vocational guidance teachers, teachers after training should be allotted guidance work in their schools to the maximum extent possible. The needs of guidance work in schools will require their full-time services for the purpose.

viii) At present guidance work in the junior high school suffers seriously from want of a) educational informatio nand b) occupational information. The publication programme should give priority to preparing a teachers' manual dealing with the educational programmes a possibilities for the junior high school leaver and another with the occupational opportunities and possibilities that are open to him. These two may be followed by publications dealing with detailed information on various courses of study and occupations as contemplated in the programme.

ix) The guidance teacher besides being provided with the two manuals mentioned above, should also be kept uptodate with the latest information on educational and vocational opportunities for the junior high school graduate. This could be done by including such information, as and when they become available, in the monthly periodical on industrial arts and vocational guidance published by

the Provincial Department of Education.

x) The importance and significance of vocational guidance in the present context have to be viewed not only from the total educational programme of the junior high school, but also from the educational, economic and social implications of the recent important decision of the Government to extend tne six-year compulsory elementary education with a programme of universal free education in the junior high school. Vocational guidance in the junior high school assumes an added importance and significance in the latter context and therefore it becomes an imperative necessity to develop the programme on right lines and provide follow-up supervision to the trained guidance teachers.

xi) With a view to develop a functional vocational guidance programme on right lines and give it a firm basis in the 66 demonstration schools and facilitate its extension later to all junior high schools in Taiwan, the following plan of action is recommended:

a) An experimental programme in vocational guidance based on modern trends in guidance and functional in approach should be organized in seven regional schools chosen from the 66 demonstration schools, the regions being the same as proposed for the supervisory programme in industrial arts education.

b) The above experimental programme should be carried out by teachers who have received a twelve-week in-service training in guidance and it should be developed under the supervision of the National Taiwan Normal University. The teachers concerned should be allotted full-time guidance work in schools chosen for the experimental programme.

c) The organization of the experimental programme should be completed during the third year of the project and the training of guidance teachers concerned during the second year.

d) It is understood that for the in-service training of new teachers recruited in connection with the extension of universal free educationto the junior high school, the National Taiwan Normal University, on the request of the Provincial Department of Education, proposes to organize during the next summer vacation a guidance course of 20 credits and 12 weeks duration along with other courses. It will be advantageous to the experimental programme if as many guidance teachers as possible are selected from the 66 demonstration schools to attend this guidance course. By convenient adjustment the regional schools for the experimental programme could be fixed towards the end of the in-service training so that good teachers among the candidates at the rate of one teacher per school or preferably two teachers per school are available to conduct the experimental programme.

e) If the suggestion contained in d) above cannot be carried out, separate arrangements should be made for training guidance teachers of the seven regional schools that will be chosen for organization the experimental programme.

f) The in-service training should stress the functional aspects of guidance and the trainees should be provided with enough practical work in the junior high school to administer guidance.

g) The National Taiwan Normal University should prepare under the publication programme of the project

a teachers' manual on the educational programmes and possibilities for the junior high school leaver and another on occupational opportunities and possibilities that are open to him. The manuals are indispensable to the teacher educator to conduct in-service training of guidance teachers and to the teacher to administer a guidance programme in the junior high school. The work on preparation of the manuals should be started immediately as indicated in recommendation number viiii.

h) At the end of the third year when the experimental programmes are in good working order, four or five-day workshops on all aspects of the experimental programme should be organized at each of the regional schools for the benefit of guidance teachers of other demonstration schools in the region. It should de possible for them after attending the workshop to reorganize the guidance programmes in their schools on proper lines with the knowledge and experience gained at the workshop.

i) During the fourth and fifth year of the project, the reorganized guidance programme in the demonstration schools should have the benefit of follow-up supervision by the appropriate specialists from the National Taiwan Normal University and the Provincial Department of Education.

6.2.3 Industrial ArtsWorkshop, Tools and Equipment

Recommendations

i) The present large enrolment in the demonstration schools makes maximum utilization of workshops absolutely necessary so that all pupils get a chance to use the tools and

machines and do meaningful practical work. The general workshop approach should be followed to achieve this and pupils should be divided into small groups during workshop period and assigned different items of work like wood, sheet metal, rattan etc. Training of teachers in the use of the general workshop approach rather than the present unit workshop approach which is referred to in an earlier recommendation becomes indispensable to achieve the maximum utilization of workshops.

ii) Demonstration schools which have not employed a mechanic to ensure maintenance of workshop should do it immediately. In workshop maintenance, the prevention of breakages and damages of tools and epuipment should be stressed along with other aspects of maintenance.

iii) Hand tools should be properly classified, catalogued and stored in convenient racks so that they are easily accessible to pupils and teachers. The tool racks made by Hulin High School could be used as a good sample of a convenient rack.

iv) Use of safety precautions in the workshop should be an integral part of instruction in industrial arts for all pupils. This should also be an integral part of the in-service training course meant for teachers in industrial arts.

v) At present it is not possible to estimate correctly the needs of extra tools and equipment that the demonstraation schools require. When they follow the general workshop approach in practical work, there will be a better utilization of the materials already supplied. It should be possible to make a critical review of the needs after the schools have conducted their workshop practice on the general shop pattern for a year or at the time of a mid-term evaluation of implementation of the project. UNICEF

supplies till then may be according to the present list subject to some modifications needed to meet the additions and alterations in view of conclusion 4.4(iv)above. A revised supply list incorporating the necessary additions and alterations is included as annexure 1 to this report.

6.2.4 Publications

i) The present plan of publications formulated by the Ministry of Education may be accepted as a tentative plan. Before it is attached to the plan of operations as an annexure, it should be edited and elaborated to include rules to govern all aspects of preparation of publications from the choice of titles toprinting and distribution of copies of the printed material. It is suggested that the plan should be finalized during the second year of the project and added as an annexure to the plan of operations. The list of titles of books, booklets etc in the plan should include the publications mentioned in recommendations 3.5A (vi) and 3.5B (viii). The list should be considered as tentative to allow for changes that will be required to meet the needs of new curriculum and textbooks in the subject areas that are being prepared, but not yet completed.

ii) Though the publications will cover a wide field by the end of the five-year period of the project, it is doubtful whether the programme could be discontinued afterwards. The developing nature of teaching industrial arts and home economics, the increasing demands of a dynamic guidance programme, the need of periodical revision as indeed replacement of most of the material published will make it necessary to continue the publication programme. It is therefore necessary to make the required adjustments in

the plan to make the publication programme a continuing activity.

iii) The one factor more than any other that has caused the delay in keeping to the schedule of publications is the absence of a competent full-time officer in charge of the publications, who has the necessary competence in the subject areas of publications and of the mechanics of production of educational literature. Such a person besides ensuring regularity of publication could help to stress the modern trends in the philosophy and practice of industrial arts education and vocational guidance and maintain a uniformity of approach to the subject areas. It is recommended that such a person be appointed and put in charges of the programme. It will be advantageous if UNICEF meets the cost of this appointment for three years and the Government takes over and continues the appointment and programme for reasons stated in (ii) above.

iv) The monthly periodical should not be limited to discussion of teaching industrial arts; attempts should be made to include in future issues of the periodical problems of organization and administration the programme of vocational guidance in junior high schools.

6.2.5 Pupil Inventory Tests

i) The following implications of the revised programme needs clarification: a) the norms of all the tests including those ear-marked for the first and second years could be established only during the third year because the administration of the final form of all the tests in respect of eighth and nineth grades will have to wait for the second year and third year respectively when universal free education will be extended to the eighth and nineth grades;

b) with the extension of universal free education to the seventh, eighth and nineth grades, the number of pupils in attendance in these grades will increase substantially and therefore the size of the random sample for administering the tests will also increase; c) in view of the increased sample, the cost of administration of tests and establishment of norms will be more than the previous estimate and d) to complete the programme in three years, it will be necessary to start working on a broader basis of test construction which should include work on all the ten tests instead of only the first seven on which the Research Institute of Education is at present engaged.

ii) The revised programme of test construction to be completed in three years may be accepted subject to the above considerations and the UNICEF assistance may be increased to meet the increased cost of testing and adjusted to be paid in the first three years instead of in five years.

iii) The Research Institute of Education which has very competent personnel to do the specialized job of test construction should continue to be in charge of the programme.

iv) The tests are meant to be used for the programme of vocational guidance in the junior high school and therefore a plan should be drawn up for the use of tests as they get constructed and issued along with the corresponding manuals. In the initial stages of their use, schools should consult and be guided by the Research Institute of Edcuation.

v) The tests should be administered and interpreted by guidance teachers who have received a longer in-service training in vocational guidance with emphasis on the construction, administration and use of the tests according to recommendation No. 8.5 B(ii).

6.2,6 Home Economics Equipment

The revised supply list of apparatus and equipment in home economics contained in annexure I should be accepted and UNICEF supplies be made according to this list.

6.2.7 Industrial Arts in Junior Normal Colleges:

Fellowships: Mid-Term Evaluation

i) Considering the fact that the curriculum of junior normal colleges is now in the process of revision and hoping that provision will be made for teaching of industrial arts in the revised curriculum for training teachers, it is suggested that equipment and supplies for teaching the subject in the colleges should be provided by UNICEF during the third year of the project according to a supply list to be prepared to meet the needs of the revised curriculum.

ii) According to the agreement contained in item 7 of Article III of the plan of operations, the Government should make arrangements in include in its request, under priority I of U. N. D. P. programme, additional fellowships to be arranged and administered by UNESCO. Two additional fellowships, one in industrial arts education and the other in vocational guidance, are the irreducible minimum needs of such additional fellowships. The Government should expedite action on the fellowship programme and also explore the possibility of initiating it from savings, if any, in the U. N. D. P. funds of the current year.

iii) Since the initial evaluation has made major recommendations which are significant for the effective implementation of the project, and also considering the importance of the project in the context of the new nine-year programme of universal free education, it is suggested that

there should be a mid-term evaluation to assess the implementation of the project according to the recommendations.

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Item No.	Code No.	Item Description	Unit Price	Quan-tity	Total
	UNIPAC	D. High School Industrial Arts Shop	US$		US$
186	40-020	Anvil, pedestal type, 130 lbs.	34.92	1 ea.	34.92
187	40-030	Awl, marking	0.37	4 ea.	1.48
188	40-050	Bar, Extension,	2.93	1 set	2.93
189	40-160	Brace, Hand 10″ (25 cm) sweep (See page 6)	3.11	2 set	6.34
191	40-098	Bit, countersink, woowork-ing	0.30	2 ea.	0.60
192	40-100	Bit, countersink, 3/4″	0.53	2 ea.	1.06
193	40-124	Bit, expansive	1.50	2 ea.	3.00
194	40-380	Drill, Hand, 1/4″ (6.35mm) capacity	2.11	2 ea.	4.22
195	40-105	Bit, drill, Hand	2.83	2 set	5.66
196	40-130-02	Bit, Sorew driver. For use with hand braces 40-160 (See page 6)	0.67	2 set	1.34
198	40-796	Saw, coping, Frame	0.64	6 ea.	3,84
199	40-301	Compass, wing 8″	1.17	3 ea.	3.51
200	40-280	Clamps, "C", 3″.	0.87	2 ea.	1.74
201	40-284	Clamps, "C". 6″.	1.51	4 ea.	6.04
202	40-286	Clamps, "C", 8″.	2.16	2 ea.	4.32
203	40-350	Cramp, Bar, 2 ft.	3.36	6 ea.	20.16
204	40-351	Cramp, Bar, 3 ft.	3.73	4 ea.	14.92
205	40-359	Divider, 6″	0.67	2 ea.	1.34
206	-575	Hammer, nail, 10 oz.	0.67	8 ea.	5.36
207	40-580	Hammer, nail, 16 oz.	0.83	2 ea.	1.66
208	40-590	Hammer, Plastic tip, 16 oz.	0.90	2 ea.	1.80
209	40-800	Saw, cross cut, 20″	2.77	4 ea.	11.08

Item No.	Code No.	Item Description	Unit Price	Quan-tity	Total
212	40-803	Saw, tenon (backsaw) 14″ long	1.26	4 ea.	5.04
213	40-810	Saw set	2.36	1 ea.	2.36
214	40-820	Sorewdriver, 4″	0.35	3 ea.	1.05
215	40-822	Sorewdriver, 6″	0.28	3 ea.	0.84
216	40-823	Sorewdriver, 8″	0.39	3 ea.	1.17
217	40-824	Sorewdriver, 10″	0.70	2 ea.	1.40
218		Mitre Box, complete with 12″ backsaw	7.28	1 ea.	7.28
219	40-555	Hammer, Ball pein, 12 oz.	0.50	8 ea.	4.00
220	40-560	Hammer, Ball pein, 16 oz.	0.81	3 ea.	2.43
221	40-140	Blades, coping saw, length 6½″	0.16	6doz.	0.96
222	40-150	Blade backsaw, 10″ 18 TPI × 5/8 × 0.32	0.30	10doz.	3.00
223	40-151-01	Blade, backsaw, 12″, 24 TPI	0.48	10doz.	4.80
224		Blow torch, capacity 1 pint,	10.69	1 ea.	10.69
225	40-200	Carving tools	5.42	2 set	10.84
226	40-218	Calipers, inside 6″	0.55	2 ea.	1.10
227	40-219	Calipers, outsids 6″	0.55	2 ea.	1.10
258	40-224	Calipers, vernier, 12″	85.50	1 ea.	85.50
229	40-239	Chisel,metal, 3/8″ × 5″	0.18	2 ea.	0.36
230	40-240	Chisel, metal ½″	0.27	2 ea.	0.24
231	40-241	Chisel, metal 3/4″	0.42	2 ea.	0.84
232	40-354-10	Cutter, pipe, ½″ to 2″	7.20	1 ea.	7.20
233		Divider, 8″	1.05	2 ea.	2.10
234	40-416	File, flat, 10″ long, second cut.	0.49	4 ea.	1.96

Item No.	Code No.	Item Description	Unit Price	Quan-tity	Total
235	40-422	File, half-round 10″ long, bastard cut.	0.62	4 ea.	2.48
236	40-427	File, metal, 10 flat,	0.54	6 ea.	3.24
237	40-436	File, round, 10″ second cut.	0.44	2 ea.	0.88
238	40-446	File. square 10″, second cut.	0.64	2 ea.	1.28
239	40-454-04	File, triangular, 5″ (125mm)	0.23	4 ea.	0.92
240	40-465	File card and brush	1.01	2 ea.	2.02
241	40-735	Pliers, combination, 8″ insulated handles.	0.62	2 ea.	1.24
242	40-740	Pliers, chain needle ncse	0.75	2 ea.	1.50
243	40-742	Pliers, diagonal cutting, 7½″.	0.92	2 ea.	1.84
244	40-743	Pliers, electricians, 6″	0.91	3 ea.	2.73
245	40-763	Pliers, standard side cutting 6″.	0.77	3 ea.	2.31
246	40-774	Punch, center, 3/8″.	0.36	2 ea.	0.72
247	40-776	Punch, pin	1.85	1 set	1.85
248	40-783	Rule, stsel, 12″	0.75	4 ea.	3.00
249	40-784	Rule, steel, 24″	0.68	2 ea.	1.36
250	40-789	Rule, folding, 6 ft.	0.54	3 ea.	1.62
251	40-790	Saw, Haok	1.58	2 ea.	3.16
252	40-876	Square, carpenter, steel, 24″×16″	1.59	1 ea.	1.59
253	40-877	Square, carpenter, steel, 12″×8″.	2.25	2 ea,	4.50
254	40-879	Square, try, 8″	1.71	6 ea.	10.26
255		Snipe, tinners, straight, 10″ long	1.23	3 ea.	3.69
256	40-891	Snips, tinners, aviation type, 10″ (25cm) long.	2.85	3 ea.	8.35

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
257	40–905	Tap and die set 3/16″ to ½″	17.04	1 ea.	17.04
258	40–927	Trowel, brick mason' s. To suit small pupils	0.91	4 ea.	3.64
259	40–927–03	Trowel, cement finishing. To suit small pupils	1.17	4 ea.	4.68
260	40–927–15	Trowel, pointing. To suit small pupils	0.50	4 ea.	2.00
261	40–940	Vise, woodworking	7.41	8 ea.	59.28
262	40–942	Vise, machinist, swivel base	11.36	6 ea.	68.16
263	40–946	Wrench, adjustable, crescent 8″.	0.77	1 ea.	0.77
264	40–952	Wrench, pipe, stillson 8″ length.	0,62	1 ea.	0.62
265	40–953	Wrench, pipe, stillson 10″ length.	0.83	1 ea.	0.83
266	40–980	Wrench set, open end. 7 piece.	2.84	1 ea.	2.84
267	40–623	Lathe wood turning tool set.	8.39	1 set	8.39
268	41–515	Han[illegible] riveting, 8 oz.	1.18	2 ea.	2.36
269	41–525	Hammer setting, 3/4″ oz.	2.34	2 ea.	4.68
270	41–630	Punch, Hollow, metal	0.29	2 ea.	0.58
271	41–631	Punch, Hollow, metal	9.43	2 ea.	0.86
272	41–632	Punch, hollow, metal	0.50	2 ea.	1.00
273	41–633	Punch, hollow, metal, 3/4″ 19mm	0.59	2 ea.	1.18
274	41–700	Rivet set, tinsmith, 1/8″	0.30	2 ea.	0.60
276	41–800	Square, tinner, 18×24″.	1.64	2 ea.	3.28
277	41–822	Stake, beakhorn	12.29	1 ea.	12.29
278	41–822–5	Stake, blowhorn	23.20	1 ea.	23.20

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
279	41-822-8	Stake, candle mold	20.42	1 ea.	20.42
280	41-822-12	Stake, conductor	9.01	1 ea.	9.01
281	41-822-15	Stake, creasing with horn	15.56	1 ea.	15.56
282	41-835-15	Stake, holder-bench plate	6.94	1 ea.	6.94
283	45-160	Drawing Instrument, set of 6	5.83	10 ea.	58.30
284	$\frac{B-G}{495}$R-60	Slip Roll 24″ long, 1½″ roller.	140.00	1 ea.	140.00
285	$\frac{B-G}{495}$B-90	24″ brake, 16-guage capacity. finger bar depth 2½″ finger bar height 1″, Max. lip in box forming ½″		1 ea.	293.00
286	$\frac{B-G}{64}$31-721	4″ belt and 12″ disc finishing machine complete. Includes belt and disc finishing mechine with steel stand, belt and pulley guard, No. 82-910 3/4 HP motor and No. 49-385 switch.	200.28	1 ea.	200.28
287	$\frac{B-G}{64}$50-864	Accessories for above machine Auto-set miter gage	6.30	1 ea.	6.30
		1427 Garnet disc for wood, 12"dia., 50 grit.	3.00	2½ doz.	7.50
		31-659 Garnet belt for wood, 4×52½″ 40 grit.	1.76	4 ea.	7.04
		31-660 Garnet belt for wood, 4×52½″ 80 grit.	1.59	5 ea.	7.95
288	$\frac{B\ G}{56}$15-210	15″ drill press, floor model, table ground surface 12″×	141.35	1 ea.	141.35

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
		18″, stroke 4-5/16″, spindle taper No. 2 morse taper, spindle speeds 470, 780, 1300, 1950 rpm. Cat. No. Delta 15-210 or equal			
289	B-G62-000 / 56 15-811	Accessories for above machine 62-000 ½ HP 115/230 volt motor uith push button switch	44.76	1 ea.	44.76
		Columbian drill press vise, jaw 3½ × 1-7/8, opening 4″,	12.98	1 ea.	12.98
		Jacob plain bearing chuck cap. 0-½″	12.20	1 ea.	12.20
		Key for above chuck Cat. No. K2		1 ea.	0.75
		Arbor for chuck No. 2 morse taper Cat.			
		High speed steel drill, 1/16″ to ½″ by 32nd Cat. No. Set of 86	14.74	1 ea.	14.74
290	B-G / 103 23-220	Floor type 7″ grinders, wheel 7″ × 1′ 5/8″, height 47½″, ½ hp 115/230 volt single phase motor	123.11	1 ea.	123.11
291	B-G / 60 34-401	10″ tilting arbor bench saw complete, max. depth of cut 8-1/8″, rip to right of blade 25″, table size 20″ × 27″,	259.46	1 ea.	259.46

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
	—	Machine includes 1455 pair of side extension wings, steel stand, splitter mounted gurrd, 1 hp, 115/230 volts motor and manual control switch and wiring kit.			
294	1452	Dade head table insert	4.17	1 ea.	4.17
295	B-G/69 1015	Combination saw, 10″ dia. 5/8″ arbor.	3.64	2 ea.	7.28
296	1017	Rip saw, 10″ dia. 5/8″ arbor.	3.64	2 ea.	7.28
297	1018	Cross cut saw, 10″ dia. 5/8″ arbor.	4.95	2 ea.	9.90
298	34-333	Dade head set, width of cut 1/8″-13/16″ 6″ dia. 5/8″ arbor.	13.52	1 ea.	13.52
299	B-G/34 42W001	Wood turning lathe, swing over bed 12″, Swing over gap 18″ Distance between centers 42″, Head and tailsteck spindle taper No 2 morse, Speeds with variable speed 500 to 3300 rpm, Machine includes sabinet base, tool rest helder, 7″ tool rest 12″ tool rest, cup and spur senters, wrenches, V-belts and pullys.	221.50	1 ea.	221.50

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
300	B-G/34 90W146	3/4 HP, single phase, 115/230 volts, 60 cycle motor	96.54	1 ea.	96.54
301	90W866	Magnetio starter for single phase motor.	62.36	1 ea.	62.36
302	42W004	Front face plate 6″	4.55	1 ea.	4.55
303	42W003	Front face plate 4″	—	1 ea.	—
304	42W007	Rear handwhool face plate 8″	5.95	1 ea.	9 98
305	54W022	Jacosb 3-jaw chuck 0 to ½″ with No. 2 Morse taper shank.	9.98	1 ea.	5.95
306	B-G/35 23W125	Scroll saw, blade to frame 26″, Tepth of cut 2″ length of stroke 1″, Table size 15″ ×15″, Table tilt 45 right-15' left. Machine includes one 4-step pulley with 5/8″ bore, and 33″ V-belt guard and steel stand.	134.34	1 ea.	134.34
307	90W201	1/3 HP, single phase, 115/230/Volts, Motor, for above machine	32.11	1 ea.	32.11
308	90W866	Magnetic starter for motor.	27.85	1 ea.	27.85
309	23W010	6″ jig saw blades (pkg of 6). 012×023 20pt,	0.66	10 ea.	6.60
310	23W012	6″ jig saw blades (pkg of 6). 016×035 21pt,	0.66	10 ea.	6.60

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
311	B-G 85 23W014	6″ iig saw blades (pkg of 6) 020 ½ 070 7pt,	0.39	10 ea.	1.90
312	23W021	6″ jig saw blades (pkg of 6). 020×110 15pt,	0.48	10 ea.	4.80
313	B-G 88 J-114-3	Band saw, Blade of frame 13/3/4″, table size 14″×14″, table height from floor 43-3/4″, table tilt 45° right 10° left, Max. blade width 3/4″, blade length 90½″ to 92-3/4″, aluminum band saw sheels with hinged cover, Machine includes ½ HP single phase 115/230 volts motor and manual switch with cord and plug.	287.65	1 ea.	287.65
314	B-G 89 10W838	Accessories for above Miter Gauge.	6.30	1 ea.	6.30
315	20W800	Rip fence with guide rails	31.86	1 ea.	31.86
316	20W810	Band saw blade 1/8″ width.	1.82	5 ea.	9.10
317	20W812	Band saw blade ½″ width.	1.90	5 ea.	9.50
318	20W813	Band saw blade 3/8″ width.	1.90	5 ea.	9.50
319	20W814	Band saw blade ½″ width,	2.60	5 ea.	13.00
320	20W815	Band saw blade 3/4″ width.	3.15	5 ea.	15.75

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
321	B-G/43 J-136-51	Jointer, width of tables 8″, length of table 64″, Max. depth of cut ½″, fence tilts right to left 45°, height on cabinet 32″. Machine includes fence, arbor pulley, swing guard, motor pulley, belt, cabinet, 1/2″ HP single phase 115/230 volt motor and manual switch with cord and plug.	367.89	1 ea.	367.89
322	B-G/43 30W858	Extra set of 3 cutter head knives for 6″ Jointer	11.14	1 ea.	11.14
323	B-G/500 V-10	Snips, tinners, conbination, 10″ long.	3.30	3 ea.	9.90
324	B-G/501 621-C	Prick punch, 1″ 4½″	0.45	5 ea.	2.25
325	B-G/539 CR 33	Hammer raising 12 oz	4.90	2 ea.	9 80
326	B-G/411 4	Mallet, rawhide, 2″ ×3½″	2.45	4 ea.	9.80
327	B-G/330 3158	Soldering iron, elec. 200W. 5/8″ tip, 110 volts	10.15	2 ea.	20 30
328		Spring Divider, 10″	3.95	2 ea.	7.90
285a	B-G/486 62	Ear folder, folding length 20″, capacity 22#, gauging range 1/8″-1″	220.00	1 ea.	220.00
285b	B-G/487 622	Conbination deep throat rotary mach., capacity 24#	142.00	1 ea.	142 00

Item No.	Code No.	Item Description	Unit Price	Quantity	Total
		equipped with this turning rolls, burring rolls, wiring rolls, crimping rolls, and single beading rolls			
329		Hand groover, 1/8″	0.80	2 ea.	1.60
330		Hand groover, 3/16″	0.80	2 ea.	1.60
331		Multiple meter (Poster)	29.95	2 ea.	59.80
332	B-G 294 sodel25	Ampere meter, 0–5 Amps D.C. (MAX)	12.90	1 ea.	12.90
333	B-G 294 model55	Ampere meter, 0–5 Amps A.C. (MAX)	11.55	1 ea.	11.55
334	B-G 294 model25	Volt meter, D.C. 10–150V	13.05	1 ea.	13.05
335	B-G 294 model55	Volt meter, A.C. 0-300V	12.90	1 ea.	12.90
336		Wattshour meter (110V)	47.95	1 ea.	47.95
337	B-G 384 281	American standard wire-gauge. (AWG) (BWG) (SWG)	6.90	1 ea.	6.90
338	B-G 279 16	Soldering gun	5.90	1 ea.	5.90
190	UNIPAC 4009000	Bit auger, woodworking. 1/4″	0.56	2 ea.	1.12
190a	UNIPAC 4009100	Bit auger, woodworking, 3/8″	0.56	2 ea.	1.12
190b	UNIPAC 4009200	Bit auger, woodworkins, 1/2″	0.61	2 ea.	1.22
190c	UNIPAC 4009300	Bit auger, woodworking, 5/8″	0.61	2 ea.	1.22
190d	UNIPAC 4009400	Bit auger, woodworking, 3/4″	0.66	2 ea.	1.32
190e	UNIPAC 4009500	Bit auger, woodworking, 7/8″	0.80	2 ea.	1.60
190f	UNIPAC 4009600	Bit auger, woodworking, 1″	0.84	2 ea.	1.68

Item No.	Code No.	Item Description	Unit Price	Quan-tity	Total
197	USIPAC 4025300	Chisel wood 1/2",	0.51	4 ea.	2.04
197a	USIPAC 4025500	Chicel wood 3/4".	0.57	4 ea.	2.28
197b	USIPAC 4025600	Chicel wodd 1", sooket	0.47	4 ea.	1.88
197c	USIPAC 4025900	Chisel woodworking 1/4"	1.99	4 ea.	7.96
198d	USIPAC 4026000	Chicel woodworikng 3/3"	1.99	4 ea.	7 96

Total per set 3,948.66
(SAY) 3,950.00

Item No.	Description		Quantity	Unit price	Total
	C. S&E for Girl-students in 15 Home Economic Demonstration Schools			$US	$US
		UNIPAC#			
150	Refrigerator, electric, 8-10 cuft. capacity, 110 volts, 60 cycle, AC	0120000	15 ea.	164.83	2,464.00
151	Calculator, hand operated	1818000	30 ea.	136.68	4,000.00
152	Typewriter, standard English keyboard, 18″ carriage	1891000	75 ea.	104.95	7,873.00
153	Blender, (Mixer), electric, capacity 32 ozs., 2 speed complete with container, cover and cord for operation on 110 volts, 60 cycle.	2000300	30 ea.	17.02	500.00
156	Bowls, mixing or serving, set of four	2020000	210 set.	2.55	535.00
157	Bowl, mixing, stainless steel, 9½″ dia.	2021000	810 ea.	1.44	302.40
158	Pan, Frying, 8¾″ dia. stainless steel.	2026000	150 ea.	3.14	470.00
158a	Pan, Prying, 10″ dia.	2025000	150 ea.	1.99	298 50
159	Pan, baking and roasting, s.s. 16″×12″×2½″	2028000	210 ea.	2.01	422.40
160	Pot, cooking, combination. cooker, 3 quart.	2034500	105 ea.	6.98	732.90
161	Grinder and food chopper, for fine, medium and coarse cutting, for raw or cooked meat	2059500	105 ea.	4.77	500.85

Item No.	Description		Quantity	Unit Price	Total
162	Measuring cup, 16 oz. and metric equvalents	2067500	210 ea.	0.40	84.00
163	Meat cleaver	2068000	105 ea.	2.82	296.20
164	Shears, poulty	2074500	105 ea.	2.56	268.40
165	Plate, soup, unbreakable, deep	2076200	210 ea.	0.37	77.70
166	Spoons, measuring, set of 4	2085000	210 ea,	0.36	75.60
167	Boiler, 11 gallons	2110000	15 ea.	6.65	99.73
168	Iron, electric, steam and dry, 110 v. AC	2150500	105 ea.	11.65	1,747.50
169	Ironing board, table type	2160001	105 ea.	5.55	582.75
170	Dressmakers form, size A	2220000	30 ea.	17.55	526.50
171	Sewing machine, elec. standard console, 110 volts, 60 cycles, AC	2286100	105 ea.	42.63	4,476.15
172	Scale, household utility, spring type, airplane 6½" diameter, capacity 2000 grams	3052200	15 ea.	3.47	52.00
173	Scale, vegetable, cap. 20 lb×1 oz., 2 revolutions of the indicator, 7" dia.	3053000	105 ea.	6.75	700.00
174	Toaster, electric, automatic, 110 volts, 60 cycle, AC (Sears-Fall & winter 1967-34 G 6323)		30 ea.	5.50	165.00
175	Mixer, 10 speed, electric, with stand, 110 volts, 60 cycle AC (Sears-Fall &		30 ea.	16.00	480.00

Item No.	Description		Quantity	Unit Price	Total
	Winter 1967-34 G 8243)				
176	Cutlery, not of 4 pieces, s.s.	2054000	15 set.	0.36	
177	Oven, electric with automatic singleoven, 110/220 volts, 60 cycle, AC (Sears-Fall & Winter 1967-22 G 42272N)		15 ea.	100.00	1,500.00
178	Washing machine 9lb. electric, 110 volts, 60 cycle, AC	2181500	15 ea.	96.44	1,446.60
179	Skirts Marker, pin-it type	2290000	105 ea.	0.60	63,00
180	Knitting machine, single needle bed		105 ea.	41.13	4,318.60
181	Chinese typewriter, Universal standard, inclusive of type		75 ea.	110.00	8,250.00
	Total				43,021.25

Note: In the Standard of Basic Equipment, used for home-making courses in junior and senior high schools, issued by the Ministry of Education, 1969, the size of class was designed for 30 (or more) students, divied into 6 groups of 5 students each. The original list was developed based on the size of a class of 55 students, (in real) situation, there may be more) divided into 5 groups, with 11 students in each group. The size of such a group is too large. It is suggested to limit the size of the group with 8 students, then a class will therefore be divided into 7 groups.

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Background Information

Materials for Industrail Arts Education and Vocational Guidance in Taiwan Province of the Republic of China

Contents

I. Administration

A. Organization of the national advisory committee on the project for the development of industrial arts education, home economics education, and vocational guidance.

B. Regulations for in-service training for industrial arts teachers.

C. Regulations for selection of industrial arts demonstration schools.

D. Guidance and supervision of industrial arts education.

E. Implementation of application for fellowship to industrial arts education Unicef assisted project.

F. Organization of sub-committee on publications.

II. Works of Ministry of Education

A. Industrial Arts Education and Guidance Activities

a. Industrial arts education curriculum standard and textbook for free junior high schools.

b. Guidance activity curriculum standard and textbook for free junior high schools.

B. Publication plan

a. Chart of publication plan.

b. Suggested lists of publication for five years.

Organization of the National Advisory Committee on the Project for Development of Industrial Arts Education, Home Economics Ecucation, and Vocational Guidance

1. In order to effectively implement the 5-year Project for the Development of Industrial Arts Education, Home Economics Education, and Vocational Guidance, the Ministry of Education establishes, in accordance with the stipulations of item 1, Article 8, of the agreed Project, the Steering Committee on the Project for the Development of Industrial Arts Education, Home Economics Education, and Vocational Guidance. (Hereafter to be referred to as the Committee).
2. The members of the Committee are selected from among the executives of both parties and requested to serve, together with experts in related fields, by the Minister of Education. The two vice-ministers of the Ministry of Education are to serve as convenors.
3. The Mission of the Committee is as follows:
   (1) Approval of the plan of implementation,
   (2) Supervision of the execution of the Project,
   (3) Evaluation of the report of execution, and
   (4) Submission of suggestions on improvement.
4. Two conferences are to be held every year by this Committee.
5. The mission of the Committee terminates with the termination of the Project.
6. In case of necessity, branch committees may be set up in the counties and municipalities. Rules and regulation governing the establishment of these branch committees will be drawn up later.
7. Amendment or amendments concerning the organization of

the Committee shall have to be submitted to the Minister of Education for approval.

Committee Conference Convenors:	Vice-Minister Teng Chuan-kai
	Vice-Minister Kao Hwa-chen
Committee Members:	Wang Yah-chuan
	Chang Chao
	Li Chin-kao
	Ku Pai-yen
	Ling Hsiao-fen
	Yeh Chu-sheng
	Pan Chen-chiu
	Liu Hsien-yun
	Chiang Chien-pai, Chinese Guidance Association
	Cheng Tien-hsi, CIECD
	Huang Chien-hou, NTNU
	Tsung Liang-tung, NTNU
	Chien Cho-sheng, NTNU
	Chia Fu-ming, NTNU
	Wang Meng-hsien, MOFA
	Liu Hsiu-ju, MOI
Advisors:	Y. C. Chen, UNICEF
	Kendrik, ILO
	P. L. Fazzi, WHO

Publications Sub-Committee Members: Wang Ya-chuan
Chang Kan-tang
Chien Cho-sheng
Tsung Liang-tung
Lu Chun-yo
Li Pao-hu
Chiang Chien-pai
Hsiung Hsien-chu
Wu Ting
Chia Fu-ming
Liang Shang-yung
Yu Huan-mo

Teacners Training Curricul um Sub-Committee Members:
Wang Ya-chuan
Tsung Liang-tung
Huang Chien-hou
Ku Pai-yen
Chang Chao
Yu Tsung-ling

Supervision Sub-Committee Members: Wang Ya-chuan
Tsung Liang-tung
Chia Fu-ming
Chung Chien
Ling Hsiao-fen
Chiang Chien-pai
Kang Tai-kuang

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Regulation for In-service Training for Industrial Arts Teachers

1. In-service training for teachers with the following qualifications:
   (1) Present industrial arts teachers without previous training in industrial arts education;
   (2) Good record; and
   (3) Under 45 years of age.
2. A total number of 100 such teachers a year, in 5 classes, with 20 teachers in a class.
3. One period of the in-service training consists of 24 weeks, divided into 2 stages.
   (1) 8 weeks in the first stage, for 5 classes during the summer vacation.
   (2) 16 weeks in the second stage, 3 classes during the first semester, and 2 classes during the second semester.
4. Treatment during the period of in-service training
   (1) Original pay and status during the period of in-service training.
   (2) Training subsidy and traveling, expenses according to stipulations (in the Provincial Gazette, Spring No. 5, 53rd Year of the Republic of China).
   (3) Daily expenses to the amount of NT$ 100 per week per man are to be subsidized by Unicef.
   (4) Expenses for the daily meals are to be paid by the teachers receiving such in-service training (food ration will not be discontinued by the government during the period of in-service training).
5. Implementation of In-Service Training
   (1) The Department of Education of the Taiwan Provincial Government requests the National Taiwan Normal Un-

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iversity to carry on the work of this in-service training on its behalf.

(2) Expenses incurred in the implementation of the inservice training by the National Taiwan Normal University on behalf of the Department of Education of the Taiwan Provincial Government are to be paid by the Department of Education from its budgeted allocations, aside from the subsidy in part by Unicef.

(3) Teachers from schools with industrial arts factories enjoy first priority in being sent to receive such inservice training. Next priority goes to schools with the greatest number of classes.

6. Training Curriculum and Time Allocation

(1) Using the requirements for junior high school teachers as a basis, the Industrial Education Department of the National Taiwan Normal University is to arrange for the contents and time allocation requirements of the training curriculum (see appended table).

(2) After one year of implementation and using the performance results. together with the reactions of the teachers receiving such in-service training, as the basis, panels will de held to discuss improvements.

7. Examinations, Supervision, and Certification

(1) A final examination will be held upon the completion of the in-service training, Those qualified will be issued certificates.

(2) The Department of Education of the Taiwan Provincial Government holds another examination. Those who can successfully pass this examination will be issued certificates qualifying them to serve as industrial arts teachers in junior high schools.

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Regulation for Selection of Industrial Arts Demonstration Schools

A. Principle for Selection:

1. Schools with principals possessing proper realization of the importance of industrial arts education and enthusiastic in their work;
2. Schools with good records;
3. Schools that have spent all the industrial arts laboratory fees in the development of industrial arts education during the previous years; and
4. Schools that have completed the establishment of industrial arts factories before the arrival of the facilities furnished by Unicef.

B. Procedure and Method of Selection .

1. The distribution of the number of demonstration schools is based upon the population figures of the counties and municipalities and the number of high schools.
2. The final selection will be made by the Department of Education of the Taiwan Provincial Government, upon the recommendation of the local governments. After having sent investigators to make sure of the situation in the counties and municipalities, the Department then makes its final decision, and the results will be forward to the Ministry of Education for the files.
3. In the first year, 14 demonstration schools will be selectd, from among the schools in those counties and municipalities yet without U. S. assisted demonstration schools
4. During the second and third years, a total of 18 demonstration schools will be selected each year. Together with the 16 U. S. assisted demonstration schools, there will then be 66 such schools. In principle, each county or municipality is to have three industrial arts demonstration schools.

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Guidance and Supervision of Industrial Arts Education

A. Guidance

(1) Implementation Principles

1. The work of guidance in the implementation of industrial arts education relies upon and requests the services of the Department of Industrial Education of the National Taiwan Normal University.
2. Guidance is to be given to the industrial education demonstration schools receiving assistance during this year.
3. Such schools are to receive guidance twice a year at least.
4. The Department of Education of the Taiwan Provincial Government will send its personnel to accompany counselors on guidance to the schools, so as to help solve administrative problems.
5. Guidance work reports are to be submitted every semester to the Department of Education of the Taiwan Provincial Government for reference.
6. Problems of common interest will be published in the High School Industrial Arts Monthly, for the reference of all the other schools.
7. The Department of Education of the Taiwan Provincial Government takes care of the expenses incurred in guidance trips.

(2) Contents:

1. On conceptual problems of industrial arts education;
2. On theoretical problems of industrial arts education;
3. On methodical and technical problems in the teaching of industrial arts subjects;

4. On devising instructional materials and training aids for industrial arts subjects;
5. On the problems in connection with use and maintenance of industrial arts facilities: and
6. Others.

B. Supervision

(1) Provincial Level

1. To work together with the personnel from the Department of Industrial Education of the National Taiwan Normal University, so as to help solve administrative problems encountered in the development of industrial arts education.
2. To understand the actual situation in the implementation of the Project for the Development of Industrial Arts Education, under the assistance of Unicef, as reference material for the revision and betterment of such education during the next year.
3. To go with the implementation of the Project and to summarize the comments and opinions of the guidance personnel, in order to submit them to the local authorities and school for attention in the strengthening of such work.
4. To make comparative studies of the progress of their performances

(2) Local Level (County and municipal)

1. To make routine supervision of the schools receiving Unicef assistance, so as to facilitate the implementation of industrial arts education.
2. To pay attention to the collection and expenditure of industrial arts education laboratory fees, so as to be sure of the proper use of the fees.
3. To see to it that the schools do according to the cons-

tructive suggestions of the supervision personnel so as to make improvements in the achievements of results.

4. To solve industrial arts education problems within the jurisdiction of the respective counties and municipalities.

Implementation of Application Fellowship to Industrial Arts Education Unicef Assisted Project

A. Qualification:

1. Graduation from accredited universities or colleges, Republic of China or abroad;
2. Sound in mind and body, enthusiastic in rendering services, and under 45 years of age;
3. Service of over a two-year period in the capacity as teachers on related subjects (such as industrial arts, home economics, and guidance activities) or in related educational administrative work;
4. In case of male applicants, reserved military status upon completion of military service; and
5. Language proficiency (in English or Japanese, etc.) in carrying in studies in connection with this Project.

B. Procedure:

1. The names of qualified applicants have to be sent to the Ministry of Education by the schools or education organizations for forwarding to Unicef for selection.
2. Applicants have to enclose the following with their applications:
   (1) Certificate from the present organization or school
   (2) Graduation certificate
   (3) Reserved military status in the case of male applicants
   (4) Physical examination papers from public hospitals

C. Conditions of the Fellowship:

1. Expenses to cover the 6-month seminar abroad and traveling expenses from the Republic of China to the site of the seminar and back are to be paid by Unicef.
2. Full original pay and original status, during the seminar

period.

8. Expenses incurred in the completion of the process for going abroad are to be paid by the original schools or organizations.

D. Remarks:

1. The seminars mentioned in this fellowship are to be held within the limits of the friendly countries in the Far East Area.
2. No reason whatsoever including the reason for obtaining degrees will be accepted for any extension of the period of staying abroad after the completion of the seminar. Successful applicants will have to work in their original organizations or schools for a period of not less than two years upon their return.
3. Three copies of the report on the seminar together with suggestions and future plans should be completed and submitted by a fellow, within three months after the return, to the Ministry of Education.
4. Organizations and schools must send two applicants for every candidacy.

Organization of Sub-Committee on Publications

1. In order to carry out the provisions for the publication of books, booklets, pamphlets, leaflets, and charts in industrial arts education and vocational guidance, as agreed in the Project for the Development of Industrial Arts Education, Home Economics Education, and Vocational Guidance, with assistance from Unicef, the Ministry of Education establishes this SubCommittee on Publications.
2. The Work of this Sub-Committee on Publications includes the compilation and production of audio-visual supplies.
3. The Director of the Department of Secondary Education shall serve as the convenor of this Sub-Committee. In case of necessity, the executives of both parties and experts in related fields shall be requested to join in the deliberations.
4. The Sub-Committee may employ one or two persons to carry on the various kinds of work in connection with publications. They are to be paid in the form of salaries or subsidies from funds allocated to checking, proof-reading, and compilation and editing.
5. The procedure for publications includes the following: Selection of topics, selection of personnel, submission of outlines (in English), compilation, check, arrangements of contents, bidding, type-setting, proof-reading, binding, storage and custody, mailing to schools, etc.
6. Audio-visual supplies are to be farmed out to special agencies or related organizations for compilation and production, under the direction and supervision of the Sub-Committee.
7. Affairs in connection with the administration of tests are to be taken care of by experts or related organizations,

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under the direction and supervision of the Sub-Committee. A center may be formed to take care of the affairs of the administration of tests.

8. In principle, the work of publications, audio-visual supplies, and tests is to be completed evenly over the 5-year period.
9. The Unicef part of the expenses incurred in connection with publications shall be paid by Unicef directly upon being so informed by the Sub-Committee. Account, however, shall be kept concerning such transactions by the Sub-Committee.
10. NT$120 shall be paid for every 1,000 words compiled, composed, or translated. The number of words shall have to be adjusted so as not to exceed the total budgeted amount.
11. Bidding and the designation of publishers are the responsibilities of Unicef, with the details on such matters to be worked out later.
12. Amendments may be made at anytime.

Suggested List of Publication

Part One Industrial Arts Education

Bench work for Industrial arts education
Lathe work for Industrial arts education
Skill test for machinist
Materials for Industrial Arts shop
Example of student organization for Industrial Arts shop
Example of school shop safety program
Woodworking safety handbook
Dry Kiln operator's manual
Glaing and clamping
All about woodworking tools
Woodworking machines
Woodworking joints
Wood finishing
Woodworking organization and management
Woodworking in Taiwan
Woodworking technical terms
Industrial design and our life
Bicycle repairing
Basic electronics
Basic electric. y
Industrial art drawing (I, II, II, IV,)
Safety rules for Industrial Arts shop
Simplified perpective
Technical drafting practice (I, II)
Technical drafting aptitude test
Autobicycle
How to practice vocational guidance
Analyze vocational and education information
Handbook of iob facts

Practice and administration in vocational guidance
Ceramics making (I, II)
Guidance handbook for high-school students
Bamboo products
Bamboo veneer study
Bamboo for industry
Bamboo's treatment
Job sheet for sheet metal work
Information sheet for sheet metal work
The interesting projects and experiments of general electricity
Basic skill of masonry work
Element of engineering material (metal)
ABC of hand tools
Silk screen printing
Halftone process
Filter factor
How to make the movies
Graphic arts

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Part Two Home Economics

Books (5) for teachers use

Human relations and family member relations
Home-economics pedagogies
Arts for home environment
Food-nutrition and cook
Family health

Booklets (10)

Etiquette
Special nutrition
House managine
Modern weavings
Home accounting
Gardening
Flower arrangement
How to get along with family members
Occupational choice in the field of home-economics
How to make freinds

Pamphlets (5) Hand-craft

Leaflet (10)

How to protect your dress
Safety in the house
How to protect your skin
Importance of breakfast
Choice of food
Usage of sewing machine
How to enjoy your leisure life
Teens health
Good manner
The usage and maintenance of household appliances

Charts (3)

Home-economics
Kitchen
Beauty in manner

854 828

Part Three Vocational Guidance

Booklets (70)

1. *Guidance for daily activities (10)*

First year (4)

What is the guidance for daily activities?
How to understand yourself?
How to make your bodily fit?
How to develop your intelligence?

second year (4)

How to keep your mentally fit?
How to be a good member in the family?
How to make friends?
How to use your recreation hours?

third year (2)

How to understand your changing behaviors?
How to render your services to the communities?

2. *Educational guidance (20)*

first year (4)

What is educational guidance?
What is the aim of learning?
How to attend the class?
Methods and attitudes in learning

second year (4)

Interests and learning
How to use library?
How to understand your academic achievement?
How to pass your examination?

third year (4)

How to study the social sciences?
How to study the natural sciences?
How to study the Mathematics?

How to study arts and crafts courses?

fourth year (4)

How to prepare for higher learning?

How to break learning barriers?

How to study English?

How to study Chinese?

fifth year (4)

Exercises in learning

Thinking in learning

Appreciation in learning

How to express yourself?

3. *Vocational guidance (40)*

first year (6)

What is vocational guidance?

Aptitudes in vocational development

Right concept about labor, work, and occupation

How to prepare your future

Information on textile industry

Information on can-food industry

second year (6)

Interest in vocational development

Characters in vocational development

Social needs and trends

How to select vocational courses

Information on electrinics industry

Information on telecommunication

third year (8)

How to get a job

Behaviors and stability in vocational development

How to enter job training

Importance of apprenticeship

Information on construction trade

Information on department store business

fourth year (10)

Information on communication

Information on printing and publishe.

Information on P. V. C. industry

Information on fertilizer industry

Information on hotel business

Information on insurance business

Information on machinery industry

Information on ocean fishery

Information on electrical industry

Information on post office

fifth year (10)

Information on vehicle maintenance trade

Information on entertainment business

Information on metal business

Information on steel industry

Information on automobile industry

Information on ship-building

Information on pharmaceutical trade

Information on tobacco trade

Pamphlet (20)

1. first year (10)

Typists

Packers and labellers

Shop assistants

Drivers

Postmen

Spinners

Tailors, dressmakers and garment makers

Metal workers

Toolmakers

Machine-repairmen

2. *second year (10)*

Welders
Electrical and electronics fitters
Can-food workers
Printing workers
Glass-blower
Bakers
Chemical fiber workers
Can-food workers
P. V. C. workers

Leaflets (120)

1. *first year (18)*

Spinners
Weavers
Dyers
Heater makers
Metal drawer and extruders
Moulders and coremakers
Pipe fitters
Sheet-metal workers
Electricians
Electrical fitters
Light-bulb workers
Painters
Mason
Rubber-Product makers
Ceramics workers
Chemical process workers
Paperpulp preparers
Blue-print workers

2. *second year (18)*

Electro-platers
Leather-product makers
Radio, T. V. repairmen
Telephone repairmen
Lineman and cable jointers
Installer, telephone
Dry-cill makers
Cabinetmakers
Cartwright, wood
Bamboo workers
Pressmen and engravers
Bookbinders
Carpenters
Pressmen, printing
Tea producers
Medicament workers

3. *third year* (*28*)

Furniture finishers, wood
Shoe repairers
Footwear makers
Precision-instrument makers
Watch and clock maker and repairers
Jewellery engravers
Photographic darkroom workers
Boat makers
Woodworkers
Painters
Glazier
Kilnmen
Potters
Traffic controllers and despatchers
Millers

Candy makers
Winemakers
Musical Instruments makers
Stone cutters
Tobacco preparers
Paper-product makers
Crane and hoist operators
Operators of stationary engines
Operators of construction machinery
Meter producers
Soybean souse makers

4. *fourth year* (28)

Policemen
Cooks
Waiters and bartenders
Hotel stewards
Laundry man
Entertainment workers
Stewardess
Beautician
Photographer and cameraman
Tourist-guiders
Nurse
Midwives
Teachers, primary school
Teachers, nursery
Draughtsman
Bookkeepers
Cashers
Stenographers
Calculating-machine operators
Clerks

Stockmen
Salesmen
Gas-station maintainers
Florist
Fishmen
Fish Hatcher
Forestry workers
Dairymen

5. *fifth year* (28)

Mineral treaters
Miner
Engineer officers, ship
Pilot, ship
Crew, ship
Engine-room Rating, ship
Driver, Railway
Telephone operators
Telemechanics
Radio mechanics
Radio broadcasting station operators
T. V. mechanics
Postmen
Conductors
Cutlery and tool grinder
Carpenters and jointers
Photogravurers
Switchboard operator, power station
Hydraulic power plant operators
Platers
Pharmacist
Optometrists
Medical technicians

Medical technologist
Technicians, construction
Laboratory technicians
Technicians, agriculture

Books: Test manuals

Charts (13)

Construction of society
Work or study
Professional life
Economic development
Vocational planning and preparation
Employment organizations
Job-enter training
Apprenticeship
Vocational schools
World of industry
World of agriculture
World of business
World of

Tests (10)

General aptitude test
Chinese aptitude test
English aptitude test
Math. aptitude test
Mechanical aptitude test
Manual dexterity test
Personality inventory
Vocational interest inventory
Study habits inventory test
Academic achievement test

The portion of this publication written in the Chinese language has not been reproduced.

VT 011 406
Spengler, James R.
The Attitudes of School Board Members Toward Occupational Education. A Summary of the Final Report.

Western New York School Development Council, Williamsville.
New York State Education Dept., Albany. Bureau of Occupational Education Research.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Oct69 13p.

DESCRIPTORS - *VOCATIONAL EDUCATION; *ATTITUDES; *BOARDS OF EDUCATION; RESEARCH COORDINATING UNITS; *EDUCATIONAL RESEARCH; EDUCATIONAL POLICY; DECISION MAKING; *EDUCATIONAL PHILOSOPHY
IDENTIFIERS - NEW YORK

ABSTRACT - "The Attitudes of School Board Members Toward Occupational Education. Final Report" is summarized. See abstract of ED 042 029 or VT 011 407 (also in this issue) which is the complete study. (SB)

VT 011 406

EDO 54390

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A Summary of the *FINAL REPORT*

THE ATTITUDES OF SCHOOL BOARD MEMBERS TOWARD OCCUPATIONAL EDUCATION

Western New York School Development Council
27 California Drive
Williamsville, New New York 14221

in cooperation with

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Bureau of Occupational Education Research
October 1969

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VT011406

A Summary of the Final Report

THE ATTITUDES OF SCHOOL BOARD MEMBERS TOWARD OCCUPATIONAL EDUCATION

by

James R. Spengler

Western New York School Development Council
27 California Drive
Williamsville, New York 14221

October 1969

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FOREWORD

In the United States of America education is a function of the individual states. New York State has delegated much of its responsibility to local school districts governed by elected or appointed school boards. Each school board establishes the educational programs for its district, and in turn delegates authority and instructions for the implementation of these programs.

The attitudes of the board members toward particular phases of the total educational program are crucial in the determination of overall policy, particularly in the determination of the degree of support each program is to receive.

This publication reports on a study undertaken to discover the attitudes of school board members toward occupational education.

The findings presented may be of interest not only to the school board members whose attitudes were studied, but to all involved in the formation of educational policies.

James Vetro, Assistant Director of
Research Services
New York State School Boards Association

Carl E. Wedekind, Director
Division of Research
New York State Education
Department

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ACKNOWLEDGEMENT

The Development Council is grateful to all who made this study possible and contributed to its success. The support of the New York State School Boards Association, particularly of Mr. James Vetro; and the encouragement of the Bureau of Occupational Education Research, and the assistance offered by Mrs. Ruth Leslie and Mr. John Marcille, successive project managers; are hereby acknowledged. The members of the Advisory Committee and Consultants contributed a great deal to the success of the study as did the staff of the Development Council.

The success of this study depended on the 1,700 school board members who took time from a very busy schedule in the spring, when the load is most heavy, to respond to a lengthy questionnaire. To these school board members a grateful Thank You.

James R. Spengler
Principal Investigator

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PREFACE

The Western New York School Development Council is an independent regional educational research development agency supported by public school districts in the eight county western New York area; the Department of Educational Administration, Faculty of Educational Studies, State University of New York at Buffalo; and Federal grants.

In April 1969, a contract was given by the Bureau of Occupational Education Research of the New York State Education Department to the Western New York School Development Council to conduct a study of the Attitudes of School Board Members Toward Occupational Education. The Development Council agreed to carry out the study in cooperation with the New York State School Boards Association.

Dr. Robert W. Heller, Executive Secretary of the Western New York School Development Council and Associate Professor at SUNY, Buffalo, served as Director of the study and formed an Advisory Committee to guide the development of the study. James R. Spengler, Research Associate, was appointed Principal Investigator. The New York State School Boards Association was represented on the Advisory Committee by Mr. James Vetro, Assistant Director of Research Services.

ADVISORY COMMITTEE

and

CONSULTANTS

Dr. James Conway, Assistant Professor of Educational Administration, State University of New York at Buffalo.

Dr. Richard Egelston, Evaluation Specialist, Western New York School Development Council.

Dr. Robert Heller, Executive Secretary, Western New York School Development Council; Associate Professor of Educational Administration, State University of New York at Buffalo.

Dr. Alan Kuntz, Professor, Educational Psychology, State University of New York at Buffalo.

Dr. Gerald Leighbody, Professor of Vocational Education, Department of Curriculum, State University of New York at Buffalo.

Dr. Richard McCowan, Director, Campus School, State University College at Buffalo.

Dr. Duane Mongerson, Assistant Professor, Campus School, State University of New York at Buffalo.

Mr. James R. Spengler, Research Associate, Western New York School Development Council.

Mr. James V. Vetro, Assistant Director, New York State School Boards Association, Albany, New York.

INTRODUCTION

The preparation of persons for occupations has developed from the transfer of skills from father to son, in earliest times, through family trades and guilds, in the Middle Ages, to become an integral part of public education today. The need for occupational education continues as technology advances and as existing jobs are modified and new occupations emerge.

The concern for education on the federal level has been demonstrated by a continuity of legislation from the Morrill Acts, which established land-grant colleges, to the recent 1968 Amendments to the Vocational Education Act of 1963. The federal government has tended to support, rather than direct, the educational policies of the states.

The states also have shown concern for occupational education and have guided the state development of occupational education programs that have been supported by federal legislation. New York State established minimum standards for programs through regulations of the Commissioner of Education.

The key to selection and control of these programs is the local board of education which has the duty and responsibility to make decisions about programs on the local level. The school board, as a decision-making body, should formulate policies through the examination of all possible modes of action relevant to the goals that the board has set.

Formulation of such policies by the school board is dependent not only on the objective reality of the situation in the school district, but also on the subjectivity of the attitudes of the school board members toward the issues with which they must deal. The term attitude has been defined as a system of positive and negative evaluations and pro and con

action tendencies toward a social object. It is likely that when a school board favors a particular educational curriculum, the school system will have a strong program in that area. This study was undertaken to investigate the attitudes of school board members toward occupational education and to determine what factors influence such attitudes.

THE FRAMEWORK OF THE STUDY

Since definitions of attitude are basic to the design of the study, the writings of many persons were examined to answer the question, "What is attitude?". The definition used in this study was that attitude has two parts: (1) a component consisting of knowledge and feelings about some social object, and (2) the results of the knowledge and feelings, largely shaped by one's environment, which leads to the making of a decision. The knowledge component is called the "cognitive" component, while the emotional component is called the "affective" component.

Using the cognitive-affective definition of attitude, several hypotheses were developed whose verity could be determined in the survey. These hypotheses were:

1. There is a difference in school board members' attitudes toward occupational education and other curricula.
2. School board members from different kinds of school districts (City school districts and Central school districts, for example) differ in their attitudes toward occupational education.
3. There is a relationship between school board members' understanding of the term occupational education and school board members' attitudes toward occupational education.

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In addition to testing these hypotheses, other specific characteristics of school board members thought to be related to attitude toward occupational education were examined. Several hypotheses were developed in this part of the research to enable conclusions to be drawn about whether or not attitudes of school board members toward occupational education was related to their sex, age, experience in an occupational education program, length of service on the school board, length of residence in the district, education, and occupation.

It should be remembered, however, that only a few of the many possible factors influencing attitude were examined in the study. Consequently, when considering findings of the study, no conclusions can be reached about factors not examined.

METHOD OF THE STUDY

The survey of attitudes was conducted by using a three-part mail questionnaire. The first part of the questionnaire asked school board members to complete a series of three statements concerning occupational education. The statements were designed to find out school board members' understanding of the term occupational education. The second part of the questionnaire was adapted from the attitude scale, Image of Vocational Education Scale, developed at the University of Michigan to measure attitude toward occupational education. The last section of the questionnaire contained a check list which identified the type of school district, sex, age, education, and occupation of the school board members. Information on the length of service on the school board and years of residence in the school district was also requested.

This three-part questionnaire was sent to 4,830 school board members

representing 770 active school boards in New York State. After two weeks, additional questionnaires were sent to the 770 school board presidents as a follow-up of the first mailing. The names and addresses of the school board members were made available by the New York State School Boards Association.

A total of 1,692 questionnaires were returned to the Development Council. Sixty of these responses were the result of the follow-up mailing. The number returned represents responses from 35 percent of the school board members contacted. In addition, the returned questionnaires represent at least one response from 698 separate school districts of the 770 contacted. Thus a response was received from 91 percent of the active school districts in the state. The greatest number of responses, about 58 percent, came from Central districts which make up 41 percent of the school districts in the state. Of the total returned questionnaires, eight were discarded because they were incomplete.

The information obtained from the questionnaires was coded and transfered to key punch cards. Statistical techniques utilized to analyze data included "t" tests, point Biserial correlations, and Pearson Product Moment Correlations. Computer programs were employed to expedite and ease the handling of data analyses.

FINDINGS

The statement that there was a difference in school board members' attitudes toward occupational education and attitude toward other programs was supported to a slight extent. However, in general, attitudes of school board members toward occupational education were positive. But since it has become clear that the questionnaire measured degrees of positiveness

or negativeness of attitude rather than differentiating between the attitude toward occupational education and other curricula, conclusions reached about the first hypothesis would be rather tenuous. It is suggested that further research be done in this area.

The statement that school board members representing different types of school districts would have different attitudes toward occupational education was found to have substantial support. School board members from urban districts held more positive attitudes than members from suburban or rural districts. Members of Boards of Cooperative Educational Services had very positive attitudes toward occupational education. The fact that urban school board members have had more experience with occupational education is probably a contributing factor to their more positive attitude. Since BOCES members are from suburban or rural districts, it was felt that the involvement of these BOCES board members in decisions regarding occupational education on an increasing scale in the last few years tended to condition their attitudes.

The statement that there was a relationship between the board members' understanding of the term occupational education and the board members' attitude toward occupational education was supported. Since the correlation between the two factors was low, understanding of the term occupational education was not held to strongly affect attitude.

The relationships between school board members attitudes and their sex, experience in occupational education courses, and educational level were found to be insignificant with no appreciable differences.

Age, however, was shown to have a strong relationship to positive attitude, and so to a lesser degree did length of service on the board of education and length of residence in the district. It is probable that

these last two factors were a function of age and that it was age that was the determining influence. Longevity and experience seem to contribute to a more positive attitude toward occupational education.

The relationship between occupations of school board members and their attitude toward occupational education was so complex that no significant general trend was observable, and no generalization was possible.

SUMMARY OF SIGNIFICANT FINDINGS

1. A more positive attitude on the part of school board members toward occupational education was exhibited in the urban schools and the BOCES Center.
2. The degree of understanding of the term "occupational education" was found to be largely unrelated to attitude.
3. Age was found to have a strong relationship to a positive attitude.
4. Sex, educational level, and experience in occupational education courses were not found to be related to attitude.

VT 011 608
Learning the Tool and Die Maker Trade. Manpower Research Monograph No. 17.

Manpower Administration (DOL), Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (L1.39/3:17, $.30).
PUB DATE - 70 22p.

DESCRIPTORS - *TOOL AND DIE MAKERS; TRADE AND INDUSTRIAL EDUCATION; EDUCATIONAL PROGRAMS; *TRAINEES; *TRAINING TECHNIQUES; TABLES (DATA); TRAINING OBJECTIVES

ABSTRACT - This monograph, one in a series being published by the Manpower Administration of the U.S. Department of Labor, is based on "A Study of the Training of Tool and Die Makers," by Morris A. Horowitz and Irwin L. Herrnstadt at Northeastern University. This study is part of a twofold research approach sponsored by the Office of Manpower Administration's Office of Policy, Evaluation, and Research, to acquire some insights into how craft training is accomplished and how it can be improved. Topics include: (1) Classification, Use, and Popularity of Training Paths, (2) Measuring Training Effectiveness, and (3) Some Observations and Recommendations. Case studies of training progressions and limitations of the data are given. The full report, on which this monograph is based, is available from the National Technical Information Service, Springfield, Virginia 22151 as PB 187 558 (MF $0.95; HC $3.00). (GR)

VT 011 608

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Manpower Research
Monograph No. 17
1970

ED0 54390

LEARNING THE TOOL AND DIE MAKER TRADE

VT011 608

U.S. DEPARTMENT OF LABOR
George P. Shultz, Secretary
Manpower Administration

879
088

For sale by the Superintendent of Documents, U.S. Government Printing Office
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PREFACE

This monograph is one in a series being published by the Manpower Administration of the U.S. Department of Labor. It reports on a study of how men become tool and die makers, by Morris A. Horowitz and Irwin L. Herrnstadt at Northeastern University. The full report, "A Study of the Training of Tool and Die Makers," may be purchased from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151, Accession No. PB-187 558. Copies may also be obtained from the Department of Economics, Northeastern University, Boston, Mass. 02115.

This study is part of a twofold research approach sponsored by the Office of Manpower Research of the Manpower Administration's Office of Policy, Evaluation, and Research, to acquire some insights into how craft training is accomplished and how it can be improved. The other part—a study of apprenticeship in four trades by Alfred S. Drew, at the School of Technology of Purdue University—is scheduled for completion in 1970.

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INTRODUCTION

Since the 27.5 million blue-collar workers in our society are so critically important to the economy, it is surprising how little is known about how these workers—who comprise a third of our work force—get their training. Recently, the Department of Labor has been attempting to find out how the 10 million craftsmen among these blue-collar workers acquire their skills.

One of the earliest research projects in this area sponsored by the Office of Manpower Research of the Department's Manpower Administration, under the Department's responsibility to develop information about the supply of American workers,[1] was the first nationwide survey of the vocational training background of workers between the ages of 22 and 64 who had completed less than 3 years of college.[2] This study established base line information about the training of the nonprofessional segment of our labor force. Only about 40 percent of the craftsmen said they had learned their current jobs through formal training, including apprenticeship and vocational courses in school. Only 40 percent of those with formal training thought it was the most helpful way of learning, whereas almost 40 percent of all craftsmen said on-the-job learning was best.

The extent of formal training varied considerably by occupation. About three out of four compositors and typesetters, electricians, and sheet-metal workers had learned their trade formally, but only about one-fourth of the painters and one-third of the carpenters had received formal training. A little more than one-half of the machinists had some formal training, as had almost two-thirds of the toolmakers and diemakers.

If so many of the craftsmen had not learned their trades through formal training, then how did they acquire their skills? According to this study, most of them had "just picked up" the necessary skills on the job through exposure to a variety of work experience.

Some substantiating evidence appears in a study recently conducted for the Department of Labor, in which the author reported that only 12 percent of the young white men 14 to 17 years of age were enrolled in vocational and commercial curriculums, and 15 percent of the Negroes were in these curriculums.[3] Of the 4.5 million white men 14 to 24 years of age with 12 or fewer years of education who were not enrolled in school in 1966, some 2.4 million had no vocational training other than what they may have acquired while attending school.

The study of the training of tool and die makers discussed in this monograph was made because, although a relatively small group, these workers are crucial to the economy and are in short supply. In 1968 there were 200,000 of them employed; allowing for replacements and some growth, their number is expected to reach about 220,000 in 1975.

The researchers, Morris A. Horowitz and Irwin L. Herrnstadt, interviewed 400 tool and die makers and over 60 foremen in more than 50 metalworking and fabricating plants in the Boston area. They also interviewed management personnel, educators, public officials, vocational high school seniors, and new job entrants in more than 70 metalworking and fabricating establishments in the same area. The objective of this

[1] Manpower Development and Training Act of 1962, as amended through October 24, 1968 (42 U.S.C. et seq.), Sec. 102 (3): "The Secretary of Labor shall . . . appraise the adequacy of the Nation's manpower development efforts to meet foreseeable manpower needs and recommend needed adjustments. . . ."

[2] *Formal Occupational Training of Adult Workers* (Washington: U.S. Department of Labor, Manpower Administration, December 1964), Manpower/Automation Research Monograph No. 2.

[3] *Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth*, Vol. I (Washington: U.S. Department of Labor, Manpower Administration, 1970), Manpower Research Monograph No. 16.

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study was to determine the kinds of education, training, and experience that were most likely to produce highly qualified workers.

Focus was on an examination of various training patterns based upon the performance of the workers trained, the duration of the training, and the subsequent years of experience needed to become all-round toolmakers or diemakers or tool and die makers.

Two-thirds of the sample were employed in companies with 1,000 or more employees. Less than 15 percent were employed in companies with under 50 employees. Fifty-six percent, a majority of all those interviewed, were employed in tool and die units which were composed of 11 to 30 workers.

The average age was 44.6 years; three-fourths were over 35 and under 65. Forty-five percent began their training before 1940 and nearly 30 percent during the 1940's. Seventy-four percent had at least 12 years of school. The older member of the trade (in his fifties or sixties) generally had less education (a year or two of high school at most) and had studied fewer key subjects than had the younger man; his training generally was at work, either as an apprentice or on the job. The younger member was usually better educated and was more likely to have studied key subjects, but was less likely to have had systematic training outside vocational high school or trade school, although the largest proportion of men received their training in the firm.

The researchers found that there were no important differences in the competency of the tool and die makers produced by the various training paths. It was not so much the training but the aptitudes and interests of the person that seemed to account for competency. Particularly relevant to this finding was the additional one that students were given little or no occupational guidance when they had to make a choice on educational programs. The lack of guidance may also help explain why the men took so many years of work experience to become fully competent in the trade. Even though the men almost unanimously rated practical work experience as the most useful part of their training, more and better occupational guidance, based on comprehensive information about the labor market, is clearly needed. So is a close look at the process by which workers develop skills as they climb the occupational ladder. Given these measures, employers of skilled manual workers might be able to develop personnel and wage policies that would attract capable recruits who would otherwise choose white-collar professional jobs.

CLASSIFICATION, USE, AND POPULARITY OF TRAINING PATHS

This study identified six routes by which men become tool and die makers: on-the-job training, vocational high school, picking up the trade, apprenticeship, vocational high school plus on-the-job training, and vocational high school plus apprenticeship.[4]

Training Paths

The two most common paths were on-the-job training and vocational high school; more than 40 percent of the men interviewed had received at least some of their training at vocational high school. Below is a distribution by training paths of the workers interviewed:

Training Path	*Percent Distribution of Workers*
On-the-job training	22.5
Vocational high school	22.3
Picking up the trade	15.5
Apprenticeship	14.3
Vocational high school plus on-the-job training	11.3
Vocational high school plus apprenticeship	9.8
Miscellaneous[1]	4.3

[1]Seventeen workers acquired their training in such a wide variety of ways that they would not fit into any of the above categories.

The variety of paths, each with a substantial number of followers, is important to any consideration of manpower training policy, as is the informality in even the most formal methods. The authors defined apprenticeship as a training system that included a certain amount of classroom instruction; however, at least one-half or more of the apprenticeship graduates studied reported having received no related instruction. Further, on-the-job training and picking up the trade can consist of the same thing, merely viewed from different standpoints; at a minimum, the dividing line can be fuzzy.

Nevertheless, this trade is not acquired casually. Over 80 percent of the men had received some sort of formal training, either in school or at work.

Ports of Entry and Lines of Progression

The work histories of the sample members indicated that, after completing their education, workers became craftsmen by following one of three sequences. The first sequence produced all-round machinists who then became tool and die makers. The second sequence produced all-round machinists and tool and die makers

[4]On-the-job training was defined as involving specific instruction in the shop by company personnel, but with no scheduled content or predetermined length. Apprenticeship followed a predetermined schedule, had a fixed duration of at least 2 years, and included related classroom instruction. Picking up the trade involved watching other workers, imitating them, and asking other workers or the foreman for instruction or help. Picking up the trade usually required experimentation on the job at the risk of the worker, and represented gradual accumulation of skill by progressively moving to more complex work. In practice, however, all training paths incorporated large doses of picking up the trade, whether or not the path explicitly arranged for some kind of instruction by designated individuals. Because this classification system is unique (as are others), it is almost impossible to make direct or exact comparisons of statistics between this and other studies.

simultaneously. The last, the most common, converted men who already were all-round machinists into tool and die makers. The first two sequences were associated with either apprenticeship or on-the-job training; the third, with either on-the-job training or picking up the trade.

Training also occurred in two kinds of settings. The first was institutional; i.e., a company apprentices school or the shop of a high school or technical school. Here the trainee learned to operate equipment under designated instructors and was removed from the shop or production floor. The second was on the job, where the trainee helped other men with their work and, in the process, was taught or informally absorbed the skills of the trade. The trainee also could work as a machine tool operator and set-up man for a prescribed period in a production department as part of a formal training program. The man who already was a machinist normally was taught in the shop, working with or under journeymen tool and die makers. However, many boys just out of school and inexperienced men also learned in this fashion.

Men usually became all-round machinists first; they then became tool and die makers by working in a shop and either picking up the trade or by receiving informal on-the-job training. Learning simultaneously to be a machinist and a tool and die maker normally was confined to small job shops, where the trainee was taught to run machine tools by helping to prepare stock and later by machining components for jigs, fixtures, and dies. Large companies were more likely to train a man first to be an all-round machinist in an institutional setting, and to follow this with prearranged assignments to production departments as a machine tool operator and set-up man. He then could be assigned to a tool and die unit as part of his formal training program as a tool and die maker, or after he had become a journeyman machinist. In the latter case, he ordinarily picked up the trade; in the former, he was more likely to receive informal on-the-job training.

Men also became all-round machinists and later tool and die makers by being upgraded. They began as single machine tool operators and set-up men on simple production runs and gradually learned to operate and set up other machine tools until they eventually could handle most shop equipment and were in a position to learn tool and die work. If the men were then transferred to a tool and die department, they gradually learned the trade by machining components for journeymen tool and die makers or by helping one of them repair tools and dies.

Thus, many men did not become tool and die makers immediately after their formal preparation. In addition to their often being employed as machine tool operators or as machinists until the chance came for tool and die work, or being employed as machinists in tool rooms, assisting tool and die makers, there were frequently interruptions of other sorts. Men's progress was halted by inadequate opportunities, failure to perceive opportunities, misinformation, uncertainty about occupational interest, or poor health. (See appendix A.)

Trends in the Popularity of Paths

The popularity of paths has shifted over time as economic conditions have changed. (See table 1.)

For men who began their training before 1930, apprenticeship and vocational high school were important. During the depression of the 1930's, when jobs were scarce and experienced workers plentiful, training paths which required the trainee to be employed, such as apprenticeship, were little used. The lack of jobs and of training opportunities encouraged youth to stay in school as long as possible. The most frequently used training path at that time was vocational high school alone, followed by vocational high school combined with either apprenticeship or on-the-job training. Also, longer run forces, such as the rise in the age of compulsory school attendance and the expansion of public high schools during the 1920's, must have accelerated the shift to vocational high school during the 1930's and help to explain its earlier importance.

The demand for skilled workers rose sharply during World War II when urgent production needs called for rapid training. Many employers were satisfied with narrowly trained workers who might barely meet minimum standards of workmanship, so teams of specialists led by a few skilled craftsmen became prevalent. This practice lowered the ratio of tool and die makers to output and reduced the relative need for extensive training. Partially trained men were upgraded, and inexperienced men were put through intensive training programs. On-the-job training and picking up the trade became the two most prevalent methods; vocational high school alone or combined with either apprenticeship or on-the-job training withered.

In the postwar years, on-the-job training by itself and picking up the trade declined, but not to prewar levels, as apprenticeship and vocational high school promptly regained some of their popularity. The availability of veterans' training benefits seemed to be responsible for some of the revived interest in apprenticeship as a single path. A return to peacetime educational patterns may have accounted for the gain made by the vocational high

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Table 1. Percent Distribution of Tool and Die Makers by Training Path and by First Year of Training

Training path	Before 1930	1930-39	1940-44	1945-54	1955-66
On-the-job training	14.8	11.6	36.6	27.3	26.3
Vocational high school	21.3	34.8	11.3	21.2	14.0
Picking up the trade	13.1	7.1	28.2	16.2	19.3
Apprenticeship	26.2	8.0	8.5	17.2	15.8
Vocational high school plus on-the-job training	8.2	17.0	8.5	11.1	7.0
Vocational high school plus apprenticeship	9.8	15.2	2.8	6.1	14.0
Miscellaneous	6.6	6.3	4.2	1.0	3.5
Total	100.0	100.0	100.0	100.0	100.0
Apprenticeship and combinations	36.0	23.2	11.3	23.3	29.8
Vocational high school and combinations	39.3	67.0	22.6	38.4	35.0
On-the-job training and combinations	23.0	28.6	45.1	38.4	33.3
All industry training	59.0	51.8	56.4	61.7	63.1

schools. Vocational high school combined with apprenticeship has had a sharp revival since 1955.

Nearly one-third of the entrants since 1955 served apprenticeship, either alone or combined with some other form of training. There is no indication yet that Federal manpower programs enacted after 1960 have affected the training of tool and die makers.[5] Moreover, there would have been too little time for men who began training after 1961 or 1962 to have become qualified craftsmen by 1966, when the study was conducted.

As the educational level of the average worker continues to rise, one can anticipate greater dependence upon formal education, at and beyond the high school level, as a means of occupational preparation for technicians and skilled workers, including tool and die makers. One also can anticipate that there will be relatively fewer men with only formal shop training, and possibly more men without such training at all. Shorter shop programs are also likely, as classroom instruction is substituted. Greater reliance on the classroom is especially likely if the trade becomes more complex and requires more theoretical understanding and mathematical knowledge.

[5] The 2-year limit on length of training would preclude full training for tool and die makers.

MEASURING TRAINING EFFECTIVENESS

Factors Measured

Probably the study's most provocative finding is that the training paths differed so little in their effectiveness. Indeed, Horowitz and Herrnstadt found that no single training path was significantly superior to the others.

The authors examined the effectiveness of each training path in terms of the performance ratings (based on accuracy, speed, and breadth of skill) given to the men by their supervisors; the length of time spent in training; the amount of time the tool and die makers estimated it took from the start of training after their formal schooling (including vocational as well as other secondary schooling) to become all-round competent craftsmen; and the time it took to be classified initially as toolmakers and diemakers. (See table 2.)

Because of the difficulty of obtaining cost data, they had to be excluded from this study. Since the results of various training paths are about the same, however, it becomes especially important to know whether there are

Table 2. Measures of Effectiveness of Training Paths

Training path	Performance rating (percent)		Average duration of training [years]	Median time[1] men estimated they needed to become all-round– [years]		Median time[1] men took before they were classified as– [years]	
	Above average	Below average		Toolmaker	Diemaker	Toolmaker	Diemaker
On-the-job training	42.7	14.6	2.9	9.0	11.0	8.0	9.0
Vocational high school	52.3	11.4	2.7	10.0	12.0	7.5	7.5
Picking up the trade	41.9	9.7	7.3	10.0	12.5	9.0	10.0
Apprenticeship	42.9	16.1	3.4	7.0	10.0	9.0	9.5
Vocational high school plus on-the-job training	44.4	6.7	4.6	9.0	10.0	11.0	10.0
Vocational high school plus apprenticeship	56.4	2.6	5.5	6.5	8.0	8.0	7.0
Miscellaneous	35.2	5.9	6.4	7.0	10.0	13.0	16.0
All paths	46.0	10.9	4.2	9.0	11.0	9.0	9.0

[1] Excludes time spent in secondary school, vocational or otherwise, if part of compulsory schooling—unless the man had relevant training or work experience while still taking compulsory schooling. The time is measured as the number of whole years which elapsed between the first relevant training or work experience after the man entered the labor force full time and the year when he considered himself to be a competent craftsman or became classified as a toolmaker or diemaker. In determining the starting year, only jobs in the machining trades counted as relevant work experience. Thereafter, however, neither type of job nor labor force status (e.g., military service) affected the measure of time elapsed.

any significant differences in the costs of arriving at the same level of proficiency.

No path ranked first on all the measures of effectiveness. However, vocational high school combined with apprenticeship scored best on most counts. It had a high proportion of men with better than average performance ratings, required the least time to produce an all-round toolmaker and an all-round diemaker, and took the shortest time for a man to be classified as a diemaker. It also involved only moderately long training.

The effectiveness of the other paths was mixed. No path was consistently poor in all or most measures. Those men who had vocational high school only had high performance ratings, but not significantly higher than men from other paths, and took a short time to be classified but a long time to become competent. Two paths, on-the-job training by itself and apprenticeship by itself, were characterized by relatively short or moderate times, but performance ratings were not outstanding. The remaining path, vocational high school plus on-the-job training, produced neither exceptional ratings nor exceptional training times.

Performance Ratings

In rating accuracy, speed, and breadth of skill,[6] the foremen judged at least 40 percent of the workers from all training paths (except the small miscellaneous "group") to be above average or well above average. In the path that combined vocational high school with apprenticeship, and in vocational high school by itself, the proportions of men with better than average ratings were 56.4 percent and 52.3 percent, respectively. Few men in any path were rated below average. The spread was from 2.6 percent of men who had coupled vocational high school with apprenticeship to 16.1 percent of men who had had only apprenticeship. These two paths and vocational high school alone had the smallest contingents of men with just average ratings–about 40 percent in each case.

Age, education, years in the trade, years of job shop experience, duration of training, and training path, alone or combined, accounted for surprisingly little of the variation in the men's ratings as tool and die makers.[7] The only statistically significant factors were age, years in the trade, and years in a job shop. All these variables helped performance in a small way, but some worked against each other. Older, more experienced men tended to be more competent, despite less education, than younger men, but age began working against them by the mid-forties. The advantage of additional experience diminished or disappeared by the late forties; however, the effects of aging were extremely small.

That so little of the differences in ratings is explainable by the variables examined probably was due partly to problems of measurement. (See the discussion of this problem in appendix B.) Despite careful classification, the paths may not be completely mutually exclusive. For example, the authors defined apprenticeship as a training system that included a certain amount of classroom instruction; yet, as mentioned earlier, one-half or more of the apprenticeship graduates reported having received no related instruction. Under such circumstances, apprenticeship looks more like on-the-job training.

The weakness of the explanatory variables can also be attributed partly to the fact that age and experience helped to compensate for the older men's lower education.

But there may be a number of other reasons for the seeming irrelevance to performance of the kind of training, and the failure of any path to stand out markedly.

First, factors other than training might be crucial determinants of performance. Two frequently mentioned by foremen and the men themselves were innate talent[8] and the amount and variety of work experience. In

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[6] Speed was rated on a 5-point scale from very slow to very fast. Accuracy ratings were based on the ability to build a tool or die correctly and to work to close tolerances, using a 6-point scale from poor to excellent. Breadth of skill ratings measured the complexity of the work (i.e., the shape and number of components, the number of moving parts, and the tolerances required) to which a man had been assigned or was judged capable of handling. This determination was made by having the foremen select, from arrays of 29 tools and 35 dies, the most difficult task which each man could perform.

[7] The coefficient of multiple determination for the six variables (R^2 = .07) can be interpreted to mean that they accounted for only 7 percent of the variation in performance ratings.

[8] The author's interpretation of "innate talent" is that it encompassed such attributes as mechanical insight and cleverness, a retentive memory (at least for things mechanical), and a strong desire to learn and to keep on learning. An "above average" tool and die maker, it seemed, was a "natural." He almost instinctively understood mechanical principles and liked working with his hands. He could store in his head "tricks of the trade" and readily recall them, even years later, as needed. He also was inquisitive about work being done around him, constantly observing what other craftsmen were doing. He was willing to ask questions. As a result, he was continually learning, accumulating better ways of doing old jobs, and keeping up with new techniques and materials. An average man had similar characteristics, but moderated.

The 1965 *Dictionary of Occupational Titles* (Vol. II, p. 430) lists among worker requirements for machine operating occupations the following: visual acuity, eye-hand coordination, ability to adapt to fluctuating situations, and ability to comprehend and apply mechanical principles. *The Dictionary of*

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other words, performance was the result of a man's potential and some period of seasoning. Three-fourths of the men went into the trade because they had "natural ability"; and seven-eighths of them had a "liking for the work." There is no evidence that these men were not randomly distributed among the different paths. Men who discovered belatedly that they were not interested in or suited for the work may have left the trade voluntarily or may have been weeded out by the employer. Although careful screening procedures are likely to be used in formal programs such as apprenticeship, their use is not standard nor are their results completely accurate even if innate ability could be measured precisely and were the only factor considered in screening. Moreover, continuing tight labor markets since the early 1940's, and the longrun growth in educational opportunities and job alternatives available to young people might have circumscribed the choices even for established programs in prestigious companies.

In addition, all training, irrespective of name, shares common elements, which can be executed well or poorly. Training ultimately consists of an experienced person explaining to, or showing, a less experienced person what to do, or giving him help and advice. If the essence of training is this elemental relationship, effective training can occur under many guises and cannot be defined completely by such formal attributes as scheduled assignments or related instruction. Many strategic elements cannot be specified or controlled by formal standards; training can be erratic and disorganized because of interruptions caused by layoff, transfer, military service, illness, or personal indecision. There are large differences in the quality of training bearing the same name and, according to the study, there are as many differences within training paths as among them.

The differences among men with above-average, or well-above-average ratings were largely in accuracy and speed, rather than the breadth of their skill. Virtually all of the men in both groups could build the entire range of tools or dies, but a man did not receive a well-above-average rating unless he was also outstanding in either speed or accuracy and above average in the other.

Variations in breadth of skill did differentiate between men with better than average ratings and men with just average ratings and between men in the latter group and those with below average ratings. Only three-fifths of the average toolmakers could make the full range of tools and only two-fifths of the diemakers with average ratings could make all the dies. A majority of these men had above average accuracy, but their speed was just average. Nearly all of the men with below average ratings could do only simple tool and die work, or they were unusually slow with unpredictable accuracy. They often were assigned the making of parts under the supervision of more expert men.

The ratings of men who had served apprenticeships were similar to those of the other men, although those who had been apprenticed were older and had less education.

Neither the failure to finish training nor enrollment in part-time courses affected men's ratings. Inability to control such factors as course quality, subject variety, and years of study may have been responsible for the finding about part-time courses. Although men who had applicable training in the Armed Forces were rated somewhat better than were other men, the evidence suggested that this training was not responsible. It usually was not the way they had learned the trade.

How Long Does It Take?

There were three categories of paths with respect to duration of training: (1) a short one, averaging 2.9 years, composed of vocational high school only (2.7 years), on-the-job training only (2.9 years) and apprenticeship only (3.4 years); (2) an intermediate one, averaging 5.0 years, composed of vocational high school combined either with on-the-job training (4.6 years) or apprenticeship (5.5 years); and (3) a long one, consisting of picking up the trade, that averaged 7.3 years. The addition of vocational high school to a path lengthened it. But assuming that a certain number of years of secondary school are mandatory, vocational high school shortened training time. Men without vocational schooling spent more time in apprenticeship or in on-the-job training than men with it.

Regardless of the path, a certain minimum number of years of work experience appeared to be necessary before a man felt he was a competent craftsman. Men rarely considered themselves all-round craftsmen immediately after they had finished a formal program. The shortest path was vocational high school combined with apprenticehip. Toolmakers and diemakers trained this

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Occupational Titles notes that success and interest in mathematics and technical subjects and leisure time work with machines are helpful clues relating applicants and requirements.

How essential to individuals with these characteristics are the number of years of formal education, the particular kind of training program, or experience in the trade? Can education, training, and experience compensate for an aptitude that is lacking initially? Since such variables explained so small a part of the differences in worker competency, it is unlikely that minor changes in any of them would have a marked effect on performance.

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way estimated that they needed 6.5 years (median) of training and work experience after compulsory schooling to become competent all-round toolmakers and 8.0 years to become competent all-round diemakers. Time estimated by those whose path was apprenticeship alone was nearly as short for toolmakers (7.0 years), but not for diemakers (10.0 years). Vocational high school by itself and picking up the trade were the longest paths for both toolmaking and diemaking. Both took from 10.0 to 12.5 years to produce a proficient toolmaker or diemaker.

Generally, men got jobs that were classed as tool making jobs when they felt fully competent (the median time was 9.0 years), although this was not true of some paths. In contrast, men in all but one path were classified as diemakers before they felt qualified. Men were classified as toolmakers after they felt competent if they followed paths with formal, organized training, and before they felt competent if they had informal training or no systematic training after compulsory schooling.

Men with machinist apprenticeships became all-round toolmakers as fast as did men with tool and die apprenticeships, except when the latter had not attended vocational high school and had learned to operate machine tools before becoming apprentices. The apparent savings in time were substantial for men becoming toolmakers, but not for men who become diemakers.

Men under 35 seemed to achieve all-round competency and to be classified as toolmakers or diemakers in the shortest time—men 45 to 54 in the longest time. Economic conditions at the time of labor force entry probably were responsible. The older men began to work during the depressed 1930's, the younger men during the prosperous 1940's and the 1950's.

Men's Evaluation of Their Training

The study did not go into the specifics of what each man learned in the various training routes, but it did examine the men's evaluation of their own training.

There was nearly unanimous agreement among workers that practical working experience was the most useful part of their training, but that they could benefit from more formal education, more technical education, and most specifically, more mathematics. The two most often recommended types of training were vocational high school and apprenticeship.

Table 3. Distribution of Workers by Their Judgment of Value of Specified Subjects[1] in Tool and Die Work

Subject	Number				Percent distribution[2]		
	Little or no value	Average value	Great value	Total	Little or no value	Average value	Great value
Algebra	112	85	154	351	31.9	24.2	43.9
Binary number theory	5	2	1	8	62.5	25.0	12.5
Blueprint reading	4	13	376	393	1.0	3.3	[3]95.7
Calculus	32	6	17	55	58.2	10.9	30.9
Chemistry	131	16	4	151	86.8	10.6	2.6
Economics	54	13	5	72	75.0	18.1	6.9
Electricity	132	22	20	174	75.9	12.6	11.5
Electronics	35	11	12	58	69.3	19.0	20.7
Engineering mechanics	21	16	39	76	27.6	21.1	51.3
Heat treating	43	55	247	345	12.5	15.9	[3]71.6
Hydraulics	64	20	27	111	57.6	18.0	24.3
Machine theory	9	29	306	344	2.6	8.4	[3]89.0
Measuring instruments	2	14	376	392	0.5	3.6	[3]95.9
Mechanical drawing	21	50	278	349	6.0	14.3	[3]79.6
Metallurgy	23	49	140	212	10.8	23.1	66.0
Physics	113	64	33	210	53.0	30.5	15.7
Plane geometry	65	69	179	313	20.8	22.0	57.2
Solid geometry	36	40	85	161	22.4	24.8	52.8
Technical writing	14	10	14	38	35.8	25.3	36.8
Tool design	14	33	241	288	4.9	11.4	[3]83.7
Trigonometry	20	45	263	328	6.1	13.7	80.2

[1] Includes those studied in courses and those learned informally.
[2] Distribution may not total 100.0 percent because of rounding.
[3] Differences were significant statistically at the 0.1 level using the chi square test.

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Table 4. Distribution of Workers by Equipment on Which They Had Received Training, Whether They Use It on Current Jobs, and Judgment Value of This Training for Current Skill

Equipment	Workers had received training		Workers use on current job		Workers' judgment of value of training for current skill (percent[2] distribution[3])		
	Number	Percent[1]	Number	Percent[1]	None or little	Average	Great
Boring mill	269	67.3	104	25.0	37.9	14.1	48.0
Chemical machining equipment	12	3.0	3	0.7	50.0	–	50.0
Cylindrical grinder	326	81.5	204	49.0	15.6	17.8	66.6
Do-all hand saw	395	98.8	370	88.8	6.6	18.2	75.2
Drill press	400	100.0	388	93.1	4.0	10.2	85.8
Electrical discharge machining equipment	113	28.3	66	15.8	25.7	18.6	55.8
Harding chucker	199	49.8	111	26.6	30.6	21.6	47.7
Honing equipment	320	80.0	242	58.1	14.1	22.5	63.4
Horizontal mill	353	88.3	266	63.8	15.6	14.2	70.2
Horizontal shaper	345	86.3	231	55.4	19.7	24.0	56.2
Jig borer	306	76.5	219	52.6	9.8	8.8	91.4
Jig grinder	154	38.5	92	22.1	12.3	11.7	76.0
Lathe	400	100.0	384	92.2	1.8	6.2	92.0
Numerically controlled equipment	38	9.5	16	3.8	34.2	18.4	47.4
Pantograph	130	32.5	55	13.2	38.5	20.0	41.5
Planer	263	65.8	69	16.6	51.7	14.4	33.8
Rotary grinder	267	66.8	156	37.4	21.3	22.8	55.8
Surface grinder	396	99.0	367	88.1	3.3	4.0	92.7
Universal mill	335	83.8	256	61.4	13.4	11.9	74.6
Vertical mill	378	94.5	326	78.2	7.7	8.5	83.9
Vertical shaper	278	69.5	146	35.0	33.8	17.6	48.6

[1] Percent of total sample.
[2] Percent of those who had received training on equipment specified.
[3] Distribution may not total 100.0 percent because of rounding.

Many workers either studied or acquired knowledge on the job of various subjects of direct use in their work. The most important of these were use of measuring instruments, blueprint reading, machine theory, tool design, trigonometry, mechanical drawing, and heat treating. (See table 3.) A clue to the importance of mathematics—it was felt least needed by men with above average performance ratings and most needed by those with lowest ratings.

Most key subjects required either up to 2 or up to 3 years to master. The usefulness of a subject did not depend on how or from whom it had been learned. However, some men apparently mastered material more quickly in the classroom and others outside it.

There were only a few basic machines which most men, irrespective of path or age, both used currently and considered highly valuable for skill in tool and die making. These machines included the lathe, surface grinder, drill press, and vertical miller. (See table 4.) Most men had become proficient on all machines except the lathe within 1 year; the lathe took up to 2 years. The hours recommended for particular machines in the national tool and die apprenticeship standards thus do not seem high; if anything, the researchers believe that they are too low.

Many men had been trained to operate more machines than they used in their work or felt to be particularly valuable. Many of these tools were obsolete; others had specialized functions. One was used to meet close tolerances increasingly needed today. There also were modern tools embodying new processes (e.g., electrical discharge machining) or capable of achieving extreme accuracy (e.g., the jig grinder) which relatively few men had been trained to use, but which many thought were essential. The national tool and die apprenticeship standards, dating back to 1956, do not reflect such developments, nor the displacements of old equipment and techniques by newer ones.

Foremen and fellow workers were the chief sources of on-the-job instruction and help. The former were more important than the latter in solving work problems. Few men had had to learn to operate new or changed equipment, and those that did often taught themselves on the job, sometimes with the help of foremen, fellow workers, and representatives of

equipment manufacturers. In other cases, workers were instructed in the use of machines by one of these individuals.

The Schools' Task

One small segment of vocational education–machine shop programs in secondary schools in the Boston area–was studied. These programs were selected because of their importance to tool and die making and because of the finding that tool and die makers with a vocational education background seem to do slightly better than those without it. The study was concerned with the ability of the machine shop program to help youngsters make the transition from school to full-time employment.

The concept of transition can be translated into a number of school functions: (1) counseling students about an occupational choice compatible with their interests and aptitudes, and with longrun market needs; (2) teaching students skills that assure employability on graduation; and (3) helping place students in suitable jobs–which may include necessary job development. The study examined the counseling given students in selecting a career, student attitudes toward work and toward the machine shop trades, and their acceptance by employers.

One-half of the high schools surveyed had no full-time counselor or had one who concentrated on college preparatory students.[9] Placements handled by special placement staff in some of the schools usually did not begin until the senior year; the two schools that had cooperative programs were exceptions; there, placement and supervision began during the last part of the sophomore year and included periodic evaluation.

Despite inadequate occupational counseling, youngsters in vocational high school programs received training and found related jobs while in school and afterwards. Most boys could find their own jobs and viewed the schools' placement activities as a last resort. The vocational schools were not alone in the inadequacies of their counseling; problems began at the critical junior high school level. The schools generally had a limited influence on the occupational decisions of machine shop majors. These students either had made up their minds before entering high school, or had accepted the program in which they were placed, expecting to find a job after graduation.[10]

The number of students in machine shop programs in vocational and technical high schools in Massachusetts was small and not growing as fast as secondary school enrollments. The programs in the vocational schools differed widely in content and in employers' evaluations of them. Schools that had selective admission policies; taught modern shop practices; and gave academic courses in algebra, trigonometry, geometry, and mechanics were rated best by employers. These schools could place their better students in jobs that offered the best opportunities to become all-round machinists or tool and die makers. The majority of vocational high schools, however, lacked community support, and many of their students did not obtain the better jobs that were available.

For routine machine shop work, employers preferred high school students with desirable attributes who had no vocational training over vocational students from programs and schools with poor reputations. In such cases, a youth's skill was considered less important than his attitudes, work habits, and his longrun potential. Nevertheless, students graduating from programs with poor reputations, as well as the less able students from programs with good reputations, were not left jobless. The draft and the tight job market for machine shop skills were important factors.

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[9] The Advisory Council on Vocational Education reported that only about 50 percent of American high schools provide any form of vocational guidance. The Council called for some form of vocational guidance during a large part of a person's educational career. *Vocational Education: The Bridge between Man and His Work*, General Report of the Advisory Council on Vocational Education (Washington: U.S. Department of Health, Education, and Welfare, Office of Education, 1968), p. 8.

[10] Nearly half the seniors really wanted to do something completely alien to metalworking. Only a third really wanted to be a machinist or a tool and die maker. One quarter wanted to work in a related field such as drafting, engineering, etc. However, about 70 percent of the seniors intended to take or had already taken a job in the trade or a closely allied occupation.

SOME OBSERVATIONS AND RECOMMENDATIONS

One finding confirmed by this tool and die study is the diversity of training and of ports of entry, even in this highly skilled occupation. The importance of this is apparent, considering the cyclical and secular changes in our society and economy, and the necessity for individuals to adapt to these changes. Because of the various training paths, there is great flexibility in length and content of training.

This finding is reinforced by the researchers' conclusion that there is no one best way to train tool and die makers. Discussions with men in the tool and die trade often elicited the following kind of explanation: "If you don't have a natural talent for this work, the rest doesn't count." Traditional recruiting methods do not reach some youth with natural aptitude, and the use of arbitrary selection standards may bar some who are highly motivated to become tool and die makers. Better recruiting and screening should lead eventually to a high proportion of above-average tool and die makers who need less time to acquire the basics of the trade and, possibly, less time to become accomplished craftsmen. Researchers, students, workers in the trades, employers, and vocational advisory councils all agree that we fail to offer professional, expert guidance for the high school youth whose plans do not include college.

Schools and employers might develop cooperative arrangements to employ vocational high school students during summer vacation or part time, year round as helpers and trainees, in order to acquaint them with the trade and arouse their interest in it. Employers could identify youth with a bent for metalworking, and youth could acquire firsthand information about the trade.

An important finding of the study is that the all-round tool and die maker, toolmaker, or diemaker is needed less frequently than the man whose training and skill is more limited. According to the study, only a minority of shops needed men who were all-round tool and die makers. Different organizations of work in different shops reveal that all work did not have to be done by journeymen. Some preliminary steps serve as natural training opportunities.

Yet most employers wanted toolmakers, diemakers, or tool and die makers who could build the entire range of tools, dies, or tools and dies. Employers were not seeking men capable of a limited range of tools or dies. But, neither were they all seeking tool and die makers. Some wanted toolmakers, others diemakers, and the rest, a minority, tool and die makers.

Only a minority of the men were tool and die makers; toolmakers outnumbered diemakers in the sample. There also were subsidiary specialists, such as men who combined experimental machining and toolmaking, diemakers who also were moldmakers, and toolmakers or diemakers who spent most of their time as job grinders and jig bore operators. The organization of work in shops helped to account for some of this specialization. Some shops, especially in large companies, had separate tool departments and die departments. Contract shops, on the other hand, were likely to have men who handled both tool and die work; they used all-round machinists for some of the work. In some shops, less skilled men were used to machine parts and to build simple tools or dies.

Are there then several kinds of tool and die makers for whom different kinds of training are needed? The authors suggest a variety of programs. One program might develop broad-gaged men able to handle many techniques and assignments, including ones in related fields; another could prepare "experts" on a narrower range of work who are capable of handling its most difficult parts and keeping up with changing requirements. A third program might train men for less demanding phases of toolmaking or diemaking, to work under close control or supervision. For example, the first program might train only toolmakers who could make models and prototypes, and do experimental work, or only diemakers who could make molds. The second

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might prepare toolmakers, diemakers, or tool and die makers who could lead group projects and who could build the most complex tools or dies independently, perhaps from sketches or verbal instructions. The third might train men who could make tools or dies of average difficulty, from detailed prints, and who could help highly trained leadmen with difficult assignments. Men admitted to the first two programs would have to be selected carefully for temperament, motivation, and talent; they should be well versed in designing, engineering mechanics, the machining properties of different materials, algebra, trigonometry, and possibly the programing of numerically controlled equipment.[11] The initial year of training might serve as a screening period for identification of men suitable for these distinct roles. If there are a variety of training options in a community (e.g., evening programs in trade schools), an employer's choice need not be the final word. A man can voluntarily take part-time courses that would equip him for a broader role.

A further question is: How much specific training is possible in advance? A program directed toward developing men able to do "everything" is designed to build a reservoir of skills, all of which will not be used immediately and perhaps may deteriorate or become obsolescent. The breadth and variety of the trade, as well as its changing technology, suggest that a training program ought not try to impart all aspects of the trade but primarily the capacity and desire to handle increasingly difficult assignments.

Training programs might mesh with the adoption of progression ladders that start with machine tool operation and gradually introduce tool and die work; these ladders would begin, where possible, with tool and die repairing, as is now done informally in some places.

Another finding of this study is that it generally takes less time to produce an all-round tool and die maker by systematic training than by picking up the trade or informal on-the-job learning. The need now is for a satisfactory way of measuring training costs to evaluate more effectively the various training routes.

A number of findings relate to course requirements. A majority of the men learned a number of key subjects (e.g., blueprint reading, use of measuring instruments, machine theory, and tool design) only after their regular schooling was behind them; this was probably because of late occupational choice and lack of guidance while in school. These subjects usually were learned in part-time courses or informally at work.

Some related classroom instruction seemed to duplicate material studied in high school. More than one man explained that he quit his related instruction as an apprentice (and thus never "graduated") because he was being "taught" what he had learned in trade school or had picked up as a machine tool operator.

Seniority and work assignment provisions in some union contracts seem to make it difficult to retain apprentices or to vary their work assignments when production needs fluctuate.

There has been a tendency in administering formal wage structures to "freeze in" less able men who were brought in initially as toolroom machinists or "class C" toolmakers and then automatically upgraded or advanced in grade when the labor market tightened. The absence of a differential between them and competent craftsmen in the shop often hurts morale.

One way of avoiding or minimizing such seniority and wage-structure problems has been to stabilize tool and die employment and to meet fluctuations in demand by subcontracting work to job shops. The job shops have met the overload by scheduling overtime, as well as by delaying deliveries to prime contractors. In some cases, contract shops have operated extra shifts staffed by "moonlighters" from large prime contractors who curtailed their own overtime. In other cases, employees of large contractors have subcontracted jobs on their own from the initial subcontractor. To be successful over the long run, greater use of subcontractors assumes that the latter will undertake training.

Finally, while recognizing the limitations implicit in making generalizations from a study of a single occupation in a limited geographic area, certain of the study's findings appear to be worth examining for their implications for future manpower policy and vocational education policy. These include the findings that it is the individual himself and the opportunities available rather than the type of training that determines the degree of occupational skill, and that general economic conditions are important in determining the proportion of men who achieved their training through one method rather than another at various time periods.

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[11] In the course of field work, the researchers came upon new products, equipment, processes, and materials that required highly skilled versatile men. They also encountered changes in the division of labor in shops that engendered specialization and a reduction of the functions handled by individual men. These changes suggested questions about the nature of tool and die work, and about the objectives of training programs.

APPENDIXES

A. Case Studies of Training Progression

The following case histories indicate the kinds of interruptions and delays that occurred in two training paths where such discontinuities were least expected; viz., vocational high school combined with apprenticeship and vocational high school combined with on-the-job training:

Case 1. He graduated from vocational high school in 1938 and went to work for a large machine tool manufacturer as a lathe operator in the tool room. Two years later, he left to become an apprentice machinist in a branch plant of a rubber tire manufacturer. By 1943, he was repairing dies and setting up presses at this plant, and was classified as a tool and die maker, probably because of labor market and wage control pressures. He entered the Army in 1944, was discharged in 1946, and spent the next 3 years learning watchmaking at a technical school full time. In 1950, he was hired by a large manufacturer of electrical equipment to make and repair molds. He worked in several companies thereafter and by 1952 was making jigs and fixtures. He did not consider himself a competent all-round toolmaker until the early 1950's.

Case 2. After completing vocational high school in 1921, he served for 2 years as a machinist apprentice, but he did not finish. He then switched to "outside" work for health reasons. He worked at a variety of jobs unrelated to the machine shop or the tool and die trade until the late 1930's, when he was hired as a machine tool operator and set-up man at a Federal arsenal. He spent the next 5 years there, most of them as a machinist. From 1946 to 1950, he did some limited tool work which he picked up, for a machinery maker; from 1950 to 1952 he did die work, which he also picked up on the job. Afterward, he did tool and die work in various shops, picking up more of the trade in each from foremen and fellow workers. He was first classified as a diemaker in 1950 and as a toolmaker 2 years later, but he did not consider himself an all-round craftsmen until 1961.

Case 3. He went directly into a machinist apprenticeship after finishing vocational high school in 1918. He completed his apprenticeship in 1923 and continued until 1940 with the same firm, a manufacturer of musical instruments, where he was successively an instrument maker, a tool and die maker, and a machine shop foreman. He was formally classified as a toolmaker in 1930. He left the firm in 1940 and spent the next 15 months in a navy yard, first as a machinist and then as an instrument maker. In 1955, he was hired by his current employer as a machinist, and progressed to become an instrument maker and then a toolmaker. He felt he was a competent tool and die maker in 1927; this was 3 years before he was formally classified as one.

Case 4. He graduated from vocational high school in 1933 and spent the next 7 years as a machine tool operator and set-up man in the toolroom of a large electrical equipment manufacturer, where he made parts for tool and die makers. In 1940, he went to work for a navy yard, where he was classified as a machinist after finishing an accelerated 18-month on-the-job training program. With demobilization, he was laid off and spent the next 3 years as a machine tool operator and set-up man in the tool room of a machinery manufacturer. He was hired in 1949 as a machinist by the firm in which he was currently employed, a small shop without formal classifications, but he has made jigs and fixtures most of the time there. He considered himself an all-round toolmaker in 1955.

B. Limitations of the Data

The classification scheme used in this study has a few unavoidable disadvantages. First, it relies on men's memories and their awareness of what happened. Second, there is no way of knowing what proportion of men's training time involved learning and what proportion repetition of what they already knew. Only a longitudinal study could cope definitively with these problems. Such a study would have to examine the training men received and then follow their careers afterward. A cross-sectional study such as this cannot duplicate this. Finally, the classifications should not be interpreted to imply that training programs with the same overt characteristics were identical. There undoubtedly was variation in the content and quality of programs with the same generic title.

Even the apprenticeship standards for tool and die makers registered in the U.S. Bureau of Apprenticeship and Training leave room for differences in content, duration, and instructional methods. These standards are silent about instructors' qualifications and the adequacy of equipment, and they say little about how and where training is to be conducted. For instance, is it to be in the shop or in an apprentice school? Moreover, shops differ with respect to the ability and personality of the journeymen and supervisors who serve as instructors, and with respect to the equipment and variety of assignments on which the trainee works.

Possible sources of variation in training are differences in the equipment in the employer's shop, the products made, the method of instruction, the stage at which tool and die work is introduced, and the personalities of the instructors and other mentors. Smaller shops, for example, may still use shapers instead of millers; or a shop may concentrate on draw dies rather than complex progressive dies. Some programs concentrate initially on the operation of machine tools; the apprentice, for example, makes a variety of machined parts, but does not necessarily help make jigs, fixtures, or dies. In other programs the apprentice helps make tools and dies almost immediately, at the same time that he is acquiring proficiency on machine tools.

The method of instruction can also differ. In larger companies, the apprentice may spend his first 2 or 3 years in training under an instructor, and then be transferred to a production department where he completes his training as a machinist by operating and setting up various machine tools under actual production conditions. In small companies, the apprentice, particularly if he has some machine shop experience, may be placed under an experienced tool and die maker. In effect, the apprentice is a helper who learns to a large degree by questioning, observing, and experimenting. Obviously, the personality and attitudes of the mentor, and the amount of supervision and help he provides, can be crucial variables here. In such situations, the time spent on various machines and in making different tools and dies can vary considerably. Finally, not all programs require related training; where they do, not all enforce attendance rigorously.

Each of the three measures of training time had drawbacks. Common to all the measures was the reliance upon individuals' memories and interpretations of experience for the basic data. The measure of the time needed to attain craftsman's status depended heavily upon the judgment and self-evaluation of individuals and their willingness to be candid. It also depended upon individual interpretations of what constituted a tool and die maker, despite criteria offered by the researchers. There is no practical way of solving this problem in a cross-sectional study that seeks information about the past. Corroborating the results with earnings data, even if they were available and accurate, could provide an answer if a man's relative wage at a given moment were a reliable gage of his relative performance and if it were not much influenced by such factors as length of service, the products made in a shop, its size, and its profitability.

A problem peculiar to the measure of the duration of training was the implication that the intensity and the amount of training in a given time interval were the same regardless of the kind of training. In theory, training time might be defined as time a trainee spends receiving instruction and time he spends practicing what has been taught, but which he still cannot do competently; e.g., with acceptable speed and quality. Realistically, little training is "pure" in the sense that all or most of the time is devoted to "learning"; for example, a man's productivity rises as his training advances, so that less and less of his working time is absorbed by instruction or practice. In this study, training time was not defined in the pristine sense suggested earlier. Instead, it covered the period during which a man was in a recognizable training program or felt he was still "in training," even though he produced useful products. Use of the term "training" thus approximated its everyday usage.

Moreover, by not discounting for difference in intensity of training, the researchers properly retained factors that are responsible for variations in the length of training. If the interest is in delimiting the time spent in a "trainee" or "learner" status, prior to being accepted as "trained," the unadjusted concept is the correct one. On the other hand, if the interest is the cost of training, one might want to distinguish between the time spent learning and the time spent not learning but in presumably producing a marketable product or service.[1]

The more formal the training, presumably the larger the proportion of time devoted to "pure" training. Hence, in general, 1 year of apprenticeship is considered to be more intensive than 1 year of loose on-the-job training or picking up the trade. In the latter two kinds of training, relatively more time probably is spent performing tasks that do not involve learning. However, the difference between formal and informal programs can be exaggerated. The men in the sample indicated that formal programs were not necessarily well managed, and that as trainees they were assigned work they knew how to do well. Further, the practice of rotating men among production machining departments could be highly inefficient from the trainee's viewpoint, because a large part of his time was spent in repetitive work.

The measure of the time needed to be first classified as a toolmaker or diemaker assumed that a man's job title or wage rate is independent of conditions in the local labor market. Use of this measure also assumed that firms either had formal classifications or comparable informal designations for jobs of similar nature as toolmakers or diemakers for men who were still training or that men built tools or dies without being classified as toolmakers or diemakers.[2]

By omitting training acquired during compulsory school attendance from the lengths of time needed to attain craftsman's status and initially to be classified as a tool or die maker, the authors of the study in effect assumed that school made no contribution to training. No satisfactory way could be found of estimating how much training, as the term was defined in this study, was represented by partyear attendance at a vocational high school or in the study of vocationally relevant subjects such as algebra in other high schools.

Finally, both of these measures cover the time which had elapsed from the start of the first relevant training or work after the men entered the labor force full time. Changes in economic conditions, international crises, and personal decisions caused disruptions in all paths, and decades elapsed before some men felt competent. (See appendix A, Case 2, for example.) Furthermore, as pointed out earlier, a "true" measure of training time would eliminate irrelevant or duplicative experiences, but this could not be done in this study. Nevertheless, the two measures give a realistic picture of the time needed to achieve craftsman status or to be classified as a toolmaker or diemaker in labor markets in which occupational progression is neither steady nor automatic, and in which forces beyond the individual's control help determine success or failure.

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[1] Disentangling time spent learning from time spent not learning in a training program would have to cope with the fact that both frequently occur together; that is, they are joint products. The more realistic approach would be to determine the amount of marketable product the trainee makes and to deduct it from training expenses.

[2] Men first classified as, or considered to be, tool and die makers were also sometimes assigned specialized machine work, commonly jig boring or jig grinding. These men, however, subsequently had worked as all-round toolmakers and diemakers.

GPO 892-402

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VT 011 642

Mark, Shelley M.; Martin, Doris

Comprehensive Statewide Planning for Vocational Rehabilitation Services. Summary of the Final Report, October 9, 1966 to April 30, 1969.

Hawaii State Dept. of Planning and Economic Development, Honolulu.
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ABSTRACT - Hawaii currently has a number of organizations and agencies providing some services for the handicapped, with the Division of Vocational Rehabilitation, State

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1969

Partners for Progress in Rehabilitation

A SUMMARY OF THE STATE OF HAWAII'S VOCATIONAL REHABILITATION MASTER PLAN REPORT

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March 1969

SUMMARY OF THE

FINAL REPORT

COMPREHENSIVE STATEWIDE PLANNING FOR VOCATIONAL REHABILITATION SERVICES

HAWAII STATE VOCATIONAL REHABILITATION PLAN

STATE OF HAWAII

STATE DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

DR. SHELLEY M. MARK
Director

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Project Director

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Inclusive Period of Planning Project
October 9, 1966 to April 30, 1969

902e

Title VI of the Civil Rights Act of 1964 (P.L. 88-352)

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JOHN A. BURNS
Governor
SHELLEY M. MARK
Director
Cable Address
DEVELOPMENT

April 30, 1969

The Honorable John A. Burns
Governor, State of Hawaii
State Capitol
Honolulu, Hawaii

Dear Governor Burns:

We are pleased to transmit to you the final completed report, and an abstract of that report, of the Hawaii State Vocational Rehabilitation Plan which was administered under the auspices of this Department.

The report represents the efforts of the two- and one-half years of the project, conducted through the Vocational Rehabilitation Amendments of 1965. Approximately 843 persons... professional specialists, administrators, lay leaders, and the general public participated at various developmental stages of the Plan in their own appropriate "roles".

This attempt at "functional planning" in the State of Hawaii was successful in involving all of the relevant federal-state-city and county- and private non-profit agencies and their delegates in discussions regarding the direction that the field and functions of vocational rehabilitation would take in the next ten years. With this goal, the project established an "objective administrative framework" as a base of operation within which all 137 agency delegates could work-out mutually acceptable solutions for future action.

We wish to acknowledge at this time the excellent working contributions to the Policy Board, which have been made by the official delegates of agencies and divisions actually providing services in the "rehabilitation cycle of services", our business and labor groups, and the lay public leaders and handicapped citizens.

The lay Policy Board was a truly dedicated group, thoughtful of the specific project tasks and of the implications for policy of the various considered solutions of those tasks. Ex-officio members of the Board contributed greatly through their knowledge and fine cooperation, as did also all agency executives and other officials throughout the State of Hawaii.

In addition, we wish to note the fine contribution of the sponsoring federal agency to the growth of vocational rehabilitation in the State of Hawaii, the Rehabilitation Services Administration, Social and Rehabilitation Services, U.S. Department of Health, Education, and Welfare. And the excellent contribution of the major counterpart agencies of our Hawaii departments in the federal establishment.

STATE OF HAWAII
DEPARTMENT OF PLANNING AND
ECONOMIC DEVELOPMENT

The Honorable John A. Burns
Governor, State of Hawaii
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April 30, 1969

We believe you will agree that the Hawaii State Vocational Rehabilitation Plan recommendations can greatly benefit the handicapped citizens of the State of Hawaii. We respectfully submit this publication to you for your consideration.

Sincerely yours,

Doris Martin

Doris Martin
Director of the Project

Shelley M. Mark

Shelley M. Mark
Director of the Department

FOREWORD

The orientation of the Hawaii State Vocational Rehabilitation Plan was geared for the maximum utilization of the State's resources in realization of a system which would allow autonomous but coordinated organizational action... goal directed toward maximum service delivery at the point of impact...the client.

Based on a common identification, the State currently has a wide variety of organizations who have formally identified within their own formal stated purposes, the functional aspects of the provision of maximal but fragmented and limited services to people who are physically, mentally, or socially handicapped. Such services range between 3% and 100% of the agency formal "role" in service to over 40 different handicapping conditions.

The Division of Vocational Rehabilitation, State Department of Social Services is the agency which carries "sole agency" responsibility for vocational rehabilitation and devotes 100% of its time to this purpose. In addition to this there is mutual recognition that all agencies providing services must agree on the general direction of their services and their subsequent implementation, if the stated goal of total service to the handicapped by 1975 is to be realized. All relevant agencies have participated fully.

The Plan focused on organizational and administrative aspects of vocational rehabilitation services of "rehabilitation for employability" as well as the program aspects. The formulation of the planning effort attempted to establish several basic mechanisms which would facilitate the informal and formal cooperative patterns necessary to the establishment of a functional statewide system:

a) an objective planning agency, which would facilitate concensus agreements among the diverse publics.
b) involvement of the federal counterpart agencies in the planning program in terms of their own fiscal, legislative and policy role with the States.
c) Board and committee participation which was both specialized by profession and discipline, and generalized by interagency and intergovernmental composition.
d) a formal decision-making method after full discussion by the participating groups, with minority opinions recorded; direct reports made to the Policy Board by the co-chairmen.

Participation of official delegate groups within both the program and administrative committee efforts, was excellent. Various task forces arrived at single-solution recommendations and basic agreements on phased prodecures to be implemented over the next decade. All factors were considered which were thought relevant to the final rational and acceptable decisions relating to the quality of services, quantity of services, and statewide coordination of services. Among the basic considerations are the problems of:

1) what elements might be "shared" in a partnership among the diverse agencies, and what elements should be autonomously controlled.
2) which changes in program and patterns are possible for the State to effect immediately and without major legislative fiscal or policy modifications; and which changes must be long-range.

3) how services can relate to one another organizationally, as well as functionally, in order to focus with maximum effectiveness on the total individual, thus acting as a primary tool for the conservation of human resources.

Specific tools considered included the feasibility of formal contractual agreements, new patterns of service delivery, new ways to reach hard-core cases, new ways to share equally financed facilities, the "gaps" in existing services, and the barriers to effective service delivery within and without institutional frameworks, and the relevant participation of lay leaders and the general public.

The elements and recommendations of the Plan which follow will allow for a total systematic approach to vocational rehabilitation, in which the Policy Board has recommended major responsibility to the Division of Vocational Rehabilitation, Department of Social Services for statewide leadership in this field, as well as an active role in meeting the goal of total service to the handicapped by 1975.

A basic finding of the Plan was the relatively low level (quantity) of services being provided in the State of Hawaii in relation to the need Recommendations therefore include several general "support statements" for expansion in needed areas, within the overall framework to be established. Hawaii has almost no duplication of effort. However, committees also recognized the necessity for a higher quality of services.

In general then recommendations seek to establish:

1) Quality and quantity of basic services.

2) In a coordinated and systematic manner to focus on the client.

We believe these goals have been accomplished in the Hawaii State Vocational Rehabilitation Plan with the fine cooperation of all groups.

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A. BACKGROUND INFORMATION ON THE ESTABLISHMENT OF THE STATEWIDE PLANNING PROGRAM

As stated in the foreword of this report, the Hawaii State Vocational Rehabilitation Plan has been oriented in many diverse directions, in order to provide a comprehensive and agreed upon program framework within which the State of Hawaii will move forward during the next ten years in the area of vocational rehabilitation. National trends were considered, as were also the fragmented services and groups within the State of Hawaii currently giving services, whose concensus opinions were vital to the planning program and to the projection of implementation success.

The 1965 Amendments to the Vocational Rehabilitation Act made available new resources for the States. Governor John A. Burns then designated the State Department of Planning and Economic Development, Dr. Shelley Mark, Director, as the administrative agency to administer the Statewide Plan, asking further that all agencies presently giving services in this field be included in the Plan formulation.

The official 1965 federal guidelines for the statewide plan, endorsed the basic principles of "the fullest interaction among all public and voluntary agencies concerned with the handicapped...through a consortium of agencies in which specific responsibilities are assumed and where services and resources are pooled to serve the vocational rehabilitation needs of the disabled".

Through the 1965 Amendments, statewide planning grants were made available to the States by the Rehabilitation Services Administration, Social and Rehabilitation Services, U.S. Department of Health, Education, and Welfare, to meet the cost of planning.

The most fundamental concept of the Hawaii Plan has been that of a "partnership", in which divergent groups would consider the fundamental questions of quality and quantity of services, and coordinated efficiency of services. Both program and administrative levels, as well as the lay groups, the public and the handicapped themselves were represented and their opinions considered in their proper role and function in the planning's evolving processes toward concensus. It was thought that in order to move the functional field of vocational rehabilitation forward, all of the public and private organizations and groups currently providing services must have a voice and be fully represented. The project committees and various task forces were so structuted.

Three levels of committees were organized. One committee level established broad understanding and program recommendations on the "grass roots" level, as delegates from representative organizations met.

Building upon the work of the first committee level, the next level preformed administrative planning tasks in specialized areas in which they are the disciplinary and program "experts", i.e. finance, legislation, personnel, internal agency management, etc.

A third level of planning participation involved Hawaii leadership in all relevant political, general public, and handicapped citizens group through the mechanism of the intergovernmental conference held in May, 1968, public hearings, committee participation, and the participation of the Policy Board members themselves.

The understanding, support, and carefully considered and completed work of each group was necessary for progression to the next organizational planning level. Within the evolving process for the functional field of vocational rehabilitation, evolved also a cohesion for this function within the State, which had been largely unrecognized.

Motivations for statewide formal cooperative patterns of service delivery lie in the growing "fragmentation" of the professional and sub-professional groups in institutions of higher learnimg and in the job market, and the complexity of pressures which are growing within society itself and within its institutions in each community in the nation. Other motivations revolve around the trends toward institutional growth, recognition of mutual professional concerns, increased interdependence of specialists and specialized institutions in order to get any comprehensive job accomblished, the recognition of additional organizational and political bases possible in the formulation of flexible, functional, or ad hoc structures, the economy and efficiency motive for conservation of total resources, the desire of the professions for provesion of quality services for the general public, and the general recognition of converging trends nationally and their impact on the local community.

Recognition of the "problems" of society which cannot be ignored and also the forces encouraging new forms of administrative structures, based on cooperation allow initial planning efforts toward the establishment of communications and administrative "links" between diversified groups. However, all such evolution must be seen as being to the mutual advantage of all those directly concerned or there will be no implementation movement, regardless of the motivations above specified.

In "Social Policy for the Nineteen Seventies", Wilbur J. Cohen, former Secretary, U.S. Department of Health, Education, and Welfare stated:

> "What I am suggesting is that we must strive for a social structure that is at once more diversified and more interdependent...a more truly pluralistic society...Diversity and interdependence must be buttressed by intelligent cooperation between business and government, and more effective cooperation among the local, State, and Federal levels."[1]

Statistically, the Plan has fully involved a total of 1,068 persons in the two and one-half year planning process:

Approximately 370 delegates of organizations, who were also specialists in their fields, represented the 137 major agencies and divisions functioning in rehabilitation services in Hawaii. This group participated in 16 committees, 13 of which were Oahu-statewide committees, and 3 of which were neighbor island geographic committees. Business and labor were fully represented.

On the next planning level, 136 official delegates of organizations who were executives and administrators participated in the formulation of administrators participated in the formulation of administrative recommendations.

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[1] "Social Policy for the Nineteen Seventies", Wilbur J. Cohen, U.S. Department of Health, Education, and Welfare, May, 1966. p. 10.

Public hearings for community leaders were held throughout the State of Hawaii, the seven hearings were concurrently held in the seven catchment areas utilized for planning.

Seven public hearings were then held for handicapped citizens in the catchment areas.

The combined attendance for the 14 public hearings was approximately 300 persons.

Participation at the "Intergovernmental Administrative Planning Meeting: Hawaii State Vocational Rehabilitation Plan" was invitational. About 225 administrators, and key group representatives, legislators, and federal, state, city and county, and other public and private officials attended.

The Policy Board for the Plan was representative of all agencies participating in the Plan; 25 lay members and 12 ex-officio department and agency heads, were appointed by Governor John A. Burns.

B. STATEMENT OF PURPOSE

The official stated purpose of the State of Hawaii project is "to plan for the orderly development of a comprehensive program of vocational rehabilitation in Hawaii which will provide coordinated services to all handicapped individuals in the State by 1975".

C. SCOPE OF THE PROGRAM

The organizational scope of the Plan, as previously stated, encompassed the various geographic locations; the relevant agencies and groups presently providing services in vocational rehabilitation; and the relevant disciplines, public and private professional specializations and key political, organizational and lay leadership throughout the State.

One basis for the planning deliberations of the committees was research and statistics together with the knowledge of the participating specialists in the over 40 professional fields represented. Data collection and analysis focused on the incidence and prevalence of disabilities in the population, internal agency management survey, national data and standards in specific comparative instances relevant to the work of the project committees, selected socio-economic characteristics of Hawaii, etc. Methods utilized included both original research and "search of the literature".

Major findings have been that the number of persons in the population who are estimated could benefit from vocational rehabilitation services in the State of Hawaii is approximately 82,000, the number estimated who have "limitations in major activity" or who are "unable to carry on major activity" and are therefore thought eligible for vocational rehabilitation services is 61,072, out of a State of Hawaii total population in 1966 of approximately ten percent, or 696,880.

Expert consultants were utilized throughout the project in the regular committee membership, as official representatives and delegates of their organizations.

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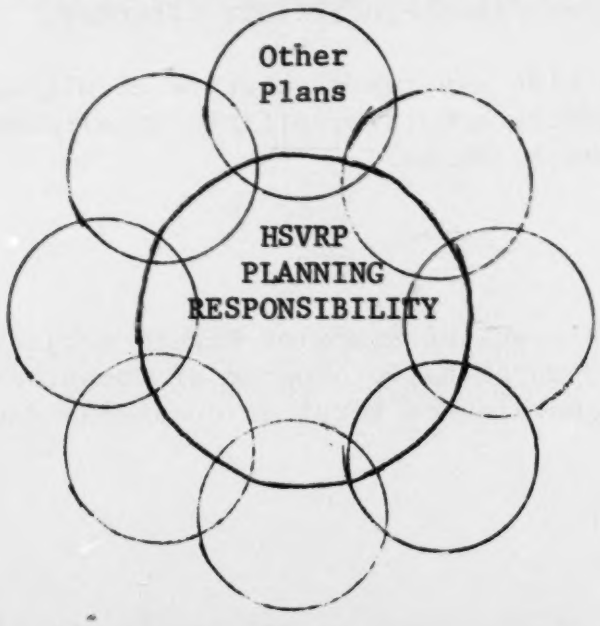
In addition, federal officials of the national counterpart agencies gave their time and attention to the project effort.

While recognizing that the Plan has the responsibility for an individual purpose and field of focus, the administrators and Policy Board for the Plan also recognized that to be effective, this Plan must function within the total framework of the State of Hawaii. A central consideration here was the extent of cooperative utilization of other planning and results which had taken place, or would take place, in the State.

Plans which overlap with one another may be visually pictured as follows:



The Hawaii State Vocational Rehabilitation Plan committees, therefore examined their own subject areas of designated responsibility, and examined relevant previous planning recommendations within each committee and included these as a part of these study recommendations to the extent that it was agreed upon by the individual committee holding the responsibility for this Plan.

FIGURE 1.

J. (A) FORMAL ORGANIZATIONAL CHART
HAWAII STATE VOCATIONAL REHABILITATION PLAN

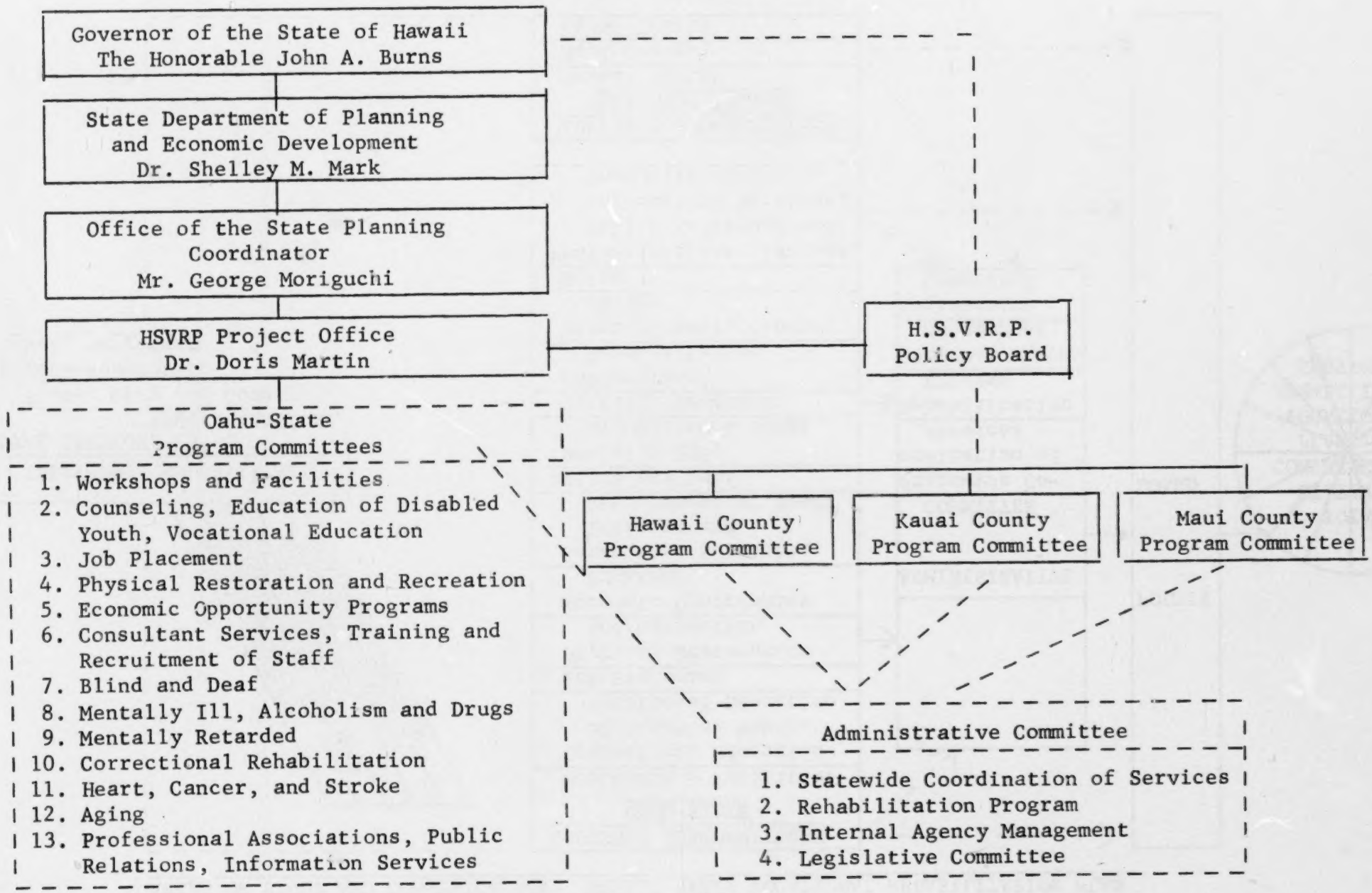


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FIGURE 2. J. (B) FUNCTIONAL ORGANIZATION

AREAS OF STUDY AND COMMUNICATION: HAWAII STATE VOCATIONAL REHABILITATION PLAN

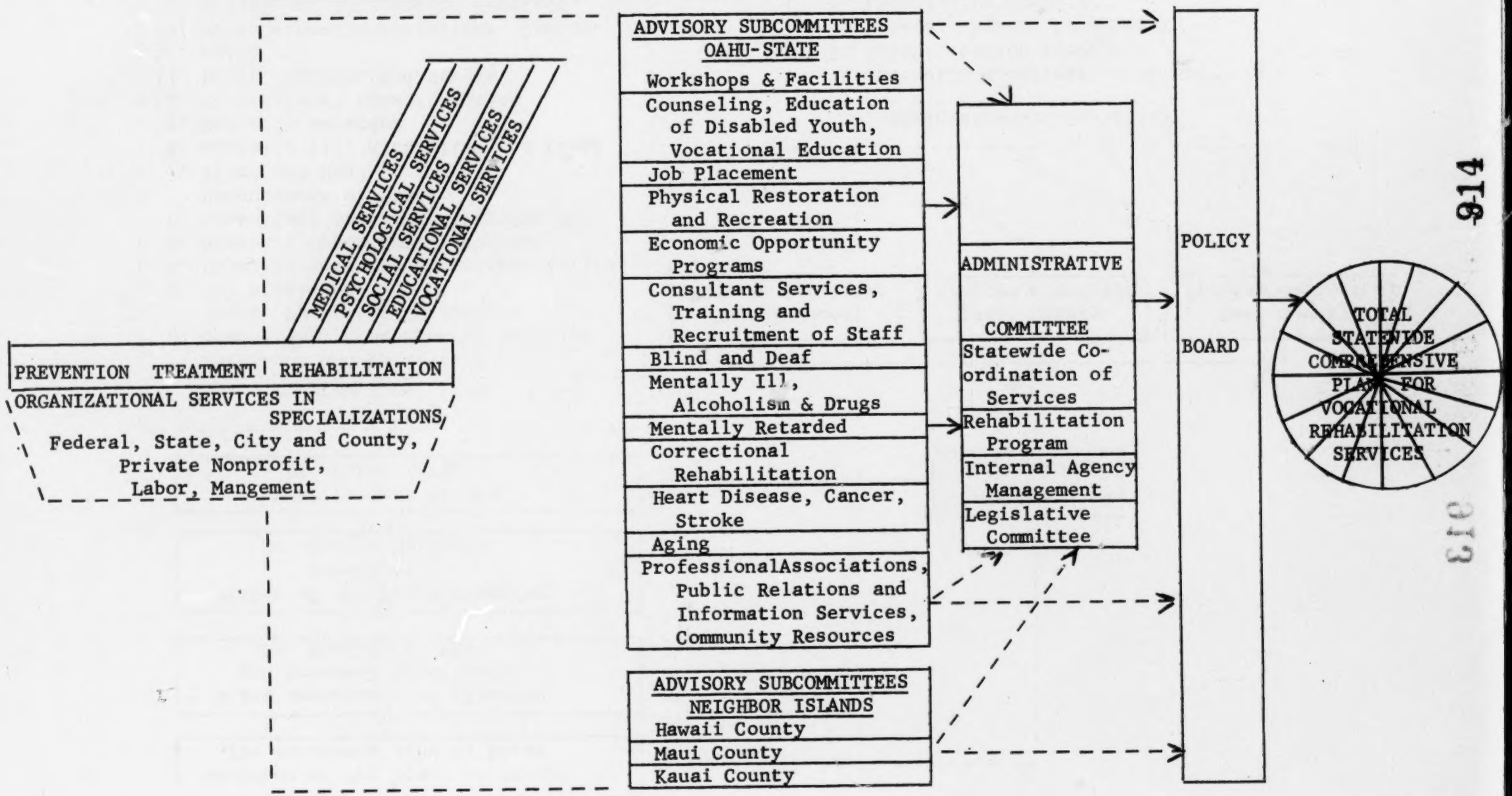
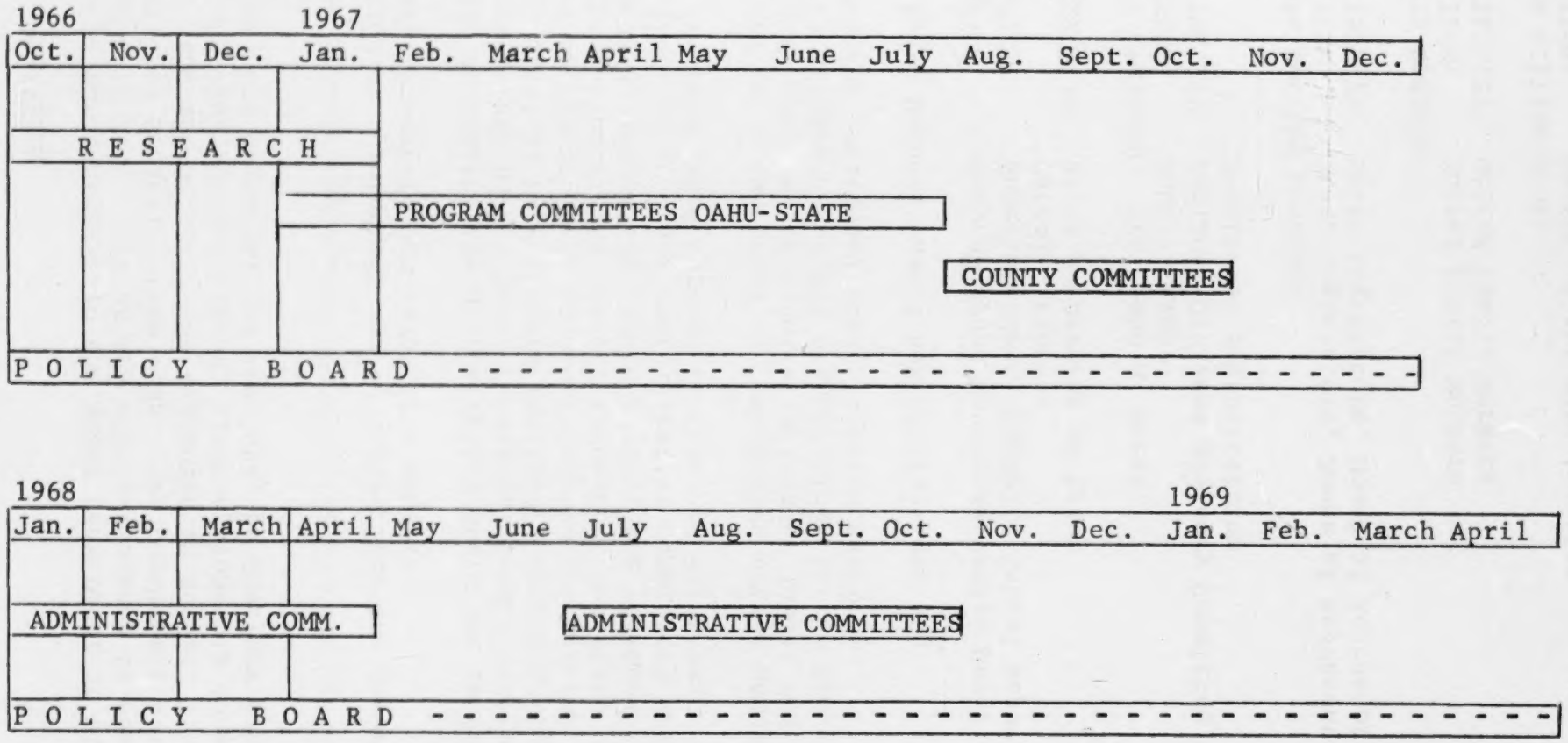


FIGURE 3. J. (C) TIME SCHEDULE FOR THE PROGRAM AND ADMINISTRATIVE COMMITTEES

Project started October 1966



Chapter II. THE PLANNING ORGANIZATION

A. Designated Organization

Governor John A. Burns designated the State Department of Planning and Economic Development in July, 1966 as the official agency to administer the Hawaii State Vocational Rehabilitation Plan. The Department established the project office and the Director was appointed in August, 1966. The lay Policy Board for the Plan was designated, after appropriate consultation with the departments and organizations involved, by Governor John A. Burns.

B. Policy Board

(1) The method of appointment was by letter from the Governor of the State of Hawaii to members and ex-officio members.

The major responsibility of the Policy Board was to finalize the recommendations of the Hawaii State Vocational Rehabilitation Plan. The procedures utilized by the Board involved a determination of the broad policies of the project, to contribute to the general understanding and interpretation of the project throughout the State of Hawaii, and to implement by appropriate Board action, the recommendations made by the specialized program and administrative committees and this information, as transmitted through the project director.

The Policy Board consisted of twenty-five voting members and twelve ex-officio members representing all major local, federal, state, city and county private nonprofit organizations in the State of Hawaii currently providing vocational rehabilitation services.

(2) Policy Board Members' names and affiliations are:

CHAIRMAN: Very Reverend Monsignor Daniel Dever
AFFILIATION: Superintendent, Catholic School Department, Catholic Diocese
RESPONSIBILITY: State Department of Labor

HONORARY CHAIRMAN: Mrs. John A. Burns
AFFILIATION: Public Member
RESPONSIBILITY: National Citizens Advisory Committee on Vocational Rehabilitation

Honorable Dorothy Devereux
AFFILIATION: State Legislature, House of Representatives
RESPONSIBILITY: State Legislature, House of Representatives

Mr. Henry Epstein
AFFILIATION: United Public Workers
RESPONSIBILITY: United Public Workers

Reverend William Grosh
AFFILIATION: Church of the Holy Apostles Council of Churches
RESPONSIBILITY: County of Hawaii

Mrs. Betty Hirozawa
AFFILIATION: Director of Research
Hawaii Employers Council
RESPONSIBILITY: Hawaii Employers Council

Mr. Peter Kaaialii
AFFILIATION: Member of the Board,
Health and Community Services Council of Hawaii
RESPONSIBILITY: Health and Community Services Council of Hawaii

Mrs. Myrtle Kaapu
AFFILIATION: Member of the Board
State Department of Education
RESPONSIBILITY: State Department of Education

Mrs. Anna Kahanamoku
AFFILIATION: Public Member
RESPONSIBILITY: Public Member

Mr. Jennings Mather
AFFILIATION: Representative, U.S. Civil Service Commission
RESPONSIBILITY: Federal Agencies

Honorable Howard Miyake
AFFILIATION: State Legislature
House of Representatives
RESPONSIBILITY: House of Representatives

Reverend Richard Neill
AFFILIATION: Hawaii Council for Housing Action
RESPONSIBILITY: State Department of Social Services

Dr. Toru Nishigaya
AFFILIATION: Physician
RESPONSIBILITY: State Department of Health

Mr. Robert Nui
AFFILIATION: Urban Renewal Coordinator
City and County of Honolulu
RESPONSIBILITY: City and County Agencies

Mr. Eddie Tangen
(Mrs. A. Q. McElrath - Alternate)
AFFILIATION: Public Relations Department, I.L.W.U.
RESPONSIBILITY: I.L.W.U.

Mr. Henry Thompson
AFFILIATION: Director, Wahiawa Hospital
RESPONSIBILITY: Health and Community Services, Council of Hawaii

Mr. Carl Guntert
AFFILIATION: Machinists Union, AFL-CIO
RESPONSIBILITY: AFL-CIO

Honorable Duke Kawasaki
AFFILIATION: Legislature, Senate
RESPONSIBILITY: Legislature, Senate

Mr. Stanley Mitsuo
AFFILIATION: Principal, Kalakaua Intermediate School
RESPONSIBILITY: Hawaii Education Association

Mr. Harry Myers
AFFILIATION: Small Business
RESPONSIBILITY: Management

Mr. Dwaine Snodgrass
AFFILIATION: Personnel Department, Hawaiian Electric Company
RESPONSIBILITY: Chamber of Commerce

Mr. George Toyofuku
AFFILIATION: Veterans Finance Company
RESPONSIBILITY: County of Kauai

Mr. Ray Victor
AFFILIATION: Vice-President, Hawaiian Telephone Company
RESPONSIBILITY: Management

Dr. Bertram Weeks
AFFILIATION: Physician
RESPONSIBILITY: County of Maui

Honorable Nadao Yoshinaga
AFFILIATION: State Legislature, Senate
RESPONSIBILITY: State Legislature, Senate

(3) Policy Board Ex-Officio Members' names and affiliations are:

Mr. William G. Among	State Department of Social Services
Mr. Robert K. Hasegawa	State Department of Labor and Industrial Relations
Dr. Shelley M. Mark	State Department of Planning and Economic Development
Dr. Doris Martin	State Department of Planning and Economic Development, Project Director
Mr. Hiroshi Minami	Health and Community Services Council of Hawaii
Mr. George S. Moriguchi	State Department of Planning and Economic Development
Mrs. Elizabeth Morrison	State Department of Social Services
Walter B. Quisenberry, M.D.	State Department of Health
Mr. Kuniji Sagara	State Department of Social Services
Mrs. Edna Taufaasau	State Department of Personnel Services
Dr. Dan Tuttle	Hawaii Education Association
Mr. William A. Waters	State Department of Education

C. Statewide Advisory Committees in specialized program aspects of rehabilitation were appointed as official delegates of that agency at the request of the Governor, by the chief executive of each agency having a "function" in some phase of the vocational rehabilitation "cycle of services." The scope included thirteen Oahu-State special disability and program committees which made recommendations on a statewide basis, also incorporating the Island of Oahu.

In addition, one committee functioned on each of the three neighbor island counties of Hawaii, Kauai, and Maui. This latter group will be listed under E. Regional Committees.

The Program Committees were:

1. Counseling, Vocational Education, and Continuing Education.
2. Aging.
3. Blind and Deaf.
4. Consultant Services, Training and Recruitment of Staff.
5. Correctional Rehabilitation.
6. Mentally Retarded.
7. Heart Disease, Cancer, Stroke, and Other Related Conditions.
8. Mentally Ill, Alcoholism, and Drugs.
9. Physical Restoration and Recreation.
10. Economic Opportunity Programs, Low Income Disabled, Rural Disabled, Military Rejectee.
11. Professional Associations, Public Relations and Information Services, and Community Resources.
12. Job Placement.
13. Workshops and Facilities.

The functions of the Program Advisory Committees were to:

1. Outline generally the existing services in the State.
2. Outline the "ideal" goals and services in rehabilitation.
3. Identify "gaps" between existing services and "ideal" goals.
4. Identify "barriers" to attainment of the "ideal" goals.
5. Recommend "solutions" to "barriers."
6. Establish a priority order of final recommendations and solutions.
7. Chairmen of each committee to report to the Policy Board.

Program Committee 1. Counseling, Vocational Education, and Continuing Education.

Committee Composition. Twenty-one official delegates of organizations providing counseling services in various settings in which some responsibility is assumed for the function of counseling for the handicapped. Four members represent private non-profit groups; eight members represent State departments; one member represents a central Federal agency; six members represent professional associations, councils, and commissions; two members represent higher education. (See attachment "A")

Committee Attendance. (Approximately) January-June, 1968, ranged between ninety-eight per cent and seventy-two per cent for all meetings.

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Committee Members

*BARNEY, Dr. Pat
Head, Counseling and Guidance
Church College of Hawaii

FORMAN, Harry
Caseworker
Child and Family Service

FUJII, Kenneth
Personnel Staffing Specialist
U.S. Civil Service Examiners

KAMA, Kinney
President
School Counseling Association

KAU, Bernard
Program Specialist
State Department of Labor and Industrial Relations

KUNIYUKI, Edwin
Senior Counselor,
Kalakaua Intermediate School
State Department of Education
Hawaii Education Association

*LEE, Wah Jim
Program Specialist,
Secondary Counseling, Guidance,
Health and Special Education
State Department of Education

LUM, Eileen
Area Coordinator
Clergy Counseling Service

LYONS, Andrew
Correctional Counselor
Corrections Division
State Department of Social Services

MAMIYA, Dr. Richard
Physician
Hawaii Medical Association

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*Co-chairman

Commitee Members

MATTOON, Creighton
Correcting Psychologist
Mental Health Division
State Department of Health

NAGAJI, Virginia
Social Worker
Mental Health Division
State Department of Health

NAKAMA, Christian
Executive Secretary
Commission on Aging

OMURA, Robert
Social Worker
Catholic Social Services

OSHIRO, Masaru
(Alternate: UNO, Gene)
Acting Director
Liliuokalani Trust

SAKAGUCHI, Melvyn
Assistant in Research,
Community College System
University of Hawaii

SMITH, Richard
Rehabilitation and Personnel Director
Goodwill Industries of Honolulu, Inc.

TAKEMOTO, Yasuko
Rehabilitation Services Coordinator
State Department of Social Services

TING, Bernard
Probation Supervisor Adult Probation
First Circuit Court

WOODS, Don
Program Consultant
Mental Health Association

YANAGISAWA, Lawrence
Counselor, Work Training Center
State Department of Social Services

Program Committee 2. Aging

Committee Composition. Fifteen official delegates of organizations concerned with the provision of direct services related to the rehabilitation of the aging; e.g., representatives from five State departments, one Federal agency, one City and County department, seven special professional commissions or associations, and one medical representative from the University of Hawaii.

Committee attendance. (Approximately) January-June 1967, ranged between 98% and 70% for all meetings.

Committee Members

*AMOR, Charles
Director
Commission on Aging

BENNETT, Margaret
Hospital Nursing and Medical
Facilities Consultant
State Department of Health
Hawaii League for Nursing

*BREWSTER, Reverend Charles
Associate Minister
Central Union Church
Hawaii Council of Churches

FUSHIKOSHI, James
Employment Service
Program Specialist
State Department of Labor
and Industrial Relations

LEVINE, James
Program Specialist
Adult Education
State Department of Education

LUMMIS, Dr. Wilbur
Deputy Director of Health
State Department of Health

LUNDBERG, Leinani
Social Worker
Mental Health Division
State Department of Health

Committee Members

SHIMIZU, Paul
Principal, Kubio School
State Department of Education
Hawaii Education Association

SLOAN, Dr. R. Varian
Physician
Honolulu County Medical Society

SMITH, Rockwell
(Alternate: AMBLER, Frank)
President, Senior Action Congress

SKIDMORE, Allen
Director, Senior Opportunity Center

STEWART, Mayme
Chief, Social Work Service
Veterans Administration

WOO, Leola
Vocational Rehabilitation Supervisor
Department of Vocational Rehabilitation
State Department of Social Services

YABUSAKI, Haruko
Recreation Specialist
Department of Parks and Recreation
City and County of Honolulu

*Co-chairman

Program Committee 3. Blind and Deaf

Committee Composition. Fifteen official delegates of organizations providing direct services in rehabilitation of the blind and/or deaf, e.g., four physicians representing two medical societies, County and State; one former dean, University School of Nursing, representing a nursing association, three from State departments giving service, three from private nonprofit agencies giving service, two from special services in education, one from a support (library) service.

Committee Attendance. (Approximately) January-June, 1967, ranged between seventy per cent and ninety-eight per cent for all meetings except one, at which attendance was sixty per cent.

Committee Members

*DUNNING, Dr. Francis
Principal
Diamond Head School
State Department of Education

FAULKNER, Dr. Gerald
Physician
Honolulu County Medical Society

JONES, Virginia
Former Dean,
School of Nursing
University of Hawaii
Hawaii League for Nursing

KAKU, Dr. T. Roy
Physician
Honolulu County Medical Society

KATANO, Nobuo
Vocational Rehabilitation Counselor
Department of Vocational Rehabilitation
State Department of Social Services

LEONG, Ah Nee
Medical Social Services Consultant
State Department of Health

*MORRISON, Elizabeth
Rehabilitation Services for the Blind and Visually Handicapped
Department of Vocational Rehabilitation
State Department of Social Services

Committee Members

OHARA, Rosalie
Executive Director
National Society for Crippled Children and Adults

PANG, Dr. L. Q.
Otolaryngologist
Hawaii Medical Association

PANG-CHING, Dr. Glenn
Assistant Professor of Speech Pathology and Audiology
Speech and Hearing Clinic
University of Hawaii

PINKERTON, Dr. O. D.
Ophthalmologist
Hawaii Medical Association

SMITH, Eva
Trustee
Eye of the Pacific Guide Dogs, Inc.

SOLK, Elizabeth
(Alternate: SHIMOKAWA, Hideko)
Assistant Director
Library of Hawaii

UCHIYAMA, Fusao
Administrator of Special Education
State Department of Education

*Co-chairman

Program Committee 4. Consultant Services, Training and Recruitment of Staff

Committee Composition. Twenty-one official delegates of organizations concerned with the provision of direct services related to various phases of the rehabilitation cycle. Committee delegates carry responsibility for training, recruitment, consultant services, or have an interest in this area of personnel.

Committee Attendance. (Approximately) January-June, 1967, ranged between ninety-five per cent and seventy per cent for all meetings.

Committee Members

AKAMINE, Marion
Health Education Office
State Department of Health

BARTHEL, Dr. Chris
Psychologist
State Department of Health

FEIRER, Albert
Director, Vocational Post-High
and Adult Education Division
State Department of Education

FLANAGAN, Bernard
(Alternate: CHANG, H.)
Assistant Superintendent,
Personnel Services
State Department of Education

FREEDMAN, Morris
Training and Employee
Relations Coordinator
State Department of Personnel Services

GROSSMAN, Dr. Jerry
Professor of Public Health
School of Medicine
University of Hawaii

HIGUCHI, Beatrice
Social Worker
State Department of Social Services

IKENAGA, Harold
Supervisor, Family Court
First Circuit Court

INOUYE, Dr. Paul
School Psychologist
State Department of Education

IZU, Jimmy
Curriculum Specialist, Special Services
State Department of Education
Hawaii Education Association

LAU, Edna
Public Health Nursing
State Department of Health

Committee Members

LUNDSTROM, Joanne
Social Worker, Mental Health Division
State Department of Health

McEWAN, Margaret
Community Services Director
Hawaii Heart Association

*MILLS, Dr. George
President
Honolulu County Medical Society

NIEVES, Alicia
Chief Psychologist
Rehabilitation Manpower Project
Rehabilitation Center of Hawaii

NISHIOKA, Toshio
Supervisor, Division of Vocational
Rehabilitation
State Department of Social Services

PAULUS, Lucien
Administrative Officer
Community College System
University of Hawaii

PEPPER, Dr. Lennard
Clinical Psychologist
Mental Health Division
State Department of Health

SMITH, Mary E.
Counselor, Diamond Head School
State Department of Education

*SNODGRASS, Dwaine
Director, Industrial Relations Research
Hawaii Employers Council

SUINN, Dr. Richard
Department of Psychology
University of Hawaii

THOMPSON, Dr. Vernon
Director of Rehabilitation, Salvation Army

WOODS, Don
Program Consultant
Mental Health Association

*Co-chairman

Program Committee 5. Correctional Rehabilitation

Committee Composition. Nineteen official delegates of organizations concerned with the provision of direct services or community leadership in the area of rehabilitation of the adult and/or juvenile offender. Representatives included those from the University of Hawaii, two State departments, two City and County Departments, and five professional associations.

Committee Attendance. (Approximately) January-June, 1967, ranged between ninety-five per cent and sixty-five per cent for all meetings except one, at which attendance was forty-five per cent.

Committee Members

*BALL, Dr. Harry
Juvenile Delinquency and
Youth Development Center
University of Hawaii

*BELNAP, Ray
Administrator, Corrections Division
State Department of Social Services

FUJIMOTO, Richard
Corrections Team
Mental Health Division
State Department of Health

CARTY, Douglas
Executive Director
John Howard Association of Hawaii

CHUNG, Mr. K.
Hawaii Youth Correctional Facility
State Department of Social Services

ITOKAZU, Clarence
Vocational Rehabilitation Counselor
State Department of Social Services

KAIN, Reverend Stanley
Chaplain Coordinator
Hawaii Council of Churches

KAKESAKO, Mike
(Alternate: DENTINGER, Donald)
Supervising Corrections Counselor
Hawaii State Prison
State Department of Social Services

LEE, Mary Jane
Administrator, Family Court
First Circuit Court

LEE, Wah Jim
Program Specialist - Counseling
State Department of Education

Committee Members

LYKKE, Arthur
Correctional Industries Manager
Hawaii State Prison
State Department of Social Services

OME, Moses
Probation-Parole Administrator
Juvenile Parole Division
State Department of Social Services

PAULUS, Lucian
Administrative Officer,
Community College System
University of Hawaii

SATO, Shinobu
Supervising Corrections Counselor
Hawaii Youth Correctional Facility
State Department of Social Services

SCHNACK, Dr. George
Psychiatrist
Hawaii Medical Association

SMITH, Dr. Robert
Physician
Honolulu County Medical Society

TSUI, Sik Kum
Principal, Olomana School
State Department of Education
Hawaii Education Association

SAGUM, Captain Roland
Community Relations Officer
Honolulu Police Department
City and County of Honolulu

WILHELM, Edith
Probation Officer, Adult Probation Division
First Circuit Court

WOODS, Don
Program Consultant
Mental Health Association

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*Co-chairman

Program Committee 6. Mentally Retarded

Committee Composition. Sixteen official delegates of organizations providing services in some phase of the rehabilitation cycle for the mentally retarded (medical, psychological, social, educational, vocational-placement in the competitive job market). Among those on the committee were the representatives of three State departments, various associations, hospitals, a workshop, private school, etc.

Committee Attendance. (Approximately) January-June, 1968, ranged between ninety-five per cent and fifty per cent for various meetings.

Committee Members

APPFEL, Mary
Teacher Supervisor
Hawaii Association to Help
Retarded Children

FURUNO, Dr. S.
Associate Psychologist of
Public Health
School of Medicine
University of Hawaii

HARD, Aloysia
Director of Child Development
St. Francis Hospital

IGE, Hiroshi
Program Specialist for
Mentally Handicapped
State Department of Education

KAIN, Reverend Stanley
Chaplain Coordinator
Hawaii Council of Churches

KAM, Violet
(Alternate: SEKIMURA, C.)
President, Association
of Workshops
Lanakila Crafts

KINO, Masuo
Acting Supervisor
Work Training Program
State Department of Social Services

LEONG, Maxine
Occupational Therapist
Mental Health Division
State Department of Health

Committee Members

*LEVY, Sylvia
State Mental Retardation Coordinator
State Department of Health

MASUDA, Robert
Probation Supervisor
Family Court
First Circuit Court

MIZUNO, Amy
Acting Principal, Linekona School
State Department of Education
Hawaii Education Association

NEKONISHI, Dr. H.
Physician
Honolulu County Medical Society

PLATOU, Dr. Ralph
Medical Director
Children's Hospital

SIA, Dr. Calvin
Pediatrician, Chief of Staff
Children's Medical Clinic
Hawaii Medical Association

*SISTER AGNES JEROME
Director, Waialae Catholic Center
Catholic School Department

WHEELER, Catherine
Probation Officer
Adult Probation Division
First Circuit Court

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*Co-chairman

Program Committee 7. Heart Disease, Cancer, Stroke, and Other Related Conditions.

Committee Composition. Thirteen official delegates of organizations concerned with direct services in rehabilitation in the area of heart, cancer, stroke and other related conditions; e.g., one University of Hawaii medical specialist, one medical executive officer of the State Department of Health, one director of Regional Medical Programs, three representatives of private nonprofit organizations, two physicians representing medical associations, three representatives of State departments, and two representatives of hospitals.

Committee Attendance. (Approximately) January-June 1968 ranged between seventy-eight per cent and ninety-five per cent for all meetings.

Committee Members

BASSETT, Dr. D.
Associate Professor Public Health
School of Medicine
University of Hawaii

BERRY, Dr. Ralph
Executive Officer
Medical Health
Services Division
State Department of Health

GRAHAM, Dr. W.
(Alternate: SARGENT, Faye)
Deputy Director
Regional Medical Program

HO, Dr. Reginald C. S.
Physician
American Cancer Society

MILLS, Dr. George
President
Honolulu County Medical Society

*MOORHEAD, George
Executive Director
Hawaii Heart Association

NAKAMA, Thomas
Mental Health Division
State Department of Health

NOA, Nomi
Service Director
American Cancer Society

SHEPARD, Dr. R. Frederick
Medical Director
Rehabilitation Center of Hawaii

SHINDE, Roland
Vocational Rehabilitation Counselor
Department of Vocational Rehabilitation
State Department of Social Services

SISTER AILEEN
(Alternate: SISTER MAUREEN)
Assistant Administrator
St. Francis Hospital

*WAKAI, Dr. Coolidge
Cardiologist, Hawaii Medical Association

WININGER, Dolores
Program Specialist School Health Services
State Department of Education
Hawaii Medical Association

*Co-chairman

Program Committee 8. Mentally Ill, Alcoholism, and Drugs

Committee Composition. Twenty-three official delegates of organizations concerned with the provision of direct services related to rehabilitating the mentally ill, alcoholic, and drug addict. Agencies represented included Federal, State, City and County, and private nonprofit groups including professional associations.

Committee Attendance. (Approximately) January-June, 1967, ranged between ninety-five per cent and sixty-five per cent.

Committee Members

AKITA, Norman
Program Consultant
Commission on Aging

BERMOSK, Loretta
Director, Graduate Program
Psychiatric Nursing
University of Hawaii
Hawaii League for Nursing

CARTY, Douglas
Executive Director
John Howard Association of Hawaii

CODY, Dr. William
Physician
Honolulu County Medical Society

FUJIWARA, Loretta
Public Health Nurse
Alcoholism Clinic
State Department of Health

GARCIA, Dr. Bienvenido
Chief, Convalescent Center
State Department of Health

HANNUM, Colonel William
Chief Neuropsychiatrist
U.S. Army Tripler
General Hospital

HAYASHI, Mikako
Senior Medical Social Worker
Maluhia Hospital
City and County of Honolulu

KARTCHNER, Ray
Teacher, Church College of Hawaii

LUM, Dr. K. Y.
Psychiatrist, Hawaii Medical Association

MORRELL, Eldon
Principal, Pohukaina School
State Department of Education
Hawaii Education Association

Committee Members

MULLER, Mrs. Robert
Secretary
Hawaii Committee on Alcoholism

NITAHARA, James
Probation Officer
Adult Probation Division
First Circuit Court

PAIK, George
Hospital In-Service Trainer
Hawaii State Hospital
State Department of Health

SAKAMOTO, Edna
Senior Social Worker
Veterans Administration

SHIM, Neil
Vocational Rehabilitation Counselor
Department of Vocational Rehabilitation
State Department of Social Services

SPARKS, Les
Center Manager, Men's Social Service
Center, Salvation Army

SUZUKI, Dr. George
Chief, Alcoholism Clinic
State Department of Health

WALLACE, Patricia
Program Specialist
School Health Services
State Department of Education

*WALLIS, Dr. J. Kendall
Chief, Waipahu Mental Health Center
State Department of Health

WEAVER, Kim
Program Consultant
Mental Health Association of Hawaii

YAMADA, Reverend Masao
Chaplain, Hawaii State Hospital
State Department of Health
Hawaii Council of Churches

*Co-chairman

Program Committee 9. Physical Restoration and Recreation

Committee Composition. Twenty-four official delegates of organizations providing direct services in physical restoration (medical) rehabilitation, e.g., three representing City and County medical and recreation services; six specialists representing various hospitals; three professionals representing private nonprofit agencies; six representing medical, dental, educational associations; six representing various divisions of relevant State departments.

Committee Attendance. (Approximately) January-June, 1967, ranged between ninety per cent and fifty-eight per cent for all meetings.

Committee Members:

*BERK, Dr. Morton
Physician
Honolulu County Medical Society

BLACKMON, Lieselotte
Physio-Therapist
St. Francis Hospital

CHANG, Jean
Occupational Therapist
Hawaii State Hospital
State Department of Health

CRABBE, Eric
Physical Therapist
Department of Health
City and County of Honolulu

CONNOLLY, Edyth
Oahu Field Director
Hawaii Tuberculosis and
Health Association

DAVIS, Carol
District Supervisor
Parks and Recreation Department
City and County of Honolulu

HARIMOTO, Laura
Mental Retardation Division
State Department of Health

HAYES, Rose Mary
Supervisor, Disability
Determination Program
State Department of Social Services

LANE, Dr. Margaret
Chief, Crippled Children's Branch
State Department of Health

LANG, Geoffrey
Senior Administrative Assistant
Queen's Hospital

MATSUMOTO, Isabelle
Mental Health Division
State Department of Health

MORRELL, Eldon
Principal, Pohukaina School
State Department of Education
Hawaii Education Association

NAKAGUCHI, Betty
(Alternate: TAKEMOTO, Yasuko)
Social Group Worker
Rehabilitation Service Branch for
Blind and Visually Handicapped
Department of Vocational Rehabilitation
State Department of Social Services

NAKAMA, Christian
Executive Secretary, Committee on Aging
City and County of Honolulu

OBA, Ronald
Assistant Mental Retardation Coordinator
State Department of Health

OHARA, Rosalie
Executive Director, National Society
for Crippled Children and Adults

ROTH, Dr. Joel
Chief, Physical Medicine Service
U.S. Army Tripler General Hospital

SATO, Jeanette
Chief Occupational Therapist
Rehabilitation Center of Hawaii

SHEPARD, Dr. R. Frederick
Medical Director, Rehabilitation Center,
Hawaii Medical Association

TACHIBANA, Dr. Ray
President, Hawaii State Dental Society

*TASAKI, Toma
Principal, Lanakila School
State Department of Education
Hawaii Education Association

TOMINAGA, Dr. Henry
Health and Physical Education Department
University of Hawaii

CHUN-HOON, Dr. Albert
Physician, Arthritis Foundation

YEE, Riley L. B.
Director of Rehabilitation
Coordinator of Paramedical Services
Leahi Hospital

*Co-chairman

Program Committee 10. Economic Opportunity Programs, Low Income Disabled, Rural Disabled, Military Rejectee.

Committee Composition. Twenty-one official delegates of organizations concerned with the provision of direct services related to rehabilitating those with low incomes who may be culturally deprived and/or otherwise disabled. Special needs of the rural disabled and the military rejectee were also considered.

Committee Attendance. (Approximately) January-June, 1967, ranged between ninety per cent and fifty per cent for all meetings.

Committee Members

AKITA, Norman
Program Consultant
Commission on Aging

ALLEN, Elaine
Personnel Staffing Specialist
U.S. Civil Service Examiners

*BRANTZ, Reverend Edward
Program Specialist
Hawaii Office of Economic Opportunity
Hawaii Council of Churches

CUNDIFF, Captain Kenneth
Division Commander
Juvenile Crime Prevention Division
Honolulu Police Department
City and County of Honolulu

GUTTERSON, J. M.
Veterans' Caseworker
American Red Cross

HIGASHINO, Robert
Activity Therapy Administrator
Hawaii State Hospital
State Department of Health

HIGUCHI, Beatrice
Social Worker, Rehabilitation Services Branch for Blind
Department of Vocational Rehabilitation
State Department of Social Services

*IMADA, Thomas
Operations Officer
State Headquarters
Selective Service System

ING, Walter
Supervisor, Family Court
First Circuit Court

LAU, Aileen
Occupational Therapy Consultant
State Department of Health

LAU, Griffith
Vocational Rehabilitation Counselor
Department of Vocational Rehabilitation
State Department of Social Services

Committee Members

LAU, Milton
Work Training Coordinator
State Department of Social Services

MATSUNAMI, Hiroshi
Principal, Royal School
State Department of Education
Hawaii Education Association

McCLAREN, Kazue
Assistant Chief, Public Health Nursing Branch
State Department of Health
Hawaii League for Nursing

MORRIS, Marjorie
Kalihi Family Counseling Unit Administrator
Catholic Social Service

NAKAMURA, Paul
Program Specialist
Hawaii Office of Economic Opportunity

OMURA, Robert
Economic Opportunity Specialist
Urban Renewal
City and County of Honolulu

SCHULER, Loretta
Nursing and Home Care Representative
State Department of Health
Hawaii League for Nursing

SIMON, Mary
Mental Health Division
State Department of Health

TAMURA, Dr. Ray
Physician, Hawaii Medical Association

TSUKANO, Sueo
(Alternate: ARAKAKI, John)
Employment Service Division
State Department of Labor and Industrial Relations

WONG, Maureen
Supervising Public Health Nurse
Armed Forces Medical Rejectee Project
State Department of Health

*Co-chairman

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Program Committee 12. Job Placement.

Committee Composition. Twenty-seven delegates of organizations concerned with the placement of the handicapped in competitive or sheltered employment, representing the perceptions of the pre-placement agency and the government and private enterprise employer. Of the committee members, seven were in management positions, primarily personnel, in private enterprise; four members represented Federal, State, and City and County government employers; fourteen members represented various pre-placement agencies as professional representatives of medical, psychological, social, educational, and vocational services; three members represented other special commissions concerned with this aspect; and one special consultant in insurance was brought in at the request of the committee.

Committee Attendance. (Approximately) January-June, 1967, ranged between seventy-two per cent and ninety per cent for all meetings.

Committee Members

CHONG, Vera
Supervisor, Family Court
First Circuit Court

*DAULTON, F. Roy
Vice President
Bank of Hawaii

DUFFY, Reverend Edwin J.
Diocesan Director
Catholic Social Services

FRENCH, Lester
Personnel Manager
Sears, Roebuck & Company

FUKUDA, Loretta
Recruiting and Certification Supervisor
Examine and Placement Division
State Department of Personnel Services

FUKUDA, Mitsuo
Industrial Relations Director
Castle & Cooke, Inc.

FUKUMAE, Clarence
Project Director
Mental Retardation Division
State Department of Health

HUDDLESTON, Doris
Education/Information Director
Hawaii Heart Association

Committee Members

ICE, Phil
Personnel Director
Queen's Hospital

KAU, Bernard
Program Specialist
State Department of Labor
and Industrial Relations

KING, Harvey
Assistant Manager
Insurance Division
Alexander & Baldwin, Ltd.

KNIGHT, Robert
Executive Secretary-Treasurer
AFL-CIO

LEE, Ronald
Assistant Personnel Director
Sheraton Hawaii Corporation

LENDHARDT, Robert
Personnel Manager
California Packing Corporation

LUM, George
Personnel Department
Dillingham Corporation

LUKE, Martin
Recruitment Officer
Department of Civil Service
City and County of Honolulu

*Co-chairman

Program Committee 11. Professional Associations, Public Relations and Information Services, and Community Resources.

Committee Composition. Eighteen official delegates of organizations and associations providing services in various aspects of rehabilitation, and who also have interest or responsibility in the public relations function. Agencies represented are: one higher education, nine commissions and professional associations, one City and County agency, three private nonprofit direct service groups, and four State departments.

Committee Members

AKITA, Norman
Program Consultant
Commission on Aging

ANSBERRY, Dr. Merle
Director
Speech and Hearing Clinic
University of Hawaii

*BARNEY, Ralph
Director, Public Relations
Church College of Hawaii

CLARK-WISMER, V. G.
Director
Hawaii State Health Council

HUDDLESTON, Doris
Education Information Director
Hawaii Heart Association

IVY, Dr. Andrew
General Practitioner
Chairman, Hawaii Medical Association
Public Relations Committee,
Hawaii Medical Association

McCONNELL, Mabel
Social Worker
Rehabilitation Center of Hawaii

NISHIOKA, Toshio
Supervisor
Vocational Rehabilitation Division
State Department of Social Services

NOA, Momi
Service Director
American Cancer Society

ONISHI, Katsumi
Principal, Waimalu School
State Department of Education
Hawaii Education Association

Committee Members

PATY, Jeanne
Health Education Officer
State Department of Health

REYES, Peter
Vocational Rehabilitation Counselor
Vocational Rehabilitation Division
State Department of Social Services
National Rehabilitation Association

SAKAUYE, Denny
Assistant Superintendent of Recreation
Parks and Recreation Department
City and County of Honolulu

SCHULER, Loretta
Nursing and Home Care Representative
Medical Health Services Division
State Department of Health

SHEEHAN, John
Director
Public Information and Publications
State Department of Education

STUBBLEFIELD, Esther
Chief
Public Health Nursing Branch
State Department of Health
Hawaii State Health Council

WEAVER, Kim
Program Consultant
Mental Health Association of Hawaii

*WOLFE, Scott
President
National Social Workers Association

*Co-chairman

Program Committee 12. Job Placement (Continued).

Committee Members

NAGATANI, Dennis
Personnel Staffing Specialist
Interagency Board
U.S. Civil Service Examiners

REYES, Peter
Vocational Rehabilitation Counselor
Department of Vocational Rehabilitation
State Department of Social Services

RUHIG, Ted
Executive Director
Commission on Manpower
and Full Employment
State Department of Planning
and Economic Development

SEIXAS, Kim
Project Coordinator
Rehabilitation Manpower Project
Rehabilitation Center of Hawaii

SHEPARD, Dr. R. Frederick
Medical Director
Rehabilitation Center of Hawaii
Hawaii Medical Association

SKINNER, Dwaine
Director of Placements
Church College of Hawaii

SULLIVAN, Jack
Employment and Training Division
C. Brewer & Company, Limited

Committee Members

TAKAKI, Russell
(Alternate: WONG, Harland)
Paroles Administrator
Boards of Paroles and Pardons
State Department of Social Services

TAKEMOTO, Yasuko
Rehabilitation Services
Branch Coordinator for Blind
and Visually Handicapped
Department of Vocational Rehabilitation
State Department of Social Services

TANIGUCHI, Yotsue
Social Worker
Mental Health Division
State Department of Health

THOMPSON, Dr. Vernon
Director of Rehabilitation
Salvation Army

*TSUSHIMA, Mark
Chief
Employment and Services Division
Coordinator of Programs for the
Handicapped
Civilian Personnel
USARHAW

WHITE, Ann
Executive Secretary
Governor's Committee on
Employment of the Handicapped

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*Co-chairman

Program Committee 13. Workshops and Facilities

Committee Composition. Twenty-six delegates of organizations concerned with rehabilitation program as it relates to facilities, met to consider this area as a special concern. Members represented various types of organizations offering services in medical, psychological, social, educational, vocational services and placement.

Committee Attendance. (Approximately) January-June, 1967, ranges between sixty-one hundred per cent for all meetings.

The committee work focused on program needs of the five essential services not now adequately supported by facilities.

Committee Members

AMOR, Charles
Director
Commission on Aging

BURNS, Dr. Mary
Clinic Psychologist
Waipahu Mental Health
Mental Health Division
State Department of Health

CAMPBELL, Rear Admiral Robert,
U.S.N. (Retired)
Chairman
Governor's Committee on
Employment of Handicapped

CONKLIN, Ruth
Program Specialist
Hawaii Housing Authority

EVANS, Joy
Vocational Rehabilitation Specialist
Hawaii State Hospital
State Department of Health

GEORGI, Nephi
Acting Academic Dean
Church College of Hawaii

HINO, Hironobu
Administrator
Custodial and Transportation
State Department of Education
Hawaii Education Association

ICE, Phil
Personnel Director
Queen's Hospital

Committee Members

KAM, Violet
President
Workshop Association

LYNN, David
Field Coordinator
Vocational Research Coordinating Unit
Community College System
University of Hawaii

MATSUKUMA, Kiyoshi
Vocational Rehabilitation Specialist
Department of Vocational Rehabilitation
State Department of Social Services

McEWAN, Margaret
Community Services Director
Hawaii Heart Association

MORRISON, Elizabeth
Rehabilitation Services
Branch Administrator
Services for Blind and
Visually Handicapped
Department of Social Services

RITTER, Gene
Associate Professor of
Speech Pachology and Audiology
Speech and Hearing Clinic
University of Hawaii

SHEPARD, Dr. R. Frederick
Medical Director
Rehabilitation Center of Hawaii
Honolulu County Medical Society
Rehabilitation Center of Hawaii
Hawaii Medical Association

Program Committee 13. Workshops and Facilities (Continued)

Committee Members

*SHIELDS, Thomas
Executive Vice President
Goodwill Industries of Honolulu, Inc.

SISTER AILEEN
Assistant Administrator
St. Francis Hospital

SKIDMORE, Allen
Director
Senior Opportunity Center, Inc.

SPARKS, Captain Lester
Manager
Men's Social Service Center
Salvation Army

WEISBURG, A. Edward
(Alternate: LEHNER, Frank)
President
Eye of the Pacific Guide Dogs, Inc.

Committee Members

*WHEELER, Lee
Chief
Hospitals and Medical Facilities Branch
State Department of Health

WHITE, Ann
Executive Secretary
Governor's Committee on
Employment of Handicapped

WILLIAMS, Irene
Probation Officer
Adult Probation Division
First Circuit Court

WOODS, Don
Program Consultant
Mental Health Association

YEE, Riley L. B.
Director of Rehabilitation
Coordinator of Paramedical Services
Leahi Hospital

*Co-chairman

D. Statewide Task Forces in Administration which met on selected aspects of vocational rehabilitation, followed and built upon the completed tasks of the thirteen specialized program committees and three neighbor island program committees. Members were appointed as official delegates of representative agencies by the chief executive of that agency.

The Administrative Committees were:

(1) Rehabilitation Program Committee

(2) Internal Agency Management Committee

(3) Legislative Committee

(4) Statewide Coordination of Services Committee

The functions of each Administrative committee task force will be described preceding the Committee list of members:

I. Rehabilitation Program Committee

a. Committee Composition. Forty-six delegates of organizations directly concerned with rehabilitation program met in four subcommittees which represented the rehabilitation aspects of the five essential services in rehabilitation.

b. Committee functions were completed by the subcommittees:

(1) Review all rehabilitation program recommendations by field of specialization:
(a) Medical (health) - Psychological Rehabilitation Services
(b) Social Services
(c) Educational Services
(d) Vocational Services

(2) Discuss client services which should be provided by your specialization to those in need of rehabilitation services.

(3) On the basis of client services needed, specify the types of workers needed on the
(a) Professional level
(b) Subprofessional level
within each major discipline, in order to provide the proper service to clients.

(4) On the basis of disability data, specify the number of professional and subprofessional persons in each discipline who would be needed in order to provide (to make available) the cycle of rehabilitation services to all those in each geographic location with a "limitation in major activity."

Rehabilitation Program Committee (Continued)

Geographic catchment locations specified are:

Oahu: Lanakila
Diamond Head
Windward
Leeward
Maui County (includes Lanai and Molokai)
Hawaii County
Kauai County

(5) In addition, the "committee of the whole" made several generalized recommendations.

c. Committee Membership

AGENA, Robert
Administrator
Employment Services Division
State Department of Labor
and Industrial Relations

AKINA, Arthur A.
Director
Model Cities
City and County of Honolulu

ANSBERRY, Dr. Merle
Director
Speech Pathology and Audiology Division
Speech and Hearing Clinic
University of Hawaii

AU, Chew Hin
Director of Respiratory Disease Program
Hawaii Tuberculosis and
Health Association

BAUMAN, SISTER Helen Mary
Director
Catholic Social Services

BELNAP, Ray
Administrator
Corrections Division
Department of Social Services

BERRY, Dr. Ralph
Executive Officer
Medical Health Services Division
State Department of Health

BLACKMAN, (Mrs. L.
Physical Therapist
St. Francis Hospital

COLBY, Dr. Edward W.
Associated Medical Director
Rehabilitation Center of Hawaii

CRABTREE, Frank
Hospital Superintendent
Kauai Veterans Memorial Hospital

DEMELLO, John
President and Manager
Senior Opportunity Center

FEIRER, Albert J.
Director
Division of Vocational, Post-High
and Adult Education
State Department of Education

FIDDES, (Mrs.) Katherine L.
Manager
Ka Lima O Maui

FIFIELD, Gary
Manager
Rehabilitation Unlimited
Kauai

GARCIA, (Mrs.) Donna
Director
State Library Services

GRAHAM, Dr. W. D.
Deputy Director
Regional Medical Program

GUTTERSEN, (Miss) Jeanie
Case Worker
Service to Military Families
American Red Cross, Hawaii Chapter

Rehabilitation Program

c. Committee Membership (Continued)

HARPER, Joe
Administrator
City and County Health Department
Maluhia Hospital

IN, Dr. Andrew
Assistant Dean
Curriculum
College of Education
University of Hawaii

KAIN, Stanley E.
Chaplaincy Coordinator
Hawaii Council of Churches

KAM, (Mrs.) Violet
Director
Lanakila Crafts

KANAGAWA, Wayne
Director
Family Court

KATANO, Nobuo
Guidance, Training and
Placement Specialist
Division of Vocational Rehabilitation
Department of Social Services

KIM, Dr. Peter
Hospital Superintendent
Samuel Mahelona Hospital

KOLLYMEYER, (Mrs.) H. R.
Executive Director
United Cerebral Palsy
Association of Hawaii

LEHNER, Frank
Board Member
Eye of the Pacific Guide Dogs, Inc.

MORGAN, (Mrs.) Thelma
Principal
Sultan School

MORI, (Mrs.) Ethel
Superintendent of Recreation
Department of Parks and Recreation
City and County of Honolulu

MORRISON, Ed
Director
Muscular Dystorophy Association

MULLER, (Mrs.) Lorna H.
Board Member
Hawaii Committee on Alcoholism

NAGOSHI, Jack
Director
Youth Development Center
University of Hawaii

NUI, Robert
Urban Renewal Coordinator
Office of Urban Renewal

PATTERSON, (Mrs.) Carolyn
Hawaii Representative
National Foundation

PAULUS, Lucian and
IGE, Dr. Phillip
Administrative Officer
Curriculum Coordinator
Community College System
University of Hawaii

POYZER, (Mrs.) Rose Ann
Member
(Director, Honolulu Home Care Program,
St. Francis Hospital)
Hawaii League for Nursing
St. Francis Hospital

ROAT, Dr. Aldon
Chief
Preventive and Clinic Services Branch
Department of Health

ROMSON, Tomic
Administrator
Maui Memorial Hospital

SHEPARD, Dr. R. Frederick
Medical Director
Hawaii Medical Association and
Rehabilitation Center of Hawaii

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Rehabilitation Program

c. Committee Membership (Continued)

SHIELDS, Thomas
Executive Vice President
Goodwill Industri s of Honolulu, Inc.

SHINDE, Roland Y.
Disability Beneficiary
Trust Fund Specialist
Division of Vocational Rehabilitation
Department of Social Services

TAM, Edwin
Assistant to Dean
School of Social Work
University of Hawaii

SPARKS, Captain Lester
Center Manager
Men's Social Service Center
Salvation Army

TACKE, (Miss) Charlotte
President
Hawaii Nurses Association
University of Hawaii

TING, Bernard
Assistant Chief
Adult Probation Office

TSUYEMURA, Henry
Project Administrator
Hospital Improvement Plan
State Hospital

UNO, Lawrence
Director, Mental Health Association

YEE, Riley
Director, Leahi Hospital
Rehabilitation Services

II. Internal Agency Management Committee

a. Committee Composition. The committee was composed of personnel, finance, and program agencies who are delegates of organizations concerned with the provision of services in the rehabilitation "cycle of services" throughout the State of Hawaii. Administrators were asked to serve on one of three subcommittees in the area of their own primary job responsibility.

Committee Attendance. (Approximately) Attendance ranged between ninety-five per cent and seventy per cent for all meetings.

b. Basic Planning Procedure for the Committee. The work of this committee was based on the planning recommendations of the thirteen program services committees which met during the first year of the project to focus on the various specializations.

Specifically, the function of the Internal Agency Management Committee was to:

1. Review all program services recommendations to identify those which will require additional support services within the agencies to which the recommendation may be assigned as a responsibility, in order to effectively build the recommendation into that organizational system and implement it fully.

Internal Agency Management Committee (Continued)

The subcommittees which operated to accomplish this task were:

(a) Personnel. Included a review of rehabilitation recommendations involving the need for modifications in recruitment, staff development, training, job descriptions, personnel policy, performance standards and allied areas.

(b) Administration, Policy, Communication. Included a review of recommendations involving the need for modifications in internal policy, work-flow, rehabilitation research, coordination within agencies, and other related procedural matters.

(c) Finance. Included a review of recommendations dealing with internal agency management from the points of view of finance. A general designation was made by the subcommittee in order to give some preliminary guidance in this area.

c. Committee Membership

BAUMAN, SISTER Helen Mary
Director
Catholic Social Services

CHIWA, Saburo
Personnel Officer
Personnel Office
Department of Labor
and Industrial Relations

DABAGH, Theodore
Personnel Officer
Personnel Office
Department of Health

*ESCHER, George F.
Head, Training Division
Civilian Industrial Relations Office
Pearl Harbor Naval Shipyard

FARIAS, Jr., John
Director
Department of Economic Development
Chairman's Office
County of Hawaii

FLANAGAN, Bernard
and MAU, George D. L.
Assistant Superintendents
Office of Personnel Administration
Department of Education

HIROSHIGE, Dr. Raymond H.
Medical Director
Maluhia Hospital

INOUYE, Walter
Chief
Psychiatric Social Service
State Hospital
Department of Health

LEE, Robert A.
Fiscal Analyst
Budget Office
City and County of Honolulu
City Hall

MAHEU, SISTER Betty Ann
Administrator
Catholic School Department
Catholic Diocese

McCARTHY, (Miss) Mary T.
Chief
Program Development Service
Public Welfare Division
Department of Social Services

MIZUTO, Richard and
HORIUCHI, Kiyoto
Program Specialists
Manpower Development and
Training Vocational Education
Department of Education

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*Chairman

Internal Agency Management

c. Committee Membership (Continued)

NISHIOKA, Toshio
Administrator
Oahu Vocational Rehabilitation Branch
Vocational Rehabilitation Division
Department of Social Services

POYZER, (Mrs.) Rose Ann
Member, Hawaii League for Nursing
c/o St. Francis Hospital
Home Care Program

SAKAMOTO, (Mrs.) Edna
Social Work Chief
Veterans Administration

SATO, Raymond
Administrative Services
Administrative Services Office
Department of Social Services

M, SISTER Aileen
Assistant Administrator
St. Francis Hospital

SOUZA, George
Comptroller
Administrative Services Office
Department of Health
and
BRISSETTE, Elizabeth
Acting Administrator Services Officer
Department of Health

STEPP, George
Chief
Management Services Division
Department of Budget and Finance

STONE, John J.
Personnel Officer
Personnel Office
Department of Social Services

THOMPSON, Henry
President
Hawaii State Health Council

WAKAI, Dr. Coolidge
Physician
Hawaii Medical Association

YIM, Thomas
Fiscal Officer
Personnel Office
Department of Labor
and Industrial Relations

YOUNG, Patricia
Chief
Employment Services Division
City and County of Honolulu
Department of Civil Service

III. Legislative Committee

a. Committee Composition. Twenty delegates of organizations concerned with the provision of services to the handicapped.

Committee Attendance. (Approximately) March-September, 1968, ranged between ninety per cent and fifty per cent for all meetings held.

b. Function of the Committee

The committee met to evaluate all recommendations made in the thirteen committees from the point-of-view of new legislation needed in order to support each individual recommendation.

Legislative Committee (Continued)

c. Committee Membership

AMOR, Charles
Director
Commission on Aging
and
BENNER, (Mrs.) Harlan F. F.
Chairman
Commission on Aging

BRANTZ, Edward
Program Specialist
Hawaii Office of Economic Opportunity

GILKEY, Robert C.
Deputy Director
Department of Labor
and Industrial Relations

HIGA, Royce
Deputy Director
Department of Social Services

HIGASHINO, Robert
Chief, Activity Therapy
Hawaii State Hospital
State Department of Health

IGE, Dr. Philip W.
Director of Personnel
and Industrial Relations
Queen's Medical Center

JOHNSON, (Mrs.) Elaine O.
Administrator
Maunalani Hospital

KANESHIRO, Charles
Director, Member Services
Hawaii Education Association

KATAOKA, (Mrs.) Dorothy
Hawaii County Hospital System
Hilo Memorial Hospital

LYONS, Andrew
Director of Programs
John Howard Association

MERTZ, Dr. Audrey
Executive Officer
Mental Health Division
State Department of Health

MINAMI, Hiroshi
Executive Director
Council of Social Agencies

MURIN, Steve
Senior Business Agent
Hospital Division
United Public Workers

PANZO, Jerry
Executive Secretary
Hawaii Manufacturers Association

*SAGARA, Kuniji
Administrator
Vocational Rehabilitation Division
Department of Social Services

SAGUM, Captain Roland
Community Relations
Honolulu Police Department

SCHNACK, Dr. George F.
Physician, Hawaii Medical Association

SHIM, Neil
Chairman, Policy Committee
Hawaii Rehabilitation Association

SUTHERLAND, Mark M.
President
Kona Association for Retarded Children

THOMPSON, Henry
President, Hawaii State Health Council

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* Chairman

IV. Statewide Coordination of Services Committee

a. Committee Composition. Thirty-five key administrators in the local Federal, State, City and County, private non-profit agencies directly concerned with the provision of financing of rehabilitation services in the cycle of services (health-medical, psychological, social, educational, vocational services.)

Committee Attendance. (Approximately) Meetings held between March - September, 1968 ranged between fifty and ninety percent for all meetings.

b. Job of the Committee. Review all alternative major patterns and recommendations of the thirteen committees which met during the first year of the project relevant to "statewide coordination of services". Recommendations to be covered include:

1. Finance. (joint case financing; joint use of facilities; shared staffing; policy on finance, etc.)

2. Organizational Feasibility of the Statewide System: Policy and program statewide decision-making systems; day-to-day operational control; client procedureal steps.

3. Personnel considerations.

4. Facilities for the most effective delivery of total service to the client.

c. On the basis of your analysis of the various areas to be covered by groups, consider alternative recommended patterns of organization.

d. Discuss the operational feasibility of total design of Statewide system patterns and outline the responsibilities of each unit (includes facilities).

e. Committee Membership.

AKITA, Norman
Program Consultant
Commission on Aging

ANSBERRY, Merle (Dr.)
Director, Speech Pathology
and Audiology Division
Speech and Hearing Clinic
University of Hawaii

CAMPBELL, Adm. Robert (Ret.)
Executive Director
Governor's Committee on Employment of
the Handicapped.

CHANG, Chester
Acting Administrator
Workmen's Compensation Division
Department of Labor and Industrial
Relations

COLBY, Edward W. (Dr.)
Associate Medical Director
Hawaii Medical Association and
Rehabilitation Center of Hawaii

CONKLIN, Ruth (Mrs.)
Tenant Services Coordinator
Hawaii Housing Authority
Department of Social Services

CRABTREE, Frank
Hospital Superintendent
Kauai Veterans Memorial Hospital

DELPECH, Frances R. (Mrs.)
Director
Arthritis Foundation

DREW, Hilda M. (Mrs.)
Assistant Administrator
Shriner's Hospital for Crippled Children

FOX, Morris
Administrator
Public Welfare Division
Department of Social Services

GILKEY, Robert C.
Deputy Director
Department of Labor and Industrial Relations

GUTTERSEN, Jeanie M. (Miss.)
Caseworker, Services to Military Families
American Red Cross, Hawaii State Chapter

HANNUM, W. C. (Col.)
Chief, U.S. Tripler General Hospital
Department of Psychiatry and Neurology

IMAHIRO, Richard
Community Planning Coordinator
Public Welfare Division
Department of Social Services

IZUTSU, Satoru (Dr.)
Executive Officer
Waimano Training School and Hospital
State Department of Health

JOHNSON, Elaine O. (Mrs.)
Administrator
Maunalani Hospital

KAM, Violet (Mrs.)
Director
Lanakila Crafts.

KAWAHARA, Hatsuko (Dr.)
Director
Division of Guidance & Special Education
Department of Education

KEIFER, Frank E.
Superintendent
Hawaii County Hospital System

KIM, Peter M.(Dr.)
Hospital Superintendent
Samuel Mahelona Hospital

KUNIYUKI, Henry S.
Representative
Veterans Employment Service

*LEE, Richard K. C. (Dr.)
Dean
School of Public Health,
University of Hawaii

LEVINE, James
Program Specialist
Adult Education
Department of Education

LUMMIS, Wilbur S. Jr. (Dr.)
Deputy Director
State Department of Health

MATSUKUMA, Kiyoshi
Specialist
Planning Project for Workshops
Vocational Rehabilitation Division
Department of Social Services

MERGENS, James P.
Executive Director
Aloha United Fund

MOORHEAD, George
Director
Hawaii Heart Association

MORRISON, Elizabeth (Mrs.)
Administrator
Rehabilitation Services, Branch for the Blind and Visually Handicapped
Department of Social Services

O'BRIEN, James
Director
Hawaii Association to Help Retarded Children

O'HARA, Rosalie (Mrs.)
Executive Director
National Society for Crippled Children and Adults

*Chairman

OSHIRO, Masaru
Executive Director
Queen Liliuokalani Children's
Center

OWENS, R. G.
Personnel Staffing Specialist
Regional Office of
Civilian Manpower Management

PAIK, George
Trainer
Hospital Inservice Training
Hawaii State Hospital
State Department of Health

PATTERSON, Carolyn (Mrs.)
Hawaii Representative
National Foundation

PLATOU, Ralph (Dr.) &
SHIRKEY, Harry (Dr.)
Medical Directors
Children's Hospital

RUHIG, Theodore
Executive Secretary
Commission on Manpower
and Full Employment.

SAKAMOTO, Edna K. (Mrs.)
Social Work Chief
Veterans Administration

SHEPARD, Frederick R. (Dr.)
Medical Director
Rehabilitation Center of Hawaii

SMALLEY, Margaret (Miss)
Director
Child and Family Service

TOKUSHIGE, Koichi
Assistant Superientendent
Office of Business Administration
Department of Education

UEKI, Nils K.
Chief
Budget Division
Department of Budget and Fianance

WOLFE, Scott W.
Waiole Campus Unit
Supervisor
Facilities for Children
Salvation Army

YOKOYAMA, Robert
Director
Chairman's Office
County of Maui

YUH, Howard
Executive Secretary
Children and Youth Commission

E. Regional Committees

Program Committees for the statewide recommendations functioned jointly for Oahu and for the total State of Hawaii. Oahu-State Committees represented approximately eighty percent of the population of the State of Hawaii.

In addition to the Oahu-State Committees there were three neighbor island County Committees for geographic coverage which included the full representation of all public-private agencies providing rehabilitation services in those Counties. Termed County Advisory Subcommittees, there was one committee for each County, e.g., Maui, Hawaii, Kauai. Committees were composed of official delegates, as were the Oahu-State Subcommittees. One member of each committee will have special knowledge in each area of rehabilitation to be covered. One committee considered all disabilities and facilities questions.

(a) The Function of the County Committees is to:

1. React to the findings and recommendations of the Oahu committees in terms of their own County needs.

2. Outline additional needs, gather specific data, and formulate recommendations with particular relevance to the individual County.

Co-chairmen of the committees will report directly to the Policy Board.

(B) Basic Planning Procedure for the County Committees:

1. According to the approved project schedule and basic design, planning is to be done with due attention to the (a) individual needs of the rehabilitation specializations, (b) the common needs of "rehabilitation" as a field, (c) with due consideration of the various geographic areas.

2. Each neighbor island committee would have as a basic resource, the reports of all the specialized Oahu-State Committees, all of whom had previously identified "ideal" rehabilitation services for that specialization and the "gaps" and "barriers" of an Oahu based program.

3. Each committee was asked to determine County needs in vocational rehabilitation using these specialized reports as a reference; to outline additional needs, gather specific data and formulate recommendations with particular relevance to the individual county.

4. The committee identified "gaps" in County program services; "barriers" to County program services, and tentatively established possibilities for "coordinated efficiency of services."

   Report of each committee was forwarded for the consideration of each of the Administrative Committees in Phase II of the planning, as part of the final statewide plan.

I. County of Kauai

INTRODUCTION TO THE WORK OF THE COMMITTEE

a. Committee Composition. Thirty-five official delegates of organizations concerned with the provision of services related to the five rehabilitation services in the County of Kauai attended planning meetings. In addition, several consultants in special fields made their services available to the committee.

   Committee Attendance. (Approximately) Attendance ranged between sixty per cent and ninety per cent for all meetings.

b. Committee Membership

BLAKSTAD, (Mrs.) Edna
Executive Secretary
Kauai Unit,
American Cancer Society

ASARI, Laura
Samuel Mahelona Hospital

CARVALHO, Captain Joe S.
Captain
Kauai County Police Department

CHING, Larry
Workmen's Compensation Bureau

COKE, Philip
Administrator
G. N. Wilcox Memorial Hospital

Coots, Miss Rose
Tuberculosis and Health Association

County of Kauai

Committee Membership (continued)

*CRABTREE, Frank
Superintendent
Kauai Veterans Memorial Hospital

CROWELL, Chief Edwin
Chief, Kauai Police Department

DANIELS, Mary
Director of Nursing
Samuel Mahelona Hospital

FAYE, (Mrs.) M.
Executive Secretary
Commission on Aging

FERNANDES, Senator William
State Senator, State Senate

FIFIELD, Gary
Manager, Rehabilitation Unlimited

*FUJITA, Masayoshi
Administrator
Division of Vocational Rehabilitation
Department of Social Services

HIRABAYASHI, Toshiyuki
Staff Specialist
State Department of Education

IWAMOTO, Asako
Medical Social Worker
Crippled Children's Branch
State Department of Health

KANESHIRO, Reverend Morimasa
Council of Churches

KIM, Dr. Peter
Acting District Health Officer
State Department of Health

KUBOTA, Kiyoshi
Director, Kauai Community College
University of Hawaii

KUNIMURA, Representative Tony
Representative, Governor's Committee
on Employment of the Handicapped

LUM, Major William
Major, Lihue Corps
Salvation Army

MAKANANI, Ralph
Vice President
Hawaii State Federation of Labor

MIYASHIRO, Dr. Y.
President
Kauai County Medical Society
Hawaii Medical Association

NAKAO, James
Branch Administrator
Blind & Visually Handicapped Branch
State Department of Social Services

NISHIMOTO, Bryan
Director, County Planning Department

ODA, Robert
President, Easter Seal Society

PALAMA, Jr. (Mrs.) Philip
Administrator
Hawaii Heart Association

PETTYS, Edward
Administrator, 5th Circuit Court
Family Court

RODRIGUES, Gary W.
Business Agent
United Public Workers

SUMMERS, (Miss) Alice
Psychiatric Social Worker
Mental Health Division
State Department of Health

TANIGUCHI, Fred
ILWU

TOYOFUKU, Representative George
Representative
State House of Representatives

TSUCHIYA, Burt
Director
Economic Development Department

WADE, Dr. Burt O.
Waimea Dispensary

*Co-chairman

II. County of Hawaii

INTRODUCTION TO THE WORK OF THE COMMITTEE

a. Committee Composition. Thirty-four official delegates of organizations concerned with the provision of services related to the five rehabilitation services in the County of Hawaii attended planning meetings.

Committee Attendance. (Approximately) Attendance ranged between fifty per cent and ninety per cent for all meetings.

b. Committee Membership

AH CHIN, Jackson
Business Agent
United Public Workers

ANDREWS, Hubert
Department Field Representative
Department of Labor
and Industrial Relations
Workmen's Compensation

BELCHER, Charles H.
Chief
Hawaii Mental Health Division
Department of Health

BOWELL, Gladys
Executive on Aging
Hawaii County Committee on Aging

BRACHER, Dr. George
Radiologist
Hilo Hospital

CACERES, Sheridan
District Health Officer
Department of Health, Hilo

DE LUZ, Frank
Hamakua Coast - Business

*FORBES, Dr. Fritz
Curriculum Specialist
State Department of Education

GOMEZ, Dorothy
Director, Family Court
Third Circuit Court

GROSH, Reverend William
Council of Churches

*HAKODA, Milton
Administrator
Division of Vocational Rehabilitation
Department of Social Services

HELMS, Dr. Edward
Committee Member
Hawaii Medical Association

IWAMASA, Fumiko
Hawaii Branch Administrator
Department of Social Services,
Blind and Visually Handicapped

IWASHITA, Haruo
Psychiatric Social Worker
Hawaii Mental Health Service
Department of Health

KATAOKA, Dorothy
Occupational Therapist
Hilo Hospital

KAWAHARA, Sam
Chairman, Governor's Committee on
Employment of the Handicapped

LUI KWAN, Benedict
Manager
Hawaii State Employment Service
Hilo Office
Labor and Industrial Relations

LUSCOMB, Helen
Division Administrator
Hawaii Heart Association
Big Island Council

MANAGO, Harold
Business
Kona District

*Co-chairman

County of Hawaii

Committee Membership (Continued)

MC ISAAC, Hugh
Psychiatric Social Worker
Hawaii Mental Health Service
Department of Health

MIZUGUCHI, Kimie
Executive Secretary
American Cancer Society, Hawaii

NAGASAKO, Todato
Staff Director
Hawaii County Economic
Development Committee

NODA, Dr. Kaoru
Director
University of Hawaii, Hilo

OHATA, Roy Y.
President-elect
Hawaii Dental Association

POY, Thomas
ILWU, Hawaii Division

RICKARD, Sergeant Richard
Police Department
County of Hawaii

SERIZAWA, Representative Toshio
Representative
State House of Representatives
County of Hawaii

STILLWELL, Lieutenant Arthur
Salvation Army, Hilo Corps

STORMONT, William
Eastern Seal Society for
Crippled Children and Adults
Hawaii Unit

SOUZA, Robert
Director, Hawaii County Economic
Development Committee

SUEFUJI, Raymond
Director
Hawaii County Planning Commission

TAKAMINI, Representative Yoshito
Representative
State House of Representatives
Hawaii County

VIERRA, Elmer
Vice President, IBEW Local 1260
State Federation of Labor

WAKAI, Reverned Masayoshi
Kulani Honor Camp, Hilo

III. County of Maui

INTRODUCTION TO THE WORK OF THE COMMITTEE

a. Committee Composition. Forty delegates of organizations concerned with the provision of services related to the cycle of services in the County of Maui attended planning meetings.

Committee Attendance. (Approximately) Attendance ranged between sixty per cent and ninety per cent for all meetings.

b. Committee Membership

ANDERSON, Reverend James
Council of Churches
Maui County

ANSAI, Senator Toshi
Senator
State Senate

Maui County

Committee Membership (Continued)

BEGGS, Webb
Executive
Chamber of Commerce

BLACK, Duane
Dole Company

BRIDGMAN, Dr. Donald
Director, Maui Community College
University of Hawaii

CALLAHAN, (Miss) Lillian
Maui County Council
Tuberculosis and Health Association

CAMERON, J. Walter
Director
Ka Lima O'Maui Project

CARPENTER, Monte
Vice-President
Hawaii Federation of Labor

CARVALHO, Al
Business Agent
United Public Workers

CHUN, Young Whee
Medical Social Worker
Children's Health Service
Department of Health

COLE, (Mrs.) Olive
Executive
American Cancer Society

FIDDES, Katherine
Ka Lima O'Maui

FOSTER, (Mrs.) Janie
Executive Secretary
Easter Seal Society

FUKUOKA, Senator George
Senator
State Senate

*HIROSE, Meiji
Maui County Administrator
Division of Vocational Rehabilitation
Department of Social Services

KONO, Henry
Maui Mental Health Service
State Department of Health

LANE, Chief Jean
Chief of Police
Maui County Police Department

LEONG, George
Manager, State Department of Labor
and Industrial Relations

LOUIS, Ernest
Workmen's Compensation Division
Department of Labor and
Industrial Relations

MAGARIFUJI, (Mrs.) Judy
Nursing Association

MARKHAM, August
Second Circuit Court

MIYAMOTO, D.D.S., H. K.
Hawaii State Dental Association

MURRAY, James
Health Facilities Planning Council

NAGASAKO, Masao
Governor's Committee on
Employment of the Handicapped

OHATA, Robert
Director
Planning and Traffic Commission

OTTMAN, (Mrs.) Margaret
Staff Specialist
State Department of Education

ROMSON, Tomic
Administrator
Maui Memorial Hospital

SIEMER, John
President
Maui Planter's Association

SOUKI, Joe
Maui Economic Opportunity, Inc.

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* Co-chairman

Maui County

Committee Membership (Continued)

SPEAKMAN, Jr., Dr. Cummins
President
Maunaolu College

STEVENS, Dr. Paul
Maui County Medical Association

*STEWART, Dr. Charles
Chief
Maui Mental Health Service
Department of Health

STRICKLAND, Captain Charles
Kahului Corps
Salvation Army

STROTHER, Dr. Billie
Hawaii Medical Association

TERAO, Norio
Maui Chamber of Commerce

TONG, M.D., F. H.
District Health Officer
State Department of Health

UYENOYAMA, Hidesuku
Administrator, Rehabilitation Services for Blind and Visually Handicapped

WEEKS, Dr. Bertram
Maui Medical Group

Williamson, Richard
Planner, Maui Comprehensive
Maui Comprehensive

YAGI, Thomas
ILWU, Local Unit 142

YASUI, Ricki
Director
Department of Economic Development

YOKOYAMA, Robert
Executive Secretary
Commission on Aging

YAMASAKI, Mamoru
Representative
ILWU

*Co-chairman

F. Subcontractors and Other Agencies Given Planning Functions

(1) Subcontractor: Data on Neighbor Island Chronic Conditions

One agency, other than the Hawaii State Vocational Rehabilitation Plan, carried forward a portion of the Plan under a subcontract with the project. That agency is Survey & Marketing Services, Inc. of Honolulu which conducted the Neighbor Island survey (Hawaii, Kauai, and Maui) of chronic conditions in the population utilizing an identical format to that of the State Department of Health survey team for Oahu.

Both organizations conducted the surveys with interview procedures and format in accordance with the U.S. National Health Survey Program.

A report on project research was issued by the Plan, "Incidence of Physical, Mental, Social Handicaps in the State of Hawaii."

(2) Other Agencies Given Planning Functions:

a. Data on Oahu chronic conditions was secured by the State Department of Health, Research, Planning and Statistics Office, and the Public Health Nursing Branch.

Sampling for both of the studies, subcontractor Survey & Marketing Services, Inc., and the State Department of Health, was extended to all residents of the State of Hawaii who are noninstitutional.

In both surveys, scientifically designed random samples of households were surveyed. Eighteen-thousand (18,000) persons from four-thousand sixty-five (4,065) households were sampled on Oahu by the State Department of Health. While two-thousand two-hundred and seventy-five (2,275) household interviews were conducted on the Neighbor Islands.

b. A special plan on "Workshops and Rehabilitation Facilities" was developed by the Division of Vocational Rehabilitation, State Department of Social Services. It will be reported in IV. G. SPECIAL PLANNING TOPICS.

c. Additional studies were completed by the project staff. They will be reported in IV. (a) "Estimates of the Prevalence and Incidence of Handicapped Persons by Category Projected to 1975."

G. Interagency Liaison

Coordination with other planning and major studies completed or in progress in the State of Hawaii by review of these plans in the relevant committees is the primary way in which interagency planning liaison was accomplished.

In addition, the administrative process of the appointment of official delegates from the agencies and organizations involved in currently providing services in the "rehabilitation cycle of services," was the method by which the program and administrators established interagency liaison with their own departments and divisions, through periodic reporting-back.

In particular, the Plan coordinated with the following plans which had been completed or are in the process of being completed.

Title of Plan or Study	Responsible Group
1. Age Structure in Hawaii's Population	School of Public Health, University of Hawaii
2. Aloha Guide to Oahu for the Handicapped	Governor's Committee on Employment of the Handicapped
3. Annual Reports of the Organizations	Various
4. A Comprehensive Community Mental Health Plan	State Department of Health, 1965
5. Demographic and Health Characteristics of Military Households	State Department of Health
6. Education in Gerontology for Hawaii	School of Public Health, University of Hawaii
7. Hawaii Community College System Reports	Hawaii Community College System
a. Educational Specifications Leeward Oahu Campus	
b. Curriculum Development for Hawaii's Community Colleges with Emphasis on Occupational Education	
c. Feasibility of Community Colleges in Hawaii	
8. Hawaii Conference on Rehabilitation	Hawaii State Health Council
9. Hawaii Design for Protection (Corrections)	State Department of Social Services
10. Health Facilities Plan 1966-1985 (Statewide)	The Health Facilities Planning Council of Hawaii
11. Job Survey Project Final Report	The Rehabilitation Center of Hawaii, 1966
12. A Plan to Combat Mental Retardation in Hawaii	State Department of Health, 1965
13. Comprehensive Health Plan	State Department of Health
14. Cooperative Area Manpower Planning System	Commission on Manpower and Full Employment
15. Demonstration Cities Plan	City and County of Honolulu

Title of Plan or Study (Continued)	Responsible Group (Continued)
16. Human Resources Plan	State Department of Labor and Industrial Relations
17. Regional Medical Program	University of Hawaii
18. Rehabilitation in Hawaii, 1952	Hawaii State Health Council
19. Report on Alcoholism in the State of Hawaii	Governor's Committee on Alcoholism 1962
20. State Shortages in Professional and Technical Classes	Commission on Manpower and Full Employment, 1967
21. A Study of the Social Characteristics of Thirteen Oahu Communities	Honolulu Council of Social Agencies, 1966
22. What You Should Know About Mental Retardation	Hawaii Association to Help Retarded Children

H. Other Groups

(1) Other groups involved in the project recommendations formulated, participated through a series of public hearings:

a. The General Public in Community Leader Hearings in seven public hearing sessions held throughout the State.

b. Handicapped clients through seven public hearing sessions also held throughout the State.

The functions of these public hearings was to get a basic expression of opinion by geographic location at the major planning area locations throughout the State. The four catchment areas in which meetings on Oahu were held were:

a. Leeward catchment area

b. Windward catchment area

c. Lanakila catchment area

d. Diamond Head catchment area

In addition, one public hearing for each of the two groups listed above was held on the Islands of Kauai, Hawaii, and Maui.

The hearings were conducted by the Policy Board, Hawaii State Vocational Rehabilitation Plan. The total number of three-hundred (300) persons were contacted by the hearings.

SUMMARY

The recommendations which follow completely summarize the Hawaii State Vocational Rehabilitation Plan. Summary I is in brief tabular form. Summary II, the narrative summary, is a more complete statement on the "nature of the problem" as background for the recommendation and detailed implementation suggestions.

Since many Hawaii recommendations applied to several disability or program groups, these recommendations are not repeated subsequently in the individual disability and program committee reports. Instead, each committee report lists its recommendations by number, which correspond to the recommendations in this cross-tabulated summary. This method was first suggested by the Policy Board in order to avoid duplication.

The recommendations from the special concurrent study in "Workshops and Facilities", conducted by the Division of Vocational Rehabilitation, State Department of Social Services, are not listed in this summary section. They may be found in the part of this report on "Workshops and Facilities" and are to be considered part of the statewide system.

All recommendations in the summary are statewide in nature. Recommendations were received and revised where necessary by the Policy Board for the Plan.

Format includes:

a) Administration and communications;
b) Research;
c) General program, workshops and facilities;
d) Medical rehabilitation;
e) Psychological rehabilitation;
f) Social rehabilitation;
g) Educational rehabilitation;
h) Vocational rehabilitation;
i) Personnel recommendations.

Recommendations are followed by a statement of special need in the disabilities in programs; a priority rating of No. 1 (Highest Priority - Essential), No. 2 (Secondary Priority - Highly Desirable), No. 3 (Third Priority - Desirable); an approximate time of implementation, designated agency responsibility, implementation steps, and a cost estimate.

It is important to view the individual recommendations as part of the proposed comprehensive statewide system for vocational rehabilitation, which will enable the State to meet its goal of total service by 1975.

Overall responsibility for the implementation of the Plan, including the statewide system, has been allocated to the Division of Vocational Rehabilitation State Department of Social Services. This Division will also serve as chief initiator of the individual recommendations

In addition however, all program recommendations can be implemented by any authorized agency having this recommendation as part of its formal role, whether or not that agency is specifically mentioned in the "implementation responsibility" section.

KEY TO ORGANIZATIONS (IMPLEMENTATION RESPONSIBILITY)

S.A.V.R., D.V.R., D.S.S. ---- Statewide Administrative Unit for Rehabilitation, Division of Vocational Rehabilitation, State Department of Social Services

V.R.C.S.C. ---------- Vocational Rehabilitation Community Service Centers.

A _____ FEDERAL AGENCIES (Local)

1 _____ U.S. Army Tripler General Hospital
2 _____ Selective Service System, State Headquarters
3 _____ Veterans Administration
4 _____ Veterans Employment Service
5 _____ U.S. Civil Service Commission
6 _____ Office of Civilian Personnel, USA
7 _____ Office of Civilian Personnel, USAF
8 _____ Civilian Industrial Relations Office
9 _____ Social Security Administration
10 _____ Office of Civilian Manpower Management, USN
11 _____ Regional Medical Program

B _____ STATE AGENCIES

1 _____ JUDICIARY

a _____ District Court of Honolulu Counseling Service
b _____ First Circuit Court
c _____ Family Court
d _____ Adult Probation Office

2 _____ DEPARTMENT OF EDUCATION

a _____ Office of Personnel Administration
b _____ Division of Guidance & Special Education
c _____ Division of Vocational, Post-High & Adult Education
d _____ Manpower Development & Training
e _____ Adult Education
f _____ Office of Library Services

3 _____ DEPARTMENT OF HEALTH

a _____ Personnel Office
b _____ Children's Health Services Division
c _____ Crippled Children's Branch
d _____ Maternal and Child Health Branch
e _____ Medical Health Services Division
f _____ Chronic Disease Branch
g _____ Hospitals & Medical Facilities Branch
h _____ Public Health Nursing Branch
i _____ Communicable Disease Division

j _____ Tuberculosis Branch
k _____ Waimano Training School and Hospital Division
l _____ Mental Health Division
m _____ Preventive & Clinic Services Branch
n _____ Alcoholism Clinic
o _____ Hawaii State Hospital

4 _____ DEPARTMENT OF LABOR & INDUSTRIAL RELATIONS

a _____ Personnel Office
b _____ Employment Services Division
c _____ Industrial Employment Office
d _____ Professional, Clerical & Sales Employment Office
e _____ Youth Opportunity Center
f _____ Workmen's Compensation Division
g _____ Apprenticeship Division

5 _____ DEPARTMENT OF PERSONNEL SERVICES

a _____ Personnel Placement (Civil Service)

6 _____ DEPARTMENT OF SOCIAL SERVICES

a _____ Personnel Office
b _____ Corrections Division
c _____ Public Welfare Division
d _____ Rehabilitation Services Branch for the Blind & Visually Handicapped
e _____ Vocational Rehabilitation Division
f _____ Hawaii Housing Authority

7 _____ UNIVERSITY OF HAWAII

a _____ School of Medicine
b _____ Community College System
c _____ Speech & Hearing Clinic
d _____ Juvenile Delinquency & Youth Development Center
e _____ Counseling & Testing Center
f _____ School of Public Health

OTHER STATE AGENCIES

8 _____ Hawaii Office of Economic Opportunity
9 _____ Commission on Aging

a _____ Senior Opportunity Center

10 _____ Commission on Children and Youth
11 _____ Governor's Committee on Employment of the Handicapped
12 _____ Commission on Manpower and Full Employment, D.P.E.D.

C _____ CITY AND COUNTY OF HONOLULU, KAUAI, MAUI, HAWAII

1 _____ Departments of Health, (Maluhia Hospital)
2 _____ Department of Parks, and Recreation
3 _____ Office of Urban Renewal
4 _____ Department of Civil Service
5 _____ Police Department

a _____ Community Relations Division
b _____ Juvenile Crime Prevention Division
c _____ County Jail

6 _____ Committee on Aging

D _____ PRIVATE NON-PROFIT AGENCIES

1 _____ Aloha United Fund
2 _____ American Cancer Society
3 _____ American Federation of Labor (AFL-CIO)
4 _____ American Red Cross
5 _____ Arthritis Foundation
6 _____ Big Brothers of Hawaii
7 _____ Catholic Social Service
8 _____ Catholic School Department
9 _____ Chaminade College of Honolulu
10 _____ Child & Family Service
11 _____ Children's Hospital
12 _____ Church College of Hawaii
13 _____ Health & Community Services Council of Hawaii
14 _____ Eye of the Pacific Guide Dogs, Inc.
15 _____ Goodwill Industries of Honolulu
16 _____ Hawaii Association to Help Retarded Children
17 _____ Hawaii Committee on Alcoholism
18 _____ Hawaii Education Association
19 _____ Hawaii Employers' Council
20 _____ Hawaii League for Nursing
21 _____ Hawaii Manufacturers Association
22 _____ Hawaii Medical Association, Oahu, Kauai, Hawaii, Maui
23 _____ Hawaii Nurses Association
24 _____ Hawaii Council of Churches
25 _____ Honolulu County Medical Society, Kauai, Hawaii, Maui
26 _____ I. L. W. U.
27 _____ John Howard Association
28 _____ Kaiser Foundation Hospital
29 _____ Kuakini Hospital
30 _____ Lanakila Crafts
31 _____ Leahi Hospital
32 _____ Liliuokalani Trust
33 _____ Maunalani Hospital
34 _____ Mental Health Association
35 _____ Muscular Dystrophy Association
36 _____ National Society for Crippled Children & Adults
37 _____ Hawaii Heart Association

38 _____ National Foundation
39 _____ Palama Settlement
40 _____ Queen's Medical Center
41 _____ Rehabilitation Center of Hawaii
42 _____ Senior Action Congress
43 _____ Seventh Day Adventist, Hawaiian Mission Academy
44 _____ Salvation Army:

a _____ Facilities for Children
b _____ Men's Social Service Center

45 _____ St. Francis Hospital
46 _____ Shriner's Hospital for Crippled Children
47 _____ Sultan School
48 _____ Tuberculosis and Health Association of Hawaii
49 _____ United Cerebral Palsy Association of Hawaii
50 _____ United Public Workers (U.P.W.)
51 _____ Dental Societies
52 _____ Abilities Unlimited
53 _____ Hawaii Council for Housing Action
54 _____ Chamber of Commerce
55 _____ Health & Hospital Planning Council
56 _____ H. G. E. A.

E _____ NEIGHBOR ISLANDS (INDEPENDENT UNITS)

1 _____ Hilo Memorial Hospital
2 _____ Kona Krafts, Hawaii
3 _____ Wilcox Memorial Hospital
4 _____ Samuel Mahelona Hospital
5 _____ Kauai Veterans Memorial Hospital
6 _____ Rehabilitation Unlimited Kauai
7 _____ Maui Memorial Hospital
8 _____ Ka Lima O Maui
9 _____ Molokai General Hospital
10 _____ Lanai Community Hospital
11 _____ Rainbow Crafts, Hawaii
12 _____ Easter Seal Society
13 _____ Brantley Center, Inc., Hawaii
14 _____ Kapaa Child Development Center

SUMMARY I: TABULAR

A. ADMINISTRATIVE AND COMMUNICATIONS RECOMMENDATIONS

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING			APPROXIMATE IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
		1	2	3	'69	'71	'73			
1) Recommend that a "Statewide Rehabilitation Council," with functions as defined in the administrative (narrative) recommendations, will be appointed by the Governor of the State of Hawaii; with appropriate consultation regarding their own representatives with County mayors, local federal authorities and private non-profit officials.	Statewide policy and planning.	X			X			DVR, DSS.	1) Rehabilitation Council to be appointed by the Governor of the State of Hawaii. 2) Staff support for the Rehabilitation Council is to be given by the Statewide Administrative Unit for Rehabilitation, Division of Vocational Rehabilitation, State Department of Social Services.	No cost
2) Recommend that initiating action for the recommendations of the Hawaii State Vocational Rehabilitation Plan and the continuing planning function shall be the responsibility of the "Statewide Administrative Unit for Rehabilitation." This unit will support the statewide effort for coordinated services for vocational rehabilitation as currently given by the approximately 137 major divisions and agencies in Hawaii for all matters which are to be shared.	Statewide staff unit for vocational rehabilitation	X			X			DVR, DSS.	1) Establish Unit. 2) Initiate Action as appropriate, to include necessary formal contractual agreements.	See Recommendation #5

Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
2) (continued) or are statewide in nature, after appropriate consultation with the Statewide Rehabilitation Council on policy and planning matters.										
3) Recommend that responsibility for the establishment and functioning of the "Statewide Administrative Unit for Rehabilitation" be designated by statute, until such time as Governor John A. Burns assigns immediate initial administrative responsibility for this unit to the Division of Vocational Rehabilitation, State Department of Social Services.	Statewide vocational rehabilitation coordination	X			X			Governor, State of Hawaii	Designation, as indicated.	No cost
4) Recommend that in order to carry out its responsibilities, this administrative unit be given adequate funds and staff, legislative support and operative flexibility.	Support features to be determined.	X			X			DVR, DSS.	Future requirements to be determined by the 1) extent of progress in Plan implementation; 2) progress at "sharing resources, etc."	No answer.
5) Recommend that, in order to support the functions of the Statewide Administrative Unit for Rehabilitation, four new positions be established to perform the functions of rehabilitation coordination. New personnel to	All programs	X			X			Division of Vocational Rehabilitation, State Department of Social Services.	1) Civil Service positions to be established as appropriate; State funding or combination. 2) Clerical support as necessary.	$50,000 per year

Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
5) (continued) be responsible to the Director, Division of Vocational Rehabilitation, State Department of Social Services, as follows: a) to coordinate statewide personnel for rehabilitation, b) to coordinate statewide finance for rehabilitation. c) to coordinate technical services for rehabilitation. d) to coordinate professional services for rehabilitation.										
6) Recommend that, in order to diagnose, evaluate, and provide coordinated services for the backlog of potentially eligible cases, that: a) the Division of Vocational Rehabilitation, State Department of Social Services substantially increase its vocational rehabilitation program by 1970; decentralizing services in conformance with the statewide plan, to include vocational evaluation, work evaluation and adjustment, physical	All programs	X			X			DVR, DSS.	Numbers and types of new positions to be determined after all efforts to share existing staff, finances, consultants, etc. have been made by the Rehabilitation Council; action for the seven designated catchment areas.	No answer.

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Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
6) a) (continued) restoration, counseling, placement, follow-up and use of new techniques for rehabilitation; b) all other public and private agencies in the State of Hawaii that provice rehabilitative services should expand their programs above their present level of effort where there is a need, but with appropriate consultation with the statewide pattern to be established by the Statewide Administrative Unit for Rehabilitation in order to avoid duplication.	All programs	X			X			All agencies.		No answer.
7) It is recommended that the Statewide Administrative Unit for Rehabilitation Services, Division of Vocational Rehabilitation, State Department of Social Services, be committed to coordinate with other statewide plans and programs, that have been or will be developed to provide all needed human resources through an appropriate structure.		X			X			All agencies; SAVR, DVR, DSS.	Implement by cooperation and coordination.	No cost

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Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
8) Recommend that seven decentralized "Vocational Rehabilitation Community Service Centers" be established in designated catchment areas throughout the State of Hawaii, which will bring the agencies providing the comprehensive services together "under one roof" in each geographic area, e.g., Oahu: Diamond Head, Lanakila, Leeward, Windward; Hawaii, Kauai, Maui.	All programs	X					X	SAVR, DVR, DSS, all agencies, Rehabilitation Council	1) Continued joint planning for program and facilities, land, etc. 2) Joint use of variety of facilities funds, public-private. Dependent upon individual Center space allocations in each of the seven geographic areas.	No answer
9) Recommended that Hawaii County, in addition to its Vocational Rehabilitation Community Service Center, establish also two satellite centers at appropriate locations, with the understanding that these satellites may develop into full centers as the population base grows; at least one person to be located at each of the satellite locations immediately, for intake purposes.	All programs	X			X			SAVR, DVR, DSS.	Implement as indicated.	$15,000 year initial cost (Estimate)

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Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10) Recommend that the organization flow-chart (see narrative recommendations) be adopted, and its component features implemented accordingly.	All programs	X			X			Rehabilitation Council;	See individual recommendations.	(See individual Recommendations)
11) Recommend that the following sequence for administrative and program coordination be established, in order to phase into the orderly development of the statewide service-delivery portion of the system:	All programs							DVR, DSS, SAVR, with all agencies.	Rehabilitation Council Action as indicated.	No answer.
A) Phase 1: Immediate establishment of comprehensive diagnostic and evaluation units; central total funding for clients; system; provision of transportation; aggressive case funding formal contractual agreements.		X			X					
B) Phase 2: All Phase 1 activities to continue; in addition: evaluative stage for all Phase 1 activities; establish "pilot project" in one of seven designated catchment areas to bring all services together "under-one-roof" in rented building		X					X			

Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
B) Phase 2 (continued) with the diagnostic and evaluation unit; begin construction of physical facilities in each of seven locations; review additional "gaps" in services. Move into Phase 3 as soon as feasible.										
C) Phase 3: Full provision of Vocational Rehabilitation Community Service Centers as the service-delivery aspect of the statewide system.		X					X			
12) Recommend a public information (relations) program in rehabilitation, on the State, District, and county levels; focused on specific publics and socio-economic levels.	All disabilities and groups concerned with Vocational Rehabilitation (137)	X			X			SAVR, DVR, DSS, in a coordinated effort with all agencies.	1) All rehabilitation agencies evaluate their own public relations program to determine effectiveness; 2) investigate the possible use of "shared funding" for media and legislative approaches.	$8,000 per year
13) Recommend that some specific features of the public relations program be as follows: a) coordinate and integrate program with rehabilitation agencies, workshops, and facilities through formal agreements and special workshops.	All disabilities and groups within the scope of the Rehabilitation Plan.		X			X		SAVR, DVR, DSS, all agencies.	Implement as indicated.	No cost

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Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
13) (continued) b) improve public relations procedures for interpretation and dissemination of information about rehabilitation positions. c) certain portions of the public information program be geared to the general public to help "erase stigma" connected with the mentally ill; to reduce fear of working with the handicapped thus assisting with the attitudinal "stigma" barrier to employment; to better orient the community to the needs of the deaf, etc.										
14) Recommend that technical writers be available to rehabilitation agencies to assist in the formulation of applications for grants and contracts.	All programs.		X			X		SAVR, DVR, DSS.	1) Technical assistance to be provided through consultant or professional staff services be added to the Statewide Administrative Unit for Rehabilitation. 2) Grants and contracts for rehabilitation to be coordinated to aid in implementation of the total statewide Plan.	$3,000 per year

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Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
15) Recommend that, as much as feasible, the worker be certain that the client understands the total rehabilitation process; from establishment of the initial contact, through client rehabilitation and vocational processes.	All programs.		X			X		Cooperative process. Responsibility to be assumed by DVR, DSS counselors on behalf of all other agencies.	1) Responsibility should be assumed by the "intake" unit counselor, at the Vocational Rehabilitation Community Services Center. 2) Counselor must be aware of all the services to be offered to the client.	No cost
16) Recommend the establishment of a planned program of rehabilitation services orientation between agencies, to be coordinated by the central Administrative Unit.	All programs.	X			X			SAVR, DVR, DSS, in cooperation with all agencies.	Recommend that orientation between agencies be coordinated by Statewide Administrative Unit for Rehabilitation (DVR, DSS).	No cost
17) Recommend that semantic barriers be lessened by agreement on common terminology among the various disciplines. Further recommend the establishment of a common information system based on these common definitions.	All programs.	X			X			SAVR, DVR, DSS, with all agencies.	1) Institute internal changes in agencies to support the common information system. 2) Devise safeguards for confidentiality of client records with SWIS.	No cost
18) Recommend expansion and further development of educational television, with special emphasis on vocational rehabilitation.	All disabilities, with special attention to the aging.		X			X		SAVR, DVR, DSS.	Develop with public service television and radio broadcasts.	$5,000

Administrative and Communications Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
19)Recommend that an orientation handbook for rehabilitation services be made available, together with the functions and structure of each agency.	All programs.	X			X			SAVR,DVR,DSS.	Implement as one of the basic publications of the statewide system; to be distributed to administrators of all of the relevant agencies and divisions and utilized as a basic reference.	$3,000
20)Development of a centralized information agency. There is a recognized need for: a)cumulative and standardized data about clients, b)information and statistics in the general population about persons in need of rehabilitation c)information to be generally available to other agencies & to the public concerning the changing programs and services of agencies providing rehabilitation (federal, state, city and county, private nonprofit), d)an administrative communications channel for working on procedures within departments and between departments and agencies, e)dissemination of information about vocational rehabilitation.	All agencies, all clients	X			X			SAVR, DVR, DSS, with all agencies, and in cooperation with Statewide Information System (SWIS).	1)Establish computerized central data bank. 2)Formal agreements to use and provide input data. 3)Adopt internal procedures to assure uniformity of data. 4)Since it involves interchange of privileged information, it involves establishment of safeguards for confidentiality.	$150,000

B. RESEARCH RECOMMENDATIONS

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
1)Recommend development of a greater variety of valid aptitude tests for the blind and deaf as well as provision of personnel with knowledge to administer these tests.	All disabilities, special attention to the blind and deaf.	X			X			SAVR., DVR., DSS., B7, etc.	In cooperation with the Statewide Unit, the University of Hawaii should assume responsibility for the investigation of mainland standard tests which can be adapted to State of Hawaii needs, and additional tests to be developed as needed.	No answer
2) a)Recommend that a study be conducted to determine how transportation of handicapped persons can be tied in with existing and proposed improvements in transportation.	Available to all disabilities.	X			X			SAVR., DVR., DSS., State Department of Transportation, and City and County departments.	1)Transportation needs of handicapped persons to be determined in relation to the geographic location of the core services unit, Vocational Rehabilitation Community Services Centers.	$15,000
b)Recommend the development of a system of scheduled transportation to be utilized by the handicapped to work, school, and recreation			X			X			2)Integrate small separate study with major plans or revisions of transportation studies.	
3)Recommend that valid psychological and education-vocational aptitude tests be devised to eliminate cultural bias.	All disability groups; special attention to low-income culturally deprived.	X			X			SAVR., DVR., DSS., B7, etc.	In cooperation with the Statewide Unit, the University of Hawaii should assume responsibility for the investigation of mainland standard tests which can be adapted to State of Hawaii needs, and additional tests to be developed as needed.	No answer

Research Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
4)Recommend provision of special incentives for personnel for research in mental health.	Mentally ill.	X			X			SAVR., DVR., DSS., B3, B7, D22, D34, etc.	1)Determination of nature of "special incentives" for research. 2)Implement as appropriate.	No answer
5)Recommend that higher education provide the leadership, facilities, and personnel to conduct practical applied research in needed specifics in the corrections area.	All specialized rehabilitation; special attention to corrections, adult and juvenile.		X			X		B6, B7, D34, D9, D12, D27, etc.	Individual colleges and departments in institutions should include applications for applied research in corrections area where federal, state, or foundation funding is necessary.	No answer
6)Recommend that a task force study current research in counseling and innovative new techniques as applied to rehabilitation.	All disabilities.	X			X			All agencies; SAVR., DVR., DSS.	Administrative policy determination in individual agencies, or formation of a central research task force through the technical or professional staff member of SAVR., DVR., DSS. Special attention to review of new research.	No cost
7)Recommend cooperative experimentation, research, and demonstration classes in rehabilitation.	All disabilities	X			X			A5, B5, C4, D1, D13, etc.	1)Investigate possibility for grants and contracts in innovation and training, federal and foundation. 2)Emphasis on inservice training for existing professionals. 3)Attempt to "bridge-the-gap" between original research and application.	No cost

Research Recommendations

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
8) Recommend that all agencies develop research and evaluation programs as part of their professional commitment.	All disabilities.	X			X			All agencies. SAVR., DVR., DSS.	1) Individual agency implementation and "shared" research programs. 2) Stress evaluation as a "positive value" toward quality of programs.	No answer
9) Recommend the encouragement of research and evaluation with special attention to "motivation of the clients," counseling, valid aptitude tests.	All disabilities.	X			X			B7 and all relevant agencies.	Individual or joint agency research efforts. Investigate grants and contracts.	No answer
10) Recommend the dissemination and application of all such productive research information.	All disabilities.	X			X			B7, B5, C4, A5, D13, etc.	1) Courses, conferences, inservice trainer. 2) S.A.V.R., D.V.R., D.S.S., follow through with agency counseling.	$8,000
11) Recommend a uniform mode of reporting testing results for different types of clients and different agencies, together with an identification of the various agencies that do testing.	All disabilities.	X			X			SAVR., DVR., DSS., all agencies.	Each agency should identify its data and testing needs; these should be summarized and a uniform system instituted.	No cost

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C. GENERAL PROGRAM, WORKSHOPS AND FACILITIES

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
1) Recommend that provision be made to provide physical restoration services in rehabilitation workshops, where desirable.	All disabilities in workshops		X			X		D30, E8, D15, E11, E2, D44, etc. All workshops in cooperation with statewide plan, as needed.	1) SAVR, DVR, DSS Plan with all of the workshops in the State, where physical restoration services could be advantageously placed. 2) Implement as appropriate.	$65 per day per person
2) Recommend that a study be conducted to identify ways and means to adequately finance the rehabilitation workshops, in order to provide continuous sheltered employment for those who cannot compete in the open labor market.	All disabilities in workshops	X			X			Conducted by SAVR, DVR, DSS, with all workshops in State, D30, E8, D15, E11, E2, D44, etc.	1) Emphasis on management techniques and cost - benefits analysis. 2) Identification of alternative possibilities for workshop financing, with special attention to the financial possibilities of incorporating the workshops into the Vocational Rehabilitation Community Service Centers.	$15,000
3) Recommend that planning for physical facilities of workshops and centers should reflect future needs and needs coordinated with other planning in the State.	All facilities planning programs	X			X			SAVR, DVR, DSS, all facilities planning programs (public-private).	Implement through the regular channels of the Rehabilitation Council, in cooperation with City, State, private, County facilities planning.	No cost
4) Recommend that the State should take a more active part in financing construction of workshops and facilities.	For the disability groups	X			X			All workshops D30, E8, D15, E11, E2, D44, etc. with SAVR, DVR, DSS.	In conjunction with Recomendation #2 above, the State should investigate possibilities for joint financing of workshops and facilities.	No answer

General Program, Workshops and Facilities

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
5) Recommend the establishment of satellite workshops closer to client populations.	All disabilities as needed.	X			X			SAVR, DVR, DSS, with all workshops.	Investigate possibilities for community groups to aid in the establishment of satellite workshops geographically affiliated with Vocational Rehabiliation Community Services Centers; and elsewhere.	$5,000 per year per satellite.
6) Recommend the provision of more adequate "follow-up" services on workshop clients who are rehabilitated out of the sheltered workshop.	All workshop clients.		X			X		SAVR, DVR, DSS, with all workshops	Coordinate the "follow-up" services of workshop clients together with all other client "follow-up" services, as they are developed in the seven catchment areas out of the Vocational Rehabilitation Community Service Centers.	No cost
7) Recommend the establishment of a retirement system or pension plan for rehabilitation workshop and home industry workers and vendor operators; presently there is nothing but social security.	All disabilities. Special attention to the Blind and Deaf.	X			X			Appropriate public-private agencies and insurance companies. SAVR, DVR, DSS, initiate.	Legislature establish, after thorough investigation with the State and private retirement system, insurance companies, etc.	No answer.
8) Recommend the creation of a wider variety of jobs in Rehabilitation workshops.	All disabilities. Special attention: Blind and Deaf.	X			X			D30, E8, D15, E11, E2, D44, etc., SAVR, DVR, DSS, and industry D54, D21, D19, etc.	1) Depends upon cooperation with existing industry and identification of new industry. 2) Tie-in with Recommendation #2. Implement with active coordinated approach.	No cost
9) Recommend of establishment of a rehabilitation workshop program including cottage industries.	All disabilities. Special attention: Blind and Deaf.	X			X			D30, E8, D15, E11, E2, D44, etc. SAVR, DVR, DSS.	Cottage industry programs be established to the extent necessary in most feasible way to include home industries for the homebound.	No answer

General Program, Workshops and Facilities

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10) Recommend the expansion of present facilities offering rehabilitation services and the establishment of additional centers for services in various geographic locations, accessible to the persons in need of rehabilitation; locations to be determined by population and other considerations.	All disabilities	X			X			All agencies, in cooperation with the SAVR, DVR, DSS.	1) Support recommendation for the facilities recommendations noted in "Administrative Recommendations" for seven decentralized Vocational Rehabilitation Community Service Centers. 2) Expansion of other facilities as necessary; to be determined on a statewide basis.	No answer
11) Recommend that the gap in the adequacy of physical facilities be eliminated by the establishment of standards for construction; to be implemented through the appropriation of funds.	All rehabilitation facilities.		X			X		All agencies, SAVR, DVR, DSS, B11, etc.	1) Implement by investigation and establishment of standards for all physical facilities. 2) Correct facilities inadequacies.	No cost
12) Recommend the establishment of a greater number of outside facilities for alcoholics and drug addicts. As a current intermediate step, recommend half-way house and care homes be established.	Alcoholics and drug addicts.	X			X			SAVR, DVR, DSS, B3, etc.	1) Implement by support and further coordination with other relevant planning in this area; State Department of Health, etc. 2) Investigate half-way house function as a coordinated unit with the Vocational Rehabilitation Community Service Centers.	No answer

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General Program, Workshops and Facilities

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
13) Recommend the establishment of residential treatment programs, with qualified professional staffs to assist in the transition between hospital, rehabilitation agency and competitive employment. Programs which should be instituted as soon as possible include, e.g., half-way houses, group foster homes, closed treatment centers for severely emotionally disturbed children.	All disabilities which could benefit from residential programs	X			X			Health and Hospital Facilities Planning Council, B3, all agencies in cooperation with SAVR, DVR, DSS.	Study to determine need for treatment centers which are residential in nature, as needed apart from the Vocational Rehabilitation Community Service Center.	Study $15,000. Ex: Adult Corrections Conditional Release Program $11 client per day
14) Recommend utilization of educational physical facilities twelve months of the year with more imaginative summer programs to meet rehabilitation needs.	General program, all disabilities.	X			X			SAVR, DVR, DSS, B2, B7, D8, D9, D12, etc.	Implement of coordination of State Department of Education and private schools and institutions with rehabilitation needs, as determined by the Statewide Plan.	No cost (or) Janitorial $4.00 per hour
15) Recommend the examination of the feasibility of separate facilities for children, adolescents, within the Vocational Rehabilitation Community Service Centers based on actual case needs, problems and experience.	All disabilities	X			X			All agencies, in coopera with SAVR, DVR DSS, Health and Hospital Facilities Planning Council, B3, etc.	Further determination as dependent upon the need in the local catchment areas.	Study $15,000

General Program, Workshops and Facilities

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
16) Recommend general expansion of facilities and personnel for pre-vocational training.	Special attention to mentally ill.	X			X			SAVR, DVR, DSS, B7, B2, B4, B5, D9, D12, etc.	Coordinate as needed with the Vocational Rehabilitation Community Services Centers and the agencies providing vocational training.	No answer
17) Recommend that as much as is practically possible, policy of agencies should be towards decentralized services.	All programs.	X			X			All agencies through the Rehabilitation Council.	Requires internal policy towards decentralization in conformance with the statewide plan objectives.	No cost.
18) Recommend a reduction in overlapping rehabilitation services.	All disabilities and programs.	X			X			All agencies through the Rehabilitation Council.	Rehabilitation Council policy to establish.	No cost.
19) Recommend the development of a system of scheduled transportation to be utilized by the handicapped to work, school, and recreation.	All disabilities		X			X		SAVR, DVR, DSS; Transportation Agencies Advisory.	1) Implement by the investigation of a public system of scheduled transportation to be utilized by the handicapped in each of the seven catchment areas. 2) Fund as necessary.	No answer.

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General Program, Workshops and Facilities

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
20) Recommend the establishment of a "team approach" to rehabilitation services (within proposed Centers and on an itinerant team basis for geographic flexibility).	All disabilities.	X			X			SAVR, DVR, DSS, in cooperation with all agencies, through the Rehabilitation Council.	1) All agencies with staff to compose the "team" to orient staff job description revisions, etc. to coordinated "team approach" to operate out of Vocational Rehabilitation Community Service Centers. 2) Integrate "team approach" into regular existing specialized programs, e.g., Ho'opono, Rehabilitation Center, etc.	No cost.
21) Recommend that each agency reassess the size and kinds of its present rehabilitation staff, and gear a retraining program to enlarge their rehabilitation job, within their "role" limitations.	All programs; all disabilities.		X			X		Individual agencies; SAVR, DVR, DSS.	1) Establish and/or expand the rehabilitation evaluation function in each agency. 2) Coordinate training on interagency basis through SAVR, DVR, DSS.	No cost.

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General Program Workshops and Facilities

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM OR COUNTY	PRIORITY RATING			APPROX-IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	EST. COST
		1	2	3	'69	'71	'73			
22)Recommend periodic re-evaluation of program goals in terms of long-range planning.	All disabilities & all agencies	X			X			Rehabilitation Council; all public-private agencies.	Individual agency long-range program planning goals, as normally determined by that agency, should be closely coordinated with this long-range statewide plan	No Cost
23)Recommend establishment of special services for multiply-handicapped, e.g. mentally retarded-psychotic, mentally retarded-physically handicapped.	All Multiply-Handicapped	X			X			B1, B3, B6, C5 D16, etc. Courts & agencies dealing with mentally retarded.	Coordinate needed services thru 1)Vocational Rehabilitation Community Service Centers. 2)"High-risk center" proposed	No Answer
24)Recommend the further study of standardization of referral procedures.	All Programs; All Disabilities	X			X			SVRC, DVR,DSS with all agencies.	Implement with statewide system of formal contractual agreements.	No Cost
25)Review and recommend changes in laws and provisions to enlarge the employment opportunity of the rehabilitated person.	All Disabilities	X			X			SVRC, DVR, DSS Rehabilitation Council, D54, D19, etc.	1) Implement with policy changes and legislation. 2) Conduct further study if necessary.	See Indiv. Recommendations.
26)Recommend provision for client orientation to total life situation, e.g. ex-patient clubs under group workers.	All Disabilities	X			X			C2, VRCSC	Develop specialized recreation for handicapped groups in each catchment area, i.e. wheelchair basketball teams, etc.	$10,000

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General Program Workshops and Facilities

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM OR COUNTY	PRIORITY RATING 1	2	3	APPROX. IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	EST. COST
27) Recommend further study of "limitations of eligibility" in out-patient and other services, day and night care i.e. for the mentally ill, alcoholic, and drug addict.	All Dis-Abilities with particular attn. to the mentally ill, alcoholic & drug addict.	X			X			B3, all hospitals, D37, D40, etc.	Implement by a detailed study of "federal, state, city, & private "eligibility limitations" for rehabilitation services.	$5,000
28) Recommend that funding for rehabilitation programs be re-evaluated to provide a more equal distribution to needed areas.	All Programs	X			X			All programs, SAVR, DVR, & DSS.	Agencies review all sources of their funding in order to redistribute funds, staff & resources to needed areas.	No Cost
29) Recommend that the State supplement earnings of blind persons in supervised employment programs to bring wage levels equal to wages paid for comparable work.	Blind	X			X			B6D conduct study with cooperation of relevant agencies.	Implement by legislation, after study for back-up data for wage levels of comparable work in the public-private sector.	$3,000

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D. MEDICAL REHABILITATIVE SERVICES

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY **	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
1)Recommend that specific medical diagnostic, evaluation and referral services be made available to all those in need of rehabilitation, with particular attention to special disability groups, those with marginal incomes, those with social disabilities, e.g., "all those detained at the City Jail," and the juvenile at any point from adjudication to discharge.	Aging, Blind and Deaf, Mentally Ill, Orthopedic Disabled, Low Income Disabled, Military Rejectee, Adult and Juvenile Corrections.	X			X	X		All relevant agencies in coordination with S.A.V.R., D.V.R., D.S.S. A1, B3, C1, D11, C5, D25, etc.	1)Exempt handicapped legally from means test at State agencies. 2)Drop requirements for medical diagnosis before D.V.R., D.S.S., accepts a person for services. 3)Provide services as part of the Vocational Rehabilitation Community Service Centers in conjunction with all relevant agencies.	No answer
2)Within the concept of the provision of community based rehabilitation services and facilities to serve all of those in need, it is recommended that: (geographically) a)personnel form "teams" in areas where needs arise for "aggressive case-finding" purposes. b)itinerant clinics be established where necessary to serve special population groups.	For all Disabilities and Programs	X			X	X		All relevant agencies giving rehabilitation services in coordination with S.A.V.R., D.V.R., D.S.S.	Policy matter on best procedure to be implemented and coordinated through administrators in charge of the establishment of decentralized evaluation and diagnostic intake centers. (D.V.R., D.S.S.)	No cost

**Some agencies which could implement specific recommendations as part of their formal role may inadvertently have been omitted. Implementation of general program recommendations can be done by any authorized agency.

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
2) c) there be an expansion of direct "team" care services in the home, i.e., nursing, physical therapy, speech therapy, etc., to be available as needed.										
3) Recommend the development of a system of medical follow-up applicable to rehabilitation emphasis (i.e., with private physicians and hospitals).	All disabilities, attention physical and mental.	X			X			SAVR., DVR., DSS. with private physicians and hospitals.	Tie-in with the centralized data bank to be developed in connection with the statewide system.	Absorb in data bank cost.
4) Recommend that a precise review of the distribution patterns of private physicians in relation to the population in Hawaii be made so that medical rehabilitation will be geographically available to all.	Medical services for all disabilities.	X			X			Medical associations, in coordination with SAVR., DVR., DSS. and State and County Departments of Health.	No legal changes necessary. Authorized study to be carried out under auspices of an administrative agency assuming primary responsibility for the statewide system. Coordinate with similar study planned at the University of Hawaii, School of Public Health.	$5,000.
5) Recommend that additional quality rehabilitation facilities and services be developed in general hospitals in all Counties, if they can absorb the costs, with special emphasis on adequate physical facilities for restorative services.	Special attention: Physical Disabilities, Aging.		X			X		All general hospitals, as needed, in all counties.	1) Individual hospitals 2) Estimated Staff: Staff Therapists at $22,000 Occupation and Physical Therapy Services 15,000 Supplies & Equipment 22,000 $59,000	$59,000 basic estimated cost.

Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
6)Recommend general hospitals establish better casefinding procedure to determine what patients need extended care facilities.	Physical Disabilities	X			X			All general hospitals; with S.A.V.R., D.V.R., D.S.S.	Recommend that the medical criteria be sent to the central registry by hospitals and that the registry be equipped to provide feedback. Social worker in hospital to assume role of better casefinding procedure.	$10,000 Social Worker salary
7)Recommend establishment of more nursing homes and extended care facilities to provide restorative services to a greater degree. Implement with Health Facilities Planning Council.	Physical disabilities: Heart, Cancer, Stroke, etc.	X			X			S.A.V.R., D.V.R., D.S.S., etc.	1)Revise zoning regulations to permit extended care facilities and nursing homes in residential, agricultural areas. 2)Allow tax break to profit nursing homes and extended care facilities that meet standards. 3)Determine need for more nursing homes through a specific study.	No answer.
8)Recommend establishment of more extended care beds on Oahu.	Physical disabilities.	X			X			S.A.V.R., D.V.R., D.S.S., D55, etc.	Base revision on exact study of needs. (As above.)	No answer.
9)Recommend that all hospitals be made architecturally accessible to the physically and visually handicapped.	Physical and visual disabilities.	X			X			S.A.V.R., D.V.R., D.S.S., medical community, hospitals and legislature.	Law requiring all hospitals have ramps, etc. (Present law applies to public buildings.)	Estimate $30.00 per square foot for installation of ramps.

Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10) Recommend the following personnel changes for medical and allied personnel in the provision of rehabilitation services in Hawaii so that all personnel will be aware of coordinated developments in the "rehabilitation field."	Needed for all medical and paramedical personnel; includes practicing physicians personnel in nursing homes and extended care facilities, for all disabilities.	X			X			All agencies having medical and paramedical personnel providing services in rehabilitation. S.A.V.R., D.V.R., D.S.S. should coordinate and assist in the provision of training	Each relevant agency should assign formal responsibility for developing a training plan, materials, and for conducting training to the head of the activity. Seek assistance of staff specialist in training where available.	Courses conferences, workshops, inservice training: $5,000 to $15,000 for local programs.
a) That all medical and paramedical personnel be made aware of rehabilitation needs, possibilities and techniques, with special emphasis on the early stages of disability of their clients. Computers to be utilized for these services.	All disabilities and all programs	X			X			Cooperative effort by S.A.V.R., D.V.R., D.S.S., B5, D22, D25, B3, private physicians and hospitals.	Courses, conferences, inservice training	(See #10 above.)

Medical Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10) b) Recommend increased personnel and paramedical staff be provided in extended care and nursing home care, i.e., psychologists, nurses, therapists, social workers, nurses in medical hospitals. Additional personnel would allow a reasonable client-counseling ratio to be maintained for all personnel involved.	All disabilities and programs.	X			X			All appropriate agencies, S.A.V.R., D.V.R., D.S.S.	1) Legislative provision. 2) Determine in conjuction with extended care and nursing homes.	Some Staff costs: Psychiatric Social Worker $8,900 Gr.2-3. Occupational Therapist $9,800 Gr. 3.
c) Recommend that adequate clerical staff be provided to support programs.	All disabilities and programs	X			X			All appropriate agencies.	Positions allocated to to rehabilitation support functions.	$3,000 per year.

Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	ESTIMATED COST
10) d) Recommend that pay schedules be made competitive with prevailing mainland standards.	All disabilities and programs	X			X			C4, B5, A5, S.A.V.R., D.V.R., D.S.S.	1) Add steps to Civil Service pay schedules, as determined by Personnel review in County, State, Private Nonprofit agencies. 2) Suggested legal requirement is that nursing homes, extended care facilities, general hospitals, etc. do employ certain specified personnel, at least on a specified limited basis, e.g., nursing home be visited in person by one M.D. one hour per week per 10 patients.	No answer.
e) Recommend a review of the personnel rendering health services and the provision of qualified personnel where needed for the rehabilitation aspects, ie., nurses are not now in the school program, although their services are available for private schools.	All disbilities and programs.	X			X			A1, A5, A11, B3, C1, D1, D13, S.A.V.R., D.V.R., D.S.S.	Assignment of staff to a statewide administrative revew by State Department of Personnel Services with statewide system administrative unit.	No cost

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10) f) Lack of trained medical and paramedical personnel; requires planned recruitment procedures coordinated in high schools and colleges.	All disabilities and programs	X			X			S.A.V.R., D.V.R., D.S.S., B5, all agencies.	Recommend that agencies assemble jointly their manpower requirements and work out a coordinated recruitment program, possibly under the leadership of the State Department of Personnel Services and the Statewide system administrative unit.	No cost. (or) Recruitment Personnel Coordinator, SR-24 $1,052.
g) An increased use of the "team approach" to increase the availability and utilization of specialists.	All disabilities and programs.	X			X			All agencies in cooperation with S.A.V.R., D.V.R., D.S.S.	Policy adoption within various agencies.	No cost.
11) Recommend extension of medical insurance coverage to include physical therapy, occupational therapy, speech therapy, etc., if possible. Need group health insurance for sheltered workshop clients.	Workshops and Mental Retardation	X			X			Private and public insurance firms; (e.g., H.M.S.A.); S.A.V.R., D.V.R.,D.S.S.	Formal provision of coverage as indicated. Some coverage available through some agencies; negotiate for standardized and comprehensive coverage.	No answer
12) Recommend that sufficient funds be included to provide appliances, such as emergency hearing aides and glasses, as deemed necessary for adult and juvenile offenders.	All disabilities, adult and juvenile corrections.			X			X	B1, B6, C5, etc. with S.A.V.R., D.V.R., D.S.S.	Request budgeted funds appropriations to be expended for appliances as determined by evaluation and diagnosis.	$125 to $350 per person

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
13) Recommend that auditory screening be made by medical doctors on all infants within the first six months.	Deaf	X			X			D11, D28, D40, all hospitals, etc.	Refer to Well Baby Clinics voluntarily and encourage pediatricians to screen, in a systematic manner. Eventual setting up of systematic manner. Eventual setting up of systematic screening through the Vocational Rehabilitation Community Services Center.	No answer.
14) Recommend preschool screening program with periodic testing and "follow-up" as needed.	All disabilities, special attention to Blind and Deaf.	X			X			All hospitals and health agencies.	Through health services portion of services to be provided in multi-disability centers; through existing facilities prior to this time.	No answer
15) Recommend auditory rehabilitation be made available to all those who need it.	Deaf	X			X			A3, D6, D15, B6, D30, C3, B2, B3, D45, B6, B7, B2.	Provision of additional funds and effective utilization of grants.	$15 per visit lip reading; $10 per hour group rate, plus cost of appliances.

Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
16) Recommend the use of uniform medical and other client records dealing with rehabilitation services.	For all disabilities and programs		X			X		All agencies providing services in rehabilitation in the State of Hawaii; coordinated by S.A.V.R., D.V.R., D.S.S., S.W.I.S.	Recommend the design and adoption of a uniform record system for rehabilitation, in conjunction with the State Information Service, with adequate safeguards being provided for the privacy of the individual. "Confidentiality of records" and "safeguards for privacy" to be built into the system.	Development of files: $150,000. Cost per information call 11 cents.
17) Recommend the establishment of appropriate coronary care units with well-trained personnel in hospitals, special attention to rural and neighbor island hospitals.	Heart and related conditions.	X			X			B3, B7, A11, D45, D37, D22, D25, all hospitals.	Since initial expenditure is high, funding or subsidy needs to be explored for facilities and equipment; combinations of funding, etc.	$5,000 per bed. 5-bed unit is $25,000 plus remodeling costs, etc.
18) Recommend special funds be established for coronary care equipment. Equipment is in a developmental stage, thus becomes obsolete in a few years. Special funding is necessary to keep equipment up-to-date.	Heart and related conditions.			X			X	S.A.V.R., D.V.R., D.S.S., all hospitals.	Hospitals and statewide system administrative unit, D.V.R., D.S.S. explore special grants and legislation.	No answer.

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
19) Recommend establishment of minimum standard for coronary care units, personnel, equipment, and related essential facilities (wherever such units exist).	Heart and related conditions	X			X			D22, D25, D37, All, S.A.V.R., D.V.R., D.S.S.	Recommend that minimum standards be investigated, as established by HEW national standards for hospitals, etc. Hospitals to standardize requirements for units.	No costs for review of national standards.
20) Recommend that all major hospitals provide cardiac work care units which should also include cancer and stroke work care units.	Heart, Cancer, Stroke and related conditions.		X			X		All major hospitals and relevant agencies; S.A.V.R., D.V.R., D.S.S.	Recommend that a feasibility study be made involving individual hospitals; and hospital associations (with appropriate funding).	$5,000 for study. Coronary or stroke unit $21,000.
21) Recommend the establishment of work evaluation units with adequate trained personnel.	Heart, Cancer, Stroke and related conditions.	X			X			All relevant agencies; S.A.V.R., D.V.R., D.S.S.	Recommend that a feasibility study be made relative to the establishment of all work evaluation units by D.V.R., in conjunction with relevant agencies (since this recommendation involves policy changes to provide for expansion of staff and services).	$5,000 for study.

066-28-0383

Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
22) Recommend the expansion of the homemaker program.	Heart, Cancer, Stroke and related conditions.		X			X		All relevant agencies, S.A.V.R., D.V.R., D.S.S.	Recommend that a feasibility study be made relative to the expansion of the homemaker program (since this recommendation involves policy changes to provide for expansion of staff and services). Combine with feasibility studies preceding.	$4,000/ homemaker.
23) Recommend identification and rehabilitation of dental problems for the general public at low cost; institute adequate preventive measures at public cost.	Special attention to economically deprived groups.	X			X			S.A.V.R., D.V.R., D.S.S. D41, B3, B7, B8, C1, B6, etc.	Establish identification of dental problems at low cost for the general public by regulation.	Dentist at $20.00 per hour.
24) Recommend that screening for medical and psychological problems and deficiencies needing rehabilitation be identified at certain "check points," i.e., a) Childhood: Preschool, ages 11 and 14, and senior year in high school.	All disabilities in the general population.	X			X			Phase I, seven decentralized diagnostic and evaluation units to be established with all relevant agencies by S.A.V.R., D.V.R., D.S.S.	1) Combine with adoption of a public information program to alert the public to the need for periodic checks beyond the school age group. 2) Emphasis to be combined with educational services for school age group. Both 1) and 2) to be coordinated by the Statewide (continued)	Medical and psychological screening and tests, approximately $250 per student.

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
24) b) Young Adult: Premarital examination and counseling; follow-up with military rejectee. c) Adult: Screening in 40-50 age range. d) Retirement: Periodic screening. Recommend that patient examination and periodic reevaluation be an accepted procedure.									(continued) System Administrative Unit, D.V.R., D.S.S. in conjunction with the comprehensive services to be provided through the Vocational Rehabilitation Community Service Centers.	
25) Recommend the establishment of a study referral center for "high risks" groups, mental retardation geared. a) Recommend the provision of appropriate public information on "high risks" groups, e.g., prevention, early treatment, rehabilitation. b) Recommend training about rehabilitation of all professionals who come in contact with children and adults, e.g., affected individuals or those in "high risks" groups.	All high risks; mental retardation; special attention to low income groups and retarded with multiple disabilities.	X			X			B3, B6, and other relevant agencies, in close cooperation with appropriate administrative tie-in with S.A.V.R., D.V.R., D.S.S.	1) Establish as a highly specialized Center for use in the State staffed by the appropriate agencies. All features to be tied into the statewide system by the Statewide system administrative unit, D.V.R., D.S.S. in cooperation with the Center. 2) Investigate possible availability of federal assistance up to 45%.	1) Estimate comprehensive diagnosis for adults and children $6-9,000 per patient. 2) Rehabilitation center cost $24-$38 per square foot, i.e., capacity up to 150 will have

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	ESTIMATED COST
25) c)Recommend that the Center have adequate testing techniques as indicated. Specialized screening services of the Center shall be readily available to all. Specialized services to be centralized; other services to be decentralized. d)Recommend the establishment of a central registry pertaining to all "high risks," e.g., affected individuals or those in "high risks" groups.										construction cost of $140,000. 3)operating costs of personnel $45,700. Equipment $18,000. Supplies $ 2,000. Miscellaneous $ 2,000. TOTAL $67,700. 4)Patient transportation $ 8,241. plus annual operating costs.
26)Recommend that legal safeguards be established for confidentiality which would allow the availability of records to physicians and other professional workers in need of them. Necessary for effective coordination of services.	All disabilities and programs.		X			X		S.A.V.R.,D.V.R. D.S.S., in cooperation with SWIS (statewide information system).	1)Build policy into proposed data system by statewide system administrative unit for basic and adequate procedures to safeguard privacy. 2)Legislative change that allows for sharing of records when safeguards have been established.	No cost.

Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
27)Recommend modification of medical requirements by employers of the handicapped.	All disabilities and programs; all employers.		X			X		S.A.V.R., D.V.R., D.S.S. in cooperation with the medical associations, Chamber of Commerce, and all companies. D19, D21, D54, etc.	1)Implement with further study and legislation to eliminate the burden placed upon employers who assume the risk of hiring handicapped, e.g., further authorized changes in Workmen's Compensation costs for employers. 2)Statewide System Administrative Unit, D.V.R.,D.S.S. get endorsement of a policy change by employers with handicapped individuals. Have general agreement by employers to utilize the uniform requirements.	No cost
28)Recommend the "filling" of all "gaps" in medical services (for rehabilitative purposes) as follows:		X			X			All appropriate agencies in conjunction with S.A.V.R., D.V.R., D.S.S.	Establishment of new positions and reallocation of staffs where possible to provide "core services" by departments and agencies in the seven decentralized areas.	As determined.
a)Gap in medical treatment for low income group, Oahu.	Special attention to alcoholics and drug addicts; low income group.	X			X			B8, B3, C1, D25, D22, etc.	Relevant agencies coordinate with statewide system administrative unit, D.V.R., D.S.S.	O.E.O. estimate is $140 per year per child General treatment only.

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
28) b)Gap in medical services for neighbor islands.	Hawaii, Kauai, Maui	X			X			All hospitals, B3, D55, etc.	Provide services in close alignment with Health and Hospital Planning Council.	No answer.
c)Gap in treatment of alcoholics at the Hawaii State Hospital.	Alcoholic	X			X			B6, B3, etc.	Support legislative request of Hawaii State Hospital; provide rehabilitative staff in hospital.	Treatment $10.50 per day per person.
d)Gap in medical "follow-up" care as relative to rehabilitative process.	Alcoholic and drug addict.	X			X			All hospitals and physicians in cooperation with B3, S.A.V.R., D.V.R.,D.S.S.	Core services to be appropriated by departments and/or agencies.	No answer.
e)Gap in psychological rehabilitation research.	All disabled groups.				X			B7, B3, Psychological Association, etc.	Recommend special research study on motivational research relative to internal agency attitudes and client responses.	$10,000 per year.
f)Gap in comprehensive rehabilitation services (i.e., medical, psychological, social, educational, and vocational) necessary to bring the mentally ill client back into society.	Mentally ill.				X			S.A.V.R., D.V.R.,D.S.S. with C1, C3, A1, A3, B2, B3, B6, D31, D39, D40, D44, D34, etc.	Implement with series of formal agreements and services for mentally ill.	No answer.

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Medical Rehabilitative Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
28) g)Gap in rehabilitation programs in quantity and quality of services at Hawaii State Hospital.	Mentally ill.	X			X			B30, B6	DVR initiate formal agreements with Hawaii State Hospital. Rehabilitation is part of the total program.	Estimate $50,000.
h)Gap in sufficient qualified and varied personnel in all agencies in the mental health area.	Mentally ill.	X			X			B3, D1, D34, A5, B5, C4, etc.	Individual agencies in cooperation with the statewide system to establish an in-service training program, using external resources and facilities as appropriate.	No answer.
i)Gap in number of care homes and boarding homes.	General		X			X		S.A.V.R., D.V.R., D.S.S., D55, etc.	Determine need as a supplement to the Vocational Rehabilitation Community Service Centers (study).	No answer.
j)Gap in quantity of services for the mentally ill in the general hospital, e.g., Tripler, Queen's St. Francis, Children's Hospital.	Mentally ill.	X			X			B3, D55, all general hospitals, S.A.V.R., D.V.R.,D.S.S.	Review, followed by a request for needed services from legislature and investigation of funding from various services.	No cost for review.
k)General shortage in psychological services and personnel in this area.	Psychological services for rehabilitation.	X			X			S.A.V.R., D.V.R.,D.S.S. B7, D9, D12, etc.	Establish a scholarship program funded at the federal or state level to promote vocational interest; elevate salary level to competitive. Investigate available funding.	No cost for review.

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E. PSYCHOLOGICAL REHABILITATION SERVICES

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
1)Recommend the availability of high quality psychological and psychiatric treatment services and "group therapy" as determined by psychiatric diagnostic testing and periodic evaluation procedures to include psycho-social assessment; be given to all individuals needing these services. Special attention is to be paid to the needs of special "problem" groups; e.g.. drug users, culturally deprived deaf and blind, etc.	All disabled; with special attention to disabled youth, adult and juvenile corrections, the aging, blind and deaf, heart, cancer and stroke, and workshop clients.	X			X	X		A1, A3, C3, B3, B6, B7, D7, D12, D36, D31, D40, D45, D44, E1, E4, E9, etc. S.A.V.R., D.V.R.,D.S.S.	1)Coordination of filling of "gaps" in services by the "administrative unit for statewide coordination" to provide psychological tests as appropriate be given to every juvenile immediately after adjudication, i.e., California Differential Diagnostic test, detailed additional testing and results be made available immediately. 2)That psychological and psychiatric treatment services be made available in all settings (jail, prison, probation, parole) for rehabilitation work, to be coordinated so that there is no duplication. 3)Pool and share agency resources.	No answer

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Psychological Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
2) Recommend the expansion of psychological-social services, in the pre-placement agencies, to include psychiatrists and psychologists. trained in rehabilitation functions. These professional personnel would study client's background, past experience, interests, and motivational level prior to sending the client to the employer.	All disabilities.	X			X			A1, A3, C3, B3, B6, B7, D7, D12, D36, D31, D40, D45, D44, E1, E4, E9, etc.	Implement by investigation of "pooling" of psychiatric and psychological specialists so that services are available in each of the seven catchment areas. Subsequent placement of positions in individual agencies for Phase I and in multi-disability centers for Phase II and III.	Psychiatrists at $23,000 per year; Psychologists at $15,000 per year
3) Recommend that psychological services be made accessible quickly with the avoidance of "lag."	All disabilities; special attention to low economic deprived and workshop clients.	X			X			S.A.V.R., D.V.R., D.S.S., with all agencies now providing services.	Statewide administrative unit, D.V.R., D.S.S. 1) Establish system to identify those in need of rehabilitation in industry, government, schools, etc. 2) Education of management to the need for psychological services.	No cost.

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Psychological Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
4) Recommend availability of psychological and psychiatric evaluation of psycho-social teams for families and individuals in neighborhood centers.	All disabilities		X	X		X	X	S.A.V.R., D.V.R. D.S.S., with all agencies now providing services	Establish systematic method to "share personnel" in neighborhood multi-disability centers. Psycho-social team: (1) Psychiatrist $20,000 (1) Psychologist 10,000 (1) Social worker 11,000 (1) Stenographer 6,000	Term cost: $43,000 per year if no existing pooled resources
5) Recommend that procedures to be used by private physicians in rehabilitation be established.	All physical, mental, and social disabilities.		X			X		D22, D25, B3, in cooperation with S.A.V.R., D.V.R., D.S.S.	Implement by tie-in with neighborhood multi-disability centers and central data bank statewide administrative unit, D.V.R., D.S.S.	No cost.
6) Recommend that adjudicated offenders be screened by a competent psychologist or social worker for referral for appropriate psychological examination.	Adult and juvenile offenders.	X			X			C5, B6, B7, B1, etc.	1) Implement by provision of psychological services to all intake agencies for adult and juvenile offenders. 2) Coordinate all cases with the Statewide system.	No answer.
7) Recommend that "Treatment Center for Narcotic Addicts and Alcoholics" be established in the State.	Alcoholics and Drug Addicts	X			X			C1, C3, B3, B6, B1, D39, D17, D31, D45, D44, D34, etc. with S.A.V.R., D.V.R., D.S.S.	1) Implement by support of current coordinated legislative request by Hawaii State Hospital, State Department of Health 2) Tie-in this specialized treatment center closely with all phases of the "statewide system for rehabilitation." D.V.R., D.S.S., and related agencies.	BlockAid project, out-patients as part of a major Hawaii State Hospital project

Psychological Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
8) Recommend that a public education program be devised to attempt to modify the "stigma" attached to handicapped former (mental) patients.	All disabilities, mentally ill, blind, etc.	X			X			Cooperative effort by all agencies providing services and/or information related to mental health, in coordination with S.A.V.R., D.V.R.,D.S.S.	Implement with closely coordinated effort of the central public relations program of the "statewide system for rehabilitation," D.V.R., D.S.S.	Variable.
9) Recommend that adequate information and referral centers be established for psychological services. a) At least one professional staff member at a known location in every community. b) One central telephone reference to be used when help is needed; similar to "suicide centers."	Mentally and emotionally disturbed.		X			X		Cooperative effort by all agencies providing services and/or information related to mental health, in coordination with S.A.V.R., D.V.R.,D.S.S.	Implement by appropriate "shared" staff and information system in Phase I, Central Diagnostic and Evaluation Centers in 7 designated locations.	No cost if personnel shared.

CCC-92-1000

Psychological Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10) Personnel Considerations:	For all conditions which would benefit from psychological rehabilitation.		X			X		B7, D12, D9, etc. in cooperation with the statewide system	Implement as a part of the proposed inter-disciplinary "Institute for Rehabilitation," cooperatively with all relevant University of Hawaii academic departments and other major private colleges.	No cost (use existing facility).
a) Recommend that a training curriculum be instituted at the higher education level which would train specialists in the area of "psychological rehabilitation" of the handicapped for employability.										
b) Recommend the provision of inservice training for administrators so that they can understand and properly utilize psychological services for rehabilitation.			X			X		A5, A6, A7, A10, B5, B7, C4, D13, etc.	Implement through: 1) Cooperative effort of all government levels of civil service, and 2) Assign responsibility for developing training plans and materials and the training to the head of the activity with assistance of staff specialist where available.	$1,500 per program.

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Psychological Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
c)Recommend an increase in the number of psychologists and psychiatrists available in private practice and to organizations, so that both treatment and follow-up services can be extended to geographic fringe areas; i.e., in educational, recreational, and other public agencies.	All disabilities where needed; special attention to geographic coverage.	X			X			B5, C1, C4, B3, B7. Psychological and psychiatric associations.	Initiate by implementation through personnel departments, professional associations, University of Hawaii, etc.	No cost.
d)Recommend a revision of the jobs of professionals and subprofessionals so that both will be better utilized.	For all professional jobs needed for rehabilitation in shortage categories.	X			X			B5, C4, A5, with all relevant departments, S.A.V.R., D.V.R., D.S.S.	Implement by having central management analysis staff conduct necessary study in cooperation with personnel management staff and with assistance of professional associations.	No cost.
e)Recommend the establishment of specialized "in depth" training, formal and in-service, for individuals in the counseling role in psychological services re: rehabilitation.	For all counselors in psychological services.	X			X			B5, C4, A5, with all relevant agency personnel.	Assign responsibility for developing training plans and materials and the training to head of the activity with assistance of staff specialist where available.	$3,400, 20-day course

Psychological Rehabilitation Services

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f) Recommend increased number of qualified personnel to provide personal adjustment and training services for adults.	All disabilities. Special attention to the blind.	X			X			A1, A3, C2, C3, B3, B1, B6, B7, D7, D12, D36, D31, D40, D45, D44, etc.	Implement by allocation of new positions; coordinate with statewide needs.	$50,000 minimum.
g) Recommend that the salary for technical and professional personnel be commensurate with the national level.	Personnel for all rehabilitation services.	X			X			B5, C4, A5, A6, A7, A10, D1, D13.	Implement by central personnel staffs conducting a salary study with subsequent appropriate revision action.	10% across-the-Board increase proposed
h) Responsibility for the school's role in rehabilitation within the school system should be with every teacher. Each teacher to act in an "aggressive case finding" capacity.	All disabilities in the school-university setting.	X			X			B2, B7, D8, D9, D12, etc. (all public and private schools).	Implement by the systematic allocation of responsibility to schools and administrators with follow-up as determined by the statewide system for rehabilitation of all personnel in the school and higher education system	No cost.
i) Recommend that the higher education curriculum be evaluated to determine whether there is enough emphasis on rehabilitation of the handicapped.	Curricula in medical-health, psychology, social work, education, adult-continuing education.		X			X		B7, D9, D12, in cooperation with S.A.V.R., D.V.R., D.S.S.	Implement in coordination with recommendation on establishment of "Institute for Rehabilitation at University of Hawaii."	No cost.

Psychological Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	ESTIMATED COST
j) Recommend the development of training programs for subprofessional staff who work directly with clients.	Curricula in medical-health, psychology, social work, education, adult-continuing education.		X			X		A5, A6, A7, A10, B5, C4, D1, D13, etc.	Implement by assigning the responsibility of developing training plans and materials and training to head of activity with assistance of staff specialists.	$26.00 per day for session.
11) Research Recommendations:										
a) Recommend research to develop more valid psychological tests for special disability groups.	All disabilities; special attention to the blind.	X			X			All agencies serving the disabled in research or psychological services. A1, B7, B3, D34.	Implement by obtaining of research grants by individual agencies to develop psychological tests.	$5,000 to research psychology tests.
b) Recommend the research development of psychological tests which will be based upon cultural and environmental differences with aim to eliminate "middle-class testing bias."	Psychological tests for diagnosis and evaluation for use with all disabilities.	X			X			All agencies serving the disabled in research or psychological services. A1, B7, B3, D34, etc.	1) Implement by establishing interagency "functional" responsibilities for rehabilitation research-personnel, funding, program priorities in cooperation with the statewide system for rehabilitation. D.V.R.,D.S.S. 2) Develop tests as indicated.	No costs with existing personnel. Investigate available research grants.

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Psychological Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COSTS
c)Research on methods to re-orient the thinking of workers, employers, and professional personnel to the displacement of middle-age workers by technological change. Motivation and re-orientation is necessary.	Aging; all disability groups.		X			X		All agencies serving the disabled in research or psychological services. A1, B7, B3, D34, etc.	1)Implement by obtaining of research grants by individual agencies to develop psychological tests and methods. 2)Apply research.	1) Investigate available research grants
d)All relevant research should be made available for "application" purposes.	All aspects of rehabilitation.	X			X			B7, B5, C4, A5, etc. in cooperation with S.A.V.R., D.V.R.,D.S.S.	Implement by direct training sessions, classes, conferences, etc. to "bridge the gap" between research and application.	No cost to minimal cost.

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F. SOCIAL REHABILITATION SERVICES

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
1) Recommend that federal statutes be amended to permit welfare clients to retain a percentage of their earnings, without affecting the welfare grants.	All welfare clients in sheltered and other settings.	X			X			B6, SAVR., DVR., DSS.	Implement by liberalization of current federal statutes.	No cost.
2) Recommend that shared social work and counselor positions, focused on the needs of special groups, be provided for all in decentralized multi-disability centers except in cases where workload volume or location might justify individual agency positions.	All disabilities, but special attention to aging, deaf and blind, and low economic disabled.		X			X		Primarily SAVR. DVR., DSS. in cooperation with A1, A3, C1, C5, B2, B3, B1, B6, D4, D6, D7, D10, D24, D16, D17, D27, D41, D30, D31, D34, D39, D32, D44, D42, D49.	Focus on need in VRCSC for social work positions which will be "jointly funded" and "shared" positions; as part of a team approach. After this comprehensive coverage is met, individual positions in agencies should be investigated, without overlap in services.	Personnel, SR-18 Social Worker-$8,200 per year
3) Recommend increased retirement benefits in relation to the escalated cost of living.	For all disabled and handicapped groups.	X			X			State retirement system, city, insurance companies, etc.	Implement by action with governmental agencies and appropriate insurance companies, after a study to determine escalated cost ratio and current rates for the handicapped.	$5,000 study.

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Social Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
4)A better geographic distribution of recreation centers and forums so that the social needs of special groups will be resolved. This is currently related to the barrier of transportation.	All disabled; with special attention to the aging.	X			X			SAVR.,DVR., DSS., C2, B2	1)Implement by stressing recreation as social therapy for specialized disability as needed geographically throughout the State; possible satellite locations. 2)Recommend legislation so that a school bus subsidy will be put into effect for the purpose of transporting all handicapped for rehabilitation diagnosis and treatment and to recreation centers.	No answer.
5)Recommend that all personnel providing "counseling" in rehabilitation services should be specialists on a masters or doctoral level in their own areas, e.g., correctional, aging, etc.	Upgrade personnel for all programs for all disability groups.		X			X		B5, C4, A5, etc.	1)Implement by establishing uniform standards in conjunction with line personnel of quality for all aspects of rehabilitation services; these should be based on national criteria. 2)Budget increases as indicated. 3)Civil Service changes in classifications as indicated.	No answer.

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Social Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
6) Recommend that additional funds be appropriated through budget increases to fulfill the required standards for quality in all government and private agencies.	General support for staff for all disability groups.	X			X			SAVR., DVR., DSS., C4, B5, A5, D1, D13, Professional ASSHS., and member agencies	1) Implement by establishing uniform standards in conjunction with line personnel to qualify for all aspects of rehabilitation services; these should be based on national criteria. 2) Budget increases as indicated. 3) Civil Service changes in classifications as indicated.	No answer.
7) Recommend that agencies providing rehabilitation counseling, review their programs to determine what tasks can be provided by subprofessional level personnel; (special attention to) broader responsibilities for case aides and other subprofessionals not involving intensive service contracts.	To better service all disabilities.	X			X			SAVR., DVR., DSS., A5, C4, B5, D1, D13, etc.	To be coordinated with the "shared services emphasis" of the total statewide system. Implement by a statewide standardized determination of subprofessional levels of counselors feasible; appropriate civil service and legislative changes.	No cost.

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Social Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
8)Recommend that the University of Hawaii schools awarding advanced degrees in the various disciplines providing rehabilitation services review their total curriculum toward the determination of what courses should be shared "in common" re: rehabilitation.	Curriculum for all disabilities.	X			X			B7, SAVR.,DVR. DSS.	1)Tie-in with functions of the recommended interdisciplinary Institute for Rehabilitation. 2)Recommendation will provide the basis for core courses in rehabilitation for all students. Attention to credit; non-credit.	No cost.
9)Recommend that specifically in the social services, the University should assume initial training responsibility in the programs which provice advance degrees for: a) inter-professional communication b) development of sufficient skills in communicating with clients of all racial, cultural, class groups.	Social Services with special attention to the social service needs of all special disability groups.	X			X			B7, A5, B5, C4, D1, D13, etc.	1)Develop research applications and professional credit and non-credit curricula geared to social services needs. 2)Fill the "gap" between research and practical application of principles relating to communication with clients and their families. 3)All counties to get auxiliary training services.	No cost.
10)Recommend that social services be available to all those who require it. (Casework, group work, welfare, etc.)	General support for all disabilities.	X			X			B6, A5, C4, etc. All public and private agencies providing social services to cooperate with S.A. VR.,DVR.,DSS.	1)General statement of endorsement for "quality" and "quantity" of services in social services, relating to public and private agencies. 2)Implement first by the "shared staffing" in comprehensive social services of the VRCCS. 3)See also Recommendation #11.	No answer

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Social Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
11) Recommend the system be adequately staffed with itinerant social work pool. Members will provide social work services to implement the rehabilitation process, through assignment to a federal, state, city and county, private non-profit agency.	All disabilities, and settings.	X			X			All public-private agencies providing social work services. SAVR., DVR., DSS.	After attention to staffing of Vocational Rehabilitation Community Service Centers, provide itinerant social work teams to serve geographic areas and agencies which are remote. (Special attention to workshops.)	No costs if resources are "shared."
12) Recommend coordination of leisure time and recreational activities of the handicapped in relation to the rehabilitation process; integration of recreation as a support service as "therapy" and as reintroduction to social life.	All disability groups. Attention to general recreation and hospital settings.	X			X			SAVR., DVR., DSS., C2, C1, D11, D13, D1, D22, D23, D25, D28, D29, D31, D33, D40, D41, E1, E3, E4, E5, E7, E9, E10, etc.	1) Should be implemented by all agencies who have, or could develop, recreation programs for the handicapped (public-private). 2) Attention also to hospital and rehabilitation programs in inpatient settings in which recreation can be used as therapy. 3) Coordinate with "Vest-pocket Park System" of City and County of Honolulu.	No costs if no new staff needed. $50,000 statewide would provide step in recreation facilities.
13) Recommend obtaining qualified social workers to provide early guidance to parents of visually handicapped children.	Visually handicapped.	X			X			B6, D13, SAVR., DVR., DSS., etc.	Implement by the provision of a program for parents of handicapped children; stress on orientation to the total life focus of the individual youngster, in developmental stages.	Social worker, SR-18, $8,200.

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Social Rehabilitation Services

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14) Recommend more inservice training for social workers geared to the needs of the economically deprived, i.e., skills in observation; low income culture; child-family relationships.	Economically deprived; all disabilities.	X			X			S.A.V.R., D.V.R., D.S.S. B7, B9, B12, etc.	1) Development of "target oriented" plans for special disability groups. 2) Devise "inservice training" for professional groups to these special groups.	$26.00 per day.
16) Establish coordination between local draft boards and the established Vocational Rehabilitation Community Service Centers for referral in rehabilitation.	Medical and mental rejectees.	X				X		A2, S.A.V.R., D.V.R., D.S.S.	Implement with formal contractual agreements on a statewide basis between S.A.V.R., D.V.R., D.S.S. and the State Headquarters, Selective Service System.	No cost.
17) Recommend that a 24-hour service to which referral may be made to handle emergency psychiatric cases.	Mental and nervous conditions.	X			X			S.A.V.R., D.V.R., D.S.S.; D34.	1) Implement by additional services to handle 24-hour emergency out of the seven Vocational Rehabilitation Community Service Centers. 2) Refer to the basic plan on Mental Health, State Department of Health	Staff Psychiatrist @ $19,000 per year on call.
18) Recommend that adequate numbers of specialized trained social work staff and case aides be provided to work with the mentally ill, alcoholics, and drug addicts, in all appropriate agencies to do with rehabilitation services (federal, state, city and county, private non-profit).	Mentally ill, alcoholics, and drug addicts.	X			X			S.A.V.R., D.V.R., D.S.S. and all relevant agencies.	1) Need to be determined after "shared staffing" patterns of agencies have been coordinated. 2) Implement with budget (public-private) and legislative action.	No initial cost.

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Social Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
20)Recommend that inservice training about rehabilitation be given to all personnel working with drug addicts and alcoholic patients.	Drug addicts and alcoholics.	X			X			S.A.V.R., D.V.R., D.S.S. and all relevant agencies.	All program chiefs review the necessary current standards for inservice training to be given to all personnel.	$26.00 per day.
21)Recommend that social services be established in all general hospitals.	All disabilities	X			X			All general hospitals, S.A.V.R., D.V.R., D.S.S.	1)Recheck policy and current status of social services in general hospitals. 2)Establish contact between the patient and the Vocational Rehabilitation Community Services Centers.	$10,000 per hospital.
22)Recommend that better coordination be established between hospitals and outpatient clinics.	All disabilities	X			X			S.A.V.R., D.V.R., D.S.S. All hospitals and clinics.	Implement by formal coordination and channels to be established between hospitals, outpatient clinics, and the Vocational Rehabilitation Community Services Centers. Use of uniform records system.	No cost.
23)Recommend that mentally ill patients have full social work services in the outpatient clinic setting in order to facilitate closer work with patients and families.	Mentally ill.	X			X			All relevant agencies in coordination with the statewide system.	Implement by close attention to social services to mentally ill patients and their families, working out of the Vocational Rehabilitation Community Services Centers.	No answer.

104 1012

Social Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
24)Recommend that procedures be instituted for the assessment of the clients' readiness for job placement. a)Clients' attitudes toward employment. b)Clients' physical condition as related to their skills and training needs. c)Clients' overt and covert motivations.	All disability groups	X			X			S.A.V.R., D.V.R., D.S.S. with all relevant agencies.	Establish uniform function for this phase of follow-up evaluation. Procedures for assessment be administered as part of the follow-up of the diagnostic evaluation process for the cycle of services given to each individual.	2,850 cases per year: $115,000. 5,860 cases per year: $230,000
25)Recommend assessment of the clients' social status, family, and economic position re: rehabilitation factors. (Areas to be included: can family provide transportation for the handicapped client to work; does the family need the client's income; assessment of the family attitude and economic situation during the pre-placement process; assessment of the client to engage in community activities geared toward social adjustment.)	All disability groups.	X			X			S.A.V.R., D.V.R.,D.S.S. with all relevant agencies.	1)Evaluation services to be available to all of the population groups in that geographic area through the Vocational Rehabilitation Community Services Centers' "shared services." Social, family, and economic status to be a part of this profile, as basis for "tailored" program. 2)Implement by uniform policy re: assessment procedures.	No cost.

PI-01013

Social Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
26) a) Recommend that "psycho-social history and family study" be conducted on each juvenile case (juvenile corrections). b) On the basis of the "psycho-social history and family study," conduct any additional community investigations necessary. c) On the basis of findings, prepare an initial report with recommendations.	Special attention to juvenile corrections; consider for all disabilities.	X			X			S.A.V.R., D.V.R., D.S.S., B1, B6, C5, etc.	Implement by a tri-partite approach to that aspect of evaluation. 1) in depth by the Court 2) by worker in juvenile detention 3) in Vocational Rehabilitation Community Services Centers where follow-up is indicated.	No cost.
27) Recommend the establishment of social work positions in the law enforcement agencies, city and state, and an increase in present social work positions in all correctional agencies.	All disability groups. Special attention to correctional agencies.	X			X			B1, C5, B6, S.A.V.R., D.V.R., D.S.S.	Allocation of positions and the appropriate filling of those positions in institutional settings. Special attention to courts, jails, correctional institutions, caseload ratio in conformance with appropriate standards for corrections agencies.	Social Worker SR-18, $8,200.
28) Recommend the upgrading of the salary level of social workers to attract qualified personnel to fill the positions.	In all programs.	X			X			B5, C4, D1, D13, A5, B6, etc.	1) Determine appropriate level according to competitive standards. 2) Implement with legislation	No answer.
29) Recommend the provision of social services in general in the appropriate agencies for persons committing minor crimes.	Adult and juvenile offenders	X			X			B6, C5, B1, etc.	Special attention to social workers' knowledge of corrections. Provide services for the family as well as for the client.	No cost with shared services.

1014

G. EDUCATIONAL REHABILITATION SERVICES

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
1)Recommend that supportive services be provided within the school in development of curriculum for rehabilitation and counseling, i.e., clerical, data collecting, testing, etc., with professional support services for "follow-up" functions.	All disabilities	X			X			SAVR., DVR., DSS., B2, B7, D8, D9, D12, B6, etc.	Implement by State Department of Education and private school policy formalization for adequate support services and the development of cooperative standardized procedures relative to testing, data collection, professional follow-up functions, etc. in cooperation with the Vocational Rehabilitation Community Services Centers.	No answer
2)Recommend that schools be provided with minimum staffing; then that additional services be provided on a need basis. Rehabilitation counselors be assigned to work with all grade levels of public-private schools.	All disabilities	X			X			SAVR., DVR., DSS., B2, B7, B6, D8, D9, D12, etc.	1)DVR., DSS. counselors be assigned to work with the schools through formal contractual agreement. 2)Minimum support staffing in other areas should be provided to the schools on the basis of their own determination of needs.	No answer
3)Recommend that public schools and higher education provide special educational counseling services in residential institutional settings, as well as their own setting.	Special attention to the adult offender.	X			X			B2, B7, D9, D12, D43, etc. SAVR., DVR., DSS.	Implement by investigation of residential setting needs for educational counseling. Special attention should be paid to corrections institutions, long-term care institutions including hospitals and care homes.	No cost

01015

Educational Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
4)Recommend that subprofessionals be utilized for rehabilitation in the schools in such areas as social work, counseling, testing, record keeping, information giving; so that professionals can be better utilized for more severe cases. Establish formal ratio of professionals to subprofessionals. In addition, that teacher aides and volunteers be obtained to support teachers.	To support all disabilities.		X			X		A5, B5, C4, D1, etc. with SAVR., DVR., DSS.	1)Implement with a policy study to determine needed subprofessional categories in the five major rehabilitation services, health-medical social services, educational services, psychological services, vocational placement services. 2)After categories are determined, implement by appropriate civil service action on local federal, state, and city and county levels. 3)Legislative implement and distribution of staff where necessary for adequate support.	Study no cost. Staff example: Teacher Aide (SR-7) $5,000 per year.
5)Recommend a smaller teacher-pupil ratio be instituted in economically deprived areas.	Low income groups with physical, mental, and special handicaps.		X			X		B2, B7, B8, etc.	1)Implement by examination of teacher-pupil ratios and standards in low income groups on the mainland, to use as an initial basis for Hawaii consideration of standard. 2)Institute proper policy.	No answer

0104016

Educational Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
6)Recommend subsidized allowances for tuition and other school expenses for the training and retraining of adults and minors in need of educational rehabilitation; liberal arts or vocational training.	Special attention to offenders prior to parole, low income disabled, mentally ill.		X			X		B2, B7, D8, D9, D12, etc. SAVR., DVR., DSS.	1)Implement with legislation for subsidized tuition allowances to be administered by the appropriate departments in the University, City, State, and federal government. 2)Attention to all those in need of follow-up rehabilitation services, currently employed, and as a regular scheduled part of the rehabilitation of those in need of educational rehabilitation services.	Variable by course
7)Recommend the upgrading of educational standards and methods for development of adult and children's special disability groups in order that they may develop to their full potential. a)develop special educational programs and services for students with special educational problems with public and private schools.	Special attention. Individual Group Counseling, Vocational training, curricula for the multiply-handicapped	X			X			B2, B7, D8, D9, D12, etc. SAVR., DVR., DSS.	1)Investigate need for further liberalization of federal categorical grant restrictions. 2)Upgrade the "quality and quantity" of educational services for all special disability groups through analysis of their particular needs in that school population and a "tailoring" of the special education classes to those groups. 3)Develop innovative research on curriculum and program.	No answer

1016-1017

Educational Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
7) b)Develop innovative curriculum and program for the special needs of the handicapped adult and child, e.g., special attention to the emotionally disturbed dropouts, etc.										No answer.
8)Recommend the provision of preschool programs for children with multiple disabilities who are unable to be integrated into the regular preschool program.	Special attention to blind and deaf; counseling programs	X			X			B2, B7, B3, etc. SAVR., DVR., DSS.	1)Legislation to establish preschool programs as noted, after: a)Determination of client populations through the State using the Statewide plan statistics as a base. b)Provision of transportation and funds as necessary.	No answer.
9)Recommend that physical restorative services (therapy) be provided in the school setting wherever necessary and feasible.	Physical disabilities		X			X		SAVR., DVR., DSS. in cooperation with public-private schools. B2, B7, D8, D9, D12, etc.	Integrate therapy into the school program for children after initial "diagnosis and evaluation" by the Vocational Rehabilitation Community Services Center team.	Staff costs: (1)Speech-hearing therapist ½ + = $744/month. (1) O.T. ¼ + = $643. (1) P.T. ¼ + = $643.

Ohio-1018

Educational Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10)Recommend the establishment of a screening, identification referral, and follow-up service in rehabilitation, beginning on the primary level.	All disability groups.	X			X			All schools, in cooperation with the V.R. C.S.C. B2, B7, D8, D9, D12, etc. SAVR., DVR., DSS.	Implement through attention to the screening and evaluation of primary level youngsters, as a regular procedure, in the Vocational Rehabilitation Community Service Centers.	No answer.
11)Recommend that full-time classes, day and evening, credit and noncredit, be made available for handicapped adults.	Special attention to all special disability groups, i.e., adult deaf, etc.	X			X			SAVR., DVR., DSS., B2, B7, D8, D12. etc.	1)Implement through the provision of classes, credit and noncredit, for handicapped adults. Attention to the geographic availability of instruction through authorized institutions, e.g., Community College system, State Department of Education, etc., etc. 2)Determination of classes needed to be made by the Vocational Rehabilitation Community Services Center. 3)Consideration of tuition subsidy.	$35.00 per year per person.
12)Recommend implementation in the Community College System of a comprehensive program of guidance and counseling services with special attention to the needs and training of the handicapped; special provisions be made for services for special disability groups in community college level.	All disabilities. Special attention to blind and deaf and clients in workshops and facilities.	X			X			B7 in cooperation with the SAVR., DVR., DSS.	Provide Community College counseling services to the handicapped. Special attention to specific disability populations in: a)the general credit student population b)the noncredit student population c)assistance with inservice training.	Staff cost: Counselor @ $7,000 per year.

0501-1019

Educational Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
13) Recommend the establishment of available adult education resources where basic skills can be learned, in higher educational public and private institutions; provision for liberal arts training for adults.	For all disabilities, special attention to blind and deaf, and sheltered workshop clients.		X			X		B2, B7, D8, D9, D12, D43, D18. B5, A5, C4, etc. SAVR., DVR., DSS.	Implement by the provision of liberal arts training for handicapped adults. 1) Determination of the basic needs in liberal arts training in cooperation with the Vocational Rehabilitation Community Services Center. 2) Civil Service Departments, federal, state, and city, implement with appropriate educational institutions for provision of inservice training.	No cost
14) Recommend adequate counseling services be provided for adult education-continuing education programs so that adults and teenagers can be educationally rehabilitated and retrained new vocations.	Special attention to mentally ill outpatients, alcoholics, and drug addicts.		X			X		B2, B4, B7, D8, D9, D12, etc. SAVR., DVR., DSS.	1) Necessary initial identification of ongoing groups in the population in need of training and retraining for new vocations. 2) Provision of such training in geographically available locations.	Staff cost: Counseling @ $7,000
15) Recommend greater flexibility in entrance requirements for the handicapped in colleges, universities, and vocational schools, i.e., provisional arrangements.	For all disabilities. Special attention to low income disabled.		X			X		B2, B7, D8, D9, D12, D43, etc.	a) Implement by a re-evaluation of entrance requirements and standards of performance of the handicapped in all educational institutions. b) Proceed with policy changes necessary.	No cost

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Educational Rehabilitation Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	ESTIMATED COST
16) Recommend development of special education for all multiply-handicapped children who can attend school (public-private), regardless of numbers.	All multiply handicapped. Special attention to the blind and deaf, and the mentally retarded.	X			X			B2, B7, D8, etc. SAVR., DVR., DSS.	1) Screen children initially through Vocational Rehabilitation Community Services Center. 2) Identify and tailor a program for the individual to include the multiply-handicapped child.	No answer
17) Recommend an organized education program for parents of disabled children, e.g., family counseling and guidance.	All disabilities; special attention to blind and deaf and orthopedic disabilities.	X			X			SAVR., DVR., DSS. B2, B3, B8, B10, etc.	Information program for parents of disabled children to be conducted as part of the statewide system approach.	No cost
18) Recommend provision for quantity and quality of educational and vocational services in all rehabilitation agencies, as applied in a coordinated way to the "tailored" needs of the individual.	All disabilities. Special attention: mentally ill.	X			X			SAVR., DVR., DSS. B2, B7, D8, D9, D12, etc.	a) Implement with tie-in to the central data system in coordinated comprehensive diagnosis and screening. b) Services to be provided within each catchment area as needed.	No answer
19) Recommend that work activities, occupational skills, be incorporated into the special education program.	All disabilities.	X			X			SAVR., DVR., DSS., B2, B7, D8, D9, D12, etc. (Special Education Departments).	Implement with inclusion of work activities with occupational education skills in the regular special education program of public and private schools.	Costs determined by % participating (federal funding)

10201

H. VOCATIONAL SERVICES

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
A. PRE-PLACEMENT SERVICES 1) a) Both skill training and work assessment be expanded for the handicapped. Suitable training opportunities which are skill oriented should be provided in the appropriate agency for the non-college student. (Ratified by two/third committee vote.) (Alternative Recommendations.) b) Both skill training and work assessment be expanded for the handicapped. Suitable training opportunities which are skill oriented should be provided in the State Department of Education schools for the non-college student. (Ratified by one/third committee vote.)	All disabilities		X			X		S.A.V.R., D.V.R., D.S.S. A5, C6, C4, C5, B2, B3, B1, B4, B6, D15, D27, D41, D30, D31, D39, D44, E2, E13, E11, E14, E6, E4, E3, etc.	1) Recommend implementation by the identification of suitable skills methods for training the various types of handicapped. Institute these methods. 2) Work assessment should be expanded in all counties as a part of their responsibility.	No cost.

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
2) Recommend that training of the handicapped be carried out in industry or business whenever feasible, to provide more realistic training.	All disabilities. Special attention to workshop programs, and blind and deaf.	X			X			S.A.V.R., D.V.R., D.S.S. D15, D30, all workshops on neighbor islands.	Implement a program for paying employer during the period of training, to cover salaries and other costs. This should be given consideration.	No cost to $2,000 per person average, maximum 26 weeks
3) Recommend the development of a dynamic prevocational and vocational program in the public schools, colleges, and community college system to accommodate the handicapped; also, on-the-job training and other vocational training classes be provided to juveniles.	All disabilities. Special attention to juveniles	X			X			S.A.V.R., D.V.R., D.S.S. B2, B7, D8, D9, D12, etc.	1) Investigate existing laws restricting teaching by aging and amend. 2) Implement by a curriculum revision in the public and private schools, and the community colleges to accommodate the various groups: a) credit handicapped students b) non-credit	No cost
4) Recommend the systematic development of more jobs for handicapped special groups, e.g., economically deprived, aging, etc.	All disabilities. Special attention to economically deprived, aging.	X			X			S.A.V.R., D.V.R., D.S.S. B4, B11, B12. All government and industry personnel departments, etc.	Long-range recommendation dealing with the economic development of the State. Attention to total employment of the handicapped, i.e., vendors.	No cost
5) Recommend greater availability of counseling and other professional vocational services for all of the disabled.	All disabilities.		X			X		S.A.V.R., D.V.R., D.S.S. with all relevant agencies	Implement by review of total professional service to the handicapped, without overlap, by 1975. Reinforce needs in relation to the Vocational Rehabilitation Community Services Centers.	No answer.

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Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
6)Recommend that further study be authorized relative to the provision of incentives for employment.	All disabilities. Special attention to blind and deaf, mentally ill.	X			X			S.A.V.R., DVR., DSS. Coordinate study with government and industry personnel departments. A5, A6, A7, A10, B5, C4, D1, D13, etc.	After study, implement with the necessary legal changes. Areas of investigation to include: a)Raise ceiling on the amount a handicapped person can earn before reduction of benefits. b)Encourage lump sum payments of compensation benefits when such payments will help the individual to become self-supporting. c)Legislature consider allowance for a "period of adjustment." This is basically a period in which unemployment compensation could be paid during a gradual return to work, thereafter accompanied by a gradual reduction of compensation.	$15,000
7)Recommend that some of the financial incentives to the individual, which impede vocational rehabilitation, be re-evaluated to remove motivational barriers, e.g., Workmen's Compensation, Social Security benefits, etc.	Related to all disability groups.	X			X			S.A.V.R. DVR., DSS.	Implement by a review of financial and other "incentives" for employment. Should be tied-in with the recognition of the deletion of incentives which impede services by acting as a deterrent.	No cost. Absorb in SAVR., DVR., DSS.

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Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
8)Recommend establishment of systematic communications channels among rehabilitation counselors, employers, and schools	All programs.	X			X			SAVR., DVR., DSS. A part of the statewide system.	Formalize through contractual agreements, policy, and personnel internal adjustments required to foster interagency coordination to be carried out through other necessary channels by the central administrative unit.	No cost
9)Recommend establishment of an in-depth assessment of interests and motivations of clients in pre-placement agencies. Recommend that demonstration, counseling, standard vocational interest and aptitude tests, be given where appropriate.	All disabilities. Special attention to juveniles and workshop clients.		X			X		SAVR., DVR., DSS. All workshops and agencies involved in pre-placement services in vocational areas.	a)Expansion of workshop facilities with emphasis on providing skills, as needed. b)Expansion of workshop facilities in various industries to train the handicapped, as needed. c)Investigate need for institutionalized assessment for juveniles.	$100 per client X $1,500 (sheltered program) = $15,000 + 69,000 skill-training =$180,000
10)Recommend that handicapped employees be encouraged to fully utilize on-the-job training during working hours and after working hours; accomplishment of this to be supported through tax laws, subsidies, etc.	Personnel throughout the cycle of services for rehabilitation, health-medical, psychological, social, educational, and vocational services.	X			X			SAVR., DVR., DSS., and all federal, state, city departments having handicapped employees.	1)Identification of relevant policy to encourage selected inservice training. 2)Provision of appropriate training on-the-job, to be determined by cooperation between the various personnel officers and the SAVR., DVR., DSS.	Variable by course

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
11) Recommend that arrangements be made to send a standardized resume about a client in advance to an employer.	All disability groups.	X			X			SAVR., DVR., DSS.	1) Design a standardized resume with all agencies. 2) When client has been rehabilitated and is ready for placement, the standardized resume should be sent in advance to possible employers, with permission of applicant.	No cost.
12) Recommend that a separate placement agency be put in charge of coordination, referral, placement of the handicapped, with job vacancies to insure that the proper person be fitted into the right job.	All disability groups.	X			X			A5, C4, B30, B1, B4, B11, etc., closely coordinated with statewide system through SAVR., DVR., DSS.	Implement by: 1) further identification of the role of the existing advisory and placement agencies. a) Governor's Committee on Employment of the Handicapped b) State Department of Labor c) U.S. Civil Service Commission, etc. d) State and City Personnel Departments; 2) coordinate placement as a statewide function between the proposed placement agency, the SAVR., DVR., DSS., and the Vocational Rehabilitation Community Services Centers.	No cost.
13) Recommend the development of more selective placement positions for handicapped individuals in competitive employment.	All disabilities.	X			X			SAVR., DVR., DSS., and all public-private employer groups.	1) Implement by survey and earmarking of selective positions within agencies. 2) Orientation of personnel and supervisors to the follow-up phases of the rehabilitation process.	No cost.

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
14) Recommend the re-education of private employment agencies concerning the availability and capability of the handicapped workers.	All disabilities	X			X			Joint effort by B4, B11, B12, etc., and SAVR., DVR., DSS.	Implement by a workshop or meeting of private employment agency placement specialists, re: orientation to the capability of the various types of handicapped workers.	$3,000
15) Recommend the development of "joint" programs and projects (federal, state, city and county, private non-profit) to bridge-the-gap in services.	All programs.	X			X			SAVR., DVR., DSS. All agencies.	1) Develop "joint" responsibility for programs, research, projects, facilities, inservice training, funding, etc., wherever possible to conserve human and financial resources. 2) SAVR., DVR., DSS to coordinate applications, etc.	No cost
17) Recommend the development of a State or Federal project, similar to Job Corps, for the training of the mentally retarded.	Mentally retarded		X			X		B4, etc. SAVR., DVR., DSS., etc.	Recommend an innovation grant for the development of this "Job Corps type" project.	No answer
18) Recommend that a register of older persons with specialized skills be maintained, to be drawn upon for training and teaching positions.	Aging	X			X			SAVR., DVR., DSS., with cooperation of C6, B9, etc.	1) Implement special register as part of the centrally coordinated job placement service. 2) Policy and legal changes related to age regulations must be implemented for those services to be drawn upon.	No cost
19) Recommend that existing agencies and committees include an emphasis on the aging, e.g., President's and Governor's Committee for the Handicapped.	Aging emphasis with all other disabilities	X			X			All agencies, SAVR., DVR., DSS.	Implement with special attention to the over-45 year age group by all agencies concerned in program and services.	No cost

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
20)Recommend that unions be more involved in educational programs related to the hiring of the older person over 45 years of age.	Aging.	X			X			D3, D56, D50, D26; SAVR., DVR., DSS.	Recommend reconsideration of Policy change to the unions; with particular attention to the utilization of older persons in "shortage" categories.	No cost.
21)Recommend that employers be educated to the value of hiring the older individual through all communications media and person-to-person contacts.	Aging.	X			X			B9, C6, SAVR., DVR., DSS.	1)Special attention to job shortage categories by employers. 2)Provide also the retaining or upgrading of skills of individuals.	No answer.
22)Recommend that specialized personnel responsible for job placement and skill training (for the aging) be centralized within each agency.	All disabilities; special attention to aging.	X			X			All agencies, in coordination with the statewide system.	1)Referral of handicapped clients by contact person in agency to Vocational Rehabilitation Community Services Centers if handicapped. 2)If not handicapped, refer directly to placement agency.	No cost
23)Recommend expansion of facilities and personnel for pre-vocational training.	All disabilities.	X			X			SAVR., DVR., DSS., and relevant agencies.	1)Implement by determination of what resources can be "shared"; then what "gaps" occur. 2)Provide minimal core services at various geographic locations.	No answer
24)Recommend development of a "portable" pension plan.	To benefit all persons employed in vocational rehabilitation cycle of services		X			X		Government retirement systems.	Investigate feasibility of reciprocal benefits between levels of government re: pension plans.	No answer.

1028-120-10SA

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
B. PRIVATE EMPLOYER PLACEMENT SERVICES										
1) Recommend the obtaining of a "Philosophy on social responsibility" from qualified companies and unions, to accept the hiring of the handicapped.	All disabilities		X			X		D19, D54, D21, D26, D3, D56, D50, etc., SAVR., DVR., DSS.	S.A.V.R., D.V.R., D.S.S. call a meeting of implementing groups to formulate a philosophy on social responsibility.	No cost
2) a) Recommend that an analysis of the manpower market be available for the best training and utilization of the handicapped, particularly in job shortage categories. (Ratified by one/half committee.) (Alternative Recommendation) 2) Recommend that emphasis be made on research on rehabilitation of the handicapped. (Ratified by one/half committee.)	All disabilities	X			X			SAVR., DVR., DSS., B12, B7, etc.	1) Employing agencies should recommend greater flexibility to the Legislature on employment of the handicapped, where indicated. 2) Study and analysis of the manpower market to be completed by the Manpower Commission, University of Hawaii, etc.	Study $8,000
3) Recommend greater flexibility in hiring practices in employment, in both private and civil service employment.	All disabilities	X			X			SAVR., DVR., DSS. A5, B5, C4, D13, D54, D21, D19, etc.	1) Determination of what flexibility is needed, e.g., barriers cited are civil service tests, age, etc. 2) Interpretation of both needs and possible solutions in specific instances. 3) Implementing policy and legislation.	No cost

02-1029

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
4)Recommend the establishment of a human resources data bank including information about the individual job application, e.g., a)vocational and educational skill levels and deficiencies, in terms of job markets and current employment needs, trends and requirements. b)information about the client may include information on education, selective service, rehabilitation agency services.	All disabilities	X			X			SAVR., DVR., DSS. in cooperation with B4, A5, C4, D13, etc.	1)Implement by inclusion of this emphasis as part of the data bank system to be administered by SAVR., DVR., DSS in cooperation with SWIS. 2)Need agency policy in "workflow"; data to be channeled to data bank.	(See data bank)
5)Recommend the establishment of a central placement office to which all handicapped are referred for employment.	All disabilities.	X			X			SAVR., DVR., DSS., B11, B4, etc.	Investigate possibility of establishment of the office within the SAVR., DVR., DSS; or in close working coordination with all phases of the system, if located elsewhere.	No cost
6)Recommend that all employers be encouraged to survey all jobs with a view to: a)identifying positions which could be filled by a handicapped person, or b)could be modified to accommodate a handicapped individual.	All disabilities	X			X			SAVR., DVR., DSS., B4, B11, etc.	1)Implement through the possibility of "incentives" to employers; i.e., a possible "tax credit," Workmen's Compensation, Special Insurance rates, etc. 2)Initiate job survey by Personnel Department specialists in companies.	No cost

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001030

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
7) Recommend that the central placement office develop a standardized resume form including all necessary information.	All disabilities	X			X			SAVR., DVR., DSS., B4, B11, etc. All public and private employer groups	Standardized resume form to include common semantics. Implement through committee work.	No cost
8) Recommend that employers be encouraged to establish an indoctrination program for the immediate work group prior to the arrival of the handicapped person.	All disabilities.		X			X		Public-Private employer groups; SAVR., DVR., DSS.	Implement by coordinated follow-up with the personnel officers where clients are placed, relative to indoctrination programs.	No cost
9) Recommend that the central placement agency follow-up with employers of the handicapped for an appropriate length of time on the progress and problems encountered. The time interval of the follow-up would vary according to individual cases.	All disabilities	X			X			B4, B11, etc., all public-private employer groups, SAVR., DVR., DSS.	Systematic follow-up to be coordinated by employers of the handicapped and the central placement officer, as affiliate agency of the SAVR., D.V.R., DSS.	No cost
10) Recommend that steps be taken to correct "gaps" identified by the committee not covered elsewhere:		X			X			SAVR., DVR., DSS.	Initiation of correction of all "gaps" with the cooperation of appropriate groups.	
a) gap in standardized definitions (regarding handicaps) between business, government, and agencies.	All disabilities	X			X			(As noted.)	Committee action.	No cost

SEOP-123-1031

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
10)										
d) lack of inservice training which would assist personnel to understand the handicapped employees.	All disabilities	X			X			All personnel officers.	Workshops for key personnel relative to inservice training.	$3,000
e) gap in proper physical facilities in buildings which would enable a handicapped employee to work.	All disabilities	X			X			B11, etc.	Incorporate in building codes after inventory of basic facilities within government and private enterprise which will permit handicapped employees to function.	$4,000
i) lack of advanced planning by the company personnel office which would allow for the proper placement of the handicapped individual.	All disabilities	X			X			All public-private personnel officers.	Assist the company and government personnel offices to place the individual more effectively by close cooperation on standardized procedures and careful individual placement.	No cost
l) gap in knowledge of peripheral areas important in job "matching" regarding details of stress, noise, type of supervision, working environment, next job in lime of promotion.	All disabilities	X			X			SAVR., DVR., DSS. subcontract.	Study inventory companies and government offices relative to the peripheral areas as "listed."	$4,000
m) gap in methods of job analysis and on-job performance for the handicapped.	All dis-	X			X			B4, B12, etc.	1) Survey mainland literature first in order to ascertain existing national methods of job analysis and performance for various types of handicaps. 2) Communicate information to employers.	No cost

124-1032

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
C. GOVERNMENT EMPLOYER PLACEMENT SERVICES										
1) Recommend legislation which would provide for: a) the easing of civil service regulations to permit "on-the-job tryouts." b) half-way houses c) modification of Workmen's Compensation and related laws to facilitate rehabilitation objectives.	All disabilities	X			X			SAVR., DVR., DSS. B5, B7, C4, etc.	Conduct a study as outlined in a, b, c. Coordinate with SAVR., DVR., DSS.	$3,000
2) Recommend that the hiring authority in each federal, state, city and county department or agency do a job analysis preliminary to hiring the handicapped where possible.	All disabilities		X			X		A5, B5, C4, D13, etc. SAVR., DVR., DSS.	1) Standardize job analysis preliminary to hiring the handicapped on government levels - federal-state-city.	Consultant cost $50 per day
3) Recommend that the procedure be adapted that when a handicapped person is hired, and the supervisor agrees, all individuals who would be working with the handicapped be oriented to the situation. (The extent and type of orientation will depend upon the type of handicap, and other factors.)	All disabilities		X			X		A5, B5, C4, etc. SAVR., DVR., DSS.	Implement with a follow-up" by the pre-placement counselor, in cooperation with the personnel officer of the government employing agency.	No cost

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Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
4)Recommend assistance to handicapped workers for continued "motivational" reasons on the job. a)sustain motivation by continuing on-the-job training in vocational areas in which the handicapped person will benefit. This will increase his capacity for promotion which is a problem with the handicapped employee. b)identify "realistic" job requirements for the handicapped employee so he will be properly supervised and evaluated. c)Maintain post-professional coordination with rehabilitation agencies. (These agencies should immediately identify and assist with adjustment problems.)	All disabilities		X			X		SAVR., DVR., DSS. with central placement officer and personnel services.	1)Implement by a "follow-up" period by pre-placement counselor, after the client has placed "on-the-job." The final termination date for follow-up to be determined by the individual case. 2)On-the-job training and other incentives to be implemented as advisable.	No cost

Vocational Services

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING			APPROXIMATE IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
		1	2	3	'69	'71	'73			
5) Recommend the establishment of a half-way house in which government agencies can actively participate. Union concurrence should be obtained.	All disabilities	X			X			SAVR., DVR., DSS., with local federal, state, city departments.	1) See study noted previously in C.1)b. 2) Establish with legislation.	No answer.
6) Recommend that all government agencies broaden their inservice training program to focus on management group, re: a) job modifications into levels so that lower level personnel can be utilized (subprofessional personnel). b) reconsideration of medical and other related requirements. c) general orientation to working with the handicapped, needed by both employees and supervisors.	All disabilites		X			X		All government agencies.	1) Implement with coordinated inservice and communications effort for all management groups. 2) Discuss a, b, c as noted.	No cost

Vocational Services

RECOMMENDATION	RECOMMENDED FOR DISABILITIES, PROGRAM, OR COUNTY	PRIORITY RATING 1	2	3	APPROXIMATE IMPLEMENTATION ACTION '69	'71	'73	IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	ESTIMATED COST
7) Recommend that each handicapped employee have a resume maintained for him in the personnel office to include: a) usual resume of information, educational experience, skills, etc. b) nature and degree of handicap. c) nature and degree of skill training provided by the rehabilitation agency. d) counselor's expectation of how client will adjust. e) counselor's expectation of probable problems that may arise due to the disability and how to "handle it" from a supervisory standpoint.	For all disabilities	X			X			SAVR., DVR., DSS., with all relevant agencies.	Implement by a policy and procedural change; implementation to be initiated by S.A.V.R., D.V.R., D.S.S. 1) identification of resume format. 2) maintain complete records for the individual client through the data bank.	No cost
9) Recommend that employers establish an: a) on-the-job evaluation and b) follow-up placement program with assistance of the rehabilitation agency.	For all disabilities	X			X			SAVR., DVR., DSS. B5, B7, C4, etc.	Implement with cooperative effort with all agencies and departments concerned with personnel.	No cost

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I. PERSONNEL (GENERAL)

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM, OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMIN., POLICY, PROGRAM	EST. COST
		1	2	3	'69	'71	'73			
1)Educated to the overcoming of gaps in the hiring of rehabilitation pers. in remote areas of the state, by due consideration of salary, fringe benefits, and social & cultural outlets.	Special attention to counselors	X			X			A5, B5, C4, D1, D13, etc SAVR, DVR, DSS	1)Interpret differential adjustments in state government which can be made, according to current regulations. 2)Institute other policy requirements as indicated by further study on all public-private agency levels.	No Answer
2)Recommend better coordination and use of inservice training with rehabilitation organizations; encouragement of short-term leaves for inservice purposes; utilization of the developing Institute for Governmental Development.	All staffs Special Atn: Workshops & facilities, physical restoration & recreation, blind deaf.	X	X		X	X		B7, A5, B5, C4, D1, D13, etc. SAVR, DVR, DSS	1)Implement control procedure if not in effect. Line & Staff pers. should make thorough review of existing training & plan improvements. 2)Utilize Institute for Governmental Development.	No New Cost
3)Recommend the prompt establishment of Civil Service classifications for specialized personnel required in the course of rehabilitation (to include para-professional pers.).	All pers. Special Atn: Blind & Deaf, Mental Retarded	X			X			A5, B5, C4, SAVR, DVR, DSS	1)Administrative policy determination (federal-state-city-county) by inter-government committee. 2)Legislative action.	No Cost

-129-1037

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM, OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	EST. COST
		1	2	3	'69	'71	'73			
4)Recommend that provision be made for state loans, fellowships in rehabilitation, with appropriate service obligations.	All pers. Spec. Attn: Staffs serving blind & deaf.	X			X			All Agencies SAVR, DVR, DSS	All agencies consider scholarships and fellowships, possibility through committees.	No Answer
5)Recommend that provision be made for adequate financial support for general personnel purposes, e.g. lowering of staff/ client ratio and for a more equal distribution to needed areas; professional training in shortage categories.	All pers. Spec. Attn: Staffs serving blind & deaf, physical restoration, recreation, heart, cancer, stroke, low income disabled, military rejectee.	X			X			All agencies SAVR, DVR & DSS.	Staff study, as part of initial responsibilities of the statewide system.	No Answer
6)Recommend that the "role" and functions of professional personnel be admin. re-evaluated to make better use of their time. Readjust certification procedures to make better use of sub-professionals.	All pers. Spec. Attn: Staffs serving physical restoration, recreation, counseling.	X			X			All agencies SAVR, DVR, & DSS.	1)Direct further study. 2)Agency management to proceed on legislation for certification.	No Cost

130-1038

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM, OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE, POLICY, PROGRAM	EST. COST
		1	2	3	'69	'71	'73			
7)Recommend the provision for adequate numbers of clinical psychologist personnel specializing in rehabilitation.	Psychological services: Special Attn: Mentally Ill.	X			X			SAVR, DVR, DSS, with public-private line agencies providing psychological services.	1)Coordinate with recommendations. 2)University training. 3)Coordinated recruitment. 4)"Shared" personnel.	No Answer
8)Recommend that social work and counselor positions, focused on the needs of special groups, be provided to all agencies, (with special attn. to the deaf and blind).	Spec. Attn: aging, blind & deaf, low income disabled, military rejectee.		X			X		A5, B5, C4, D1, D13, etc.	1)Administrative policy on staffing requirements. 2)Inservice training of existing staffs.	No Cost.
9) Recommend that agencies providing rehabilitation counseling review their programs to determine what tasks can be provided by sub-professional level pers; broader responsibilities for case aides and other sub-professionals not involved in intensive service contacts; inservice and formal training.	All Agencies Spec. Attn: low income disabled, military rejectee, physical restoration, recreation.	X			X			All agencies in cooperation with all personnel officers, SAVR,DVR,DSS	Agency management to proceed on policy as indicated.	No Cost.

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM, OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	EST. COST
		1	2	3	'69	'71	'73			
10)Recommend that special inservice training be geared to the needs of the economically deprived, i.e. low income culture, etc.	Spec Attn: economically deprived, mentally ill.	X			X			A5,B5,C4, D1,D13,etc.	Provision of technical assistance for inservice training by Departments of Personnel, public-private.	$26 per day
11) Recommend attention to recruitment from all ethnic groups as operators of care homes and other facilities.	All personnel.	X			X			Care Homes etc. SAVR,DVR, DSS	Coordinate with the total "shared" recruitment program, to the extent feasible.	No Cost.
12) Recommend the establishment of rehabilitation salaries competitive with national standards; upgrade salary level of all workers to attract qualified personnel to fill positions.	All Staffs Attn: Staffs serving: mentally ill, corrections	X			X			A5,B5,C4, D1,D13, etc. All Agencies SAVR,DVR, DSS	1)Public and private salaries should be reviewed, and further study directed by SAVR,DVR,DSS. 2)Legislative action.	No Answer
13)Recommend the formation of an ongoing University of Hawaii "Institute for Rehabilitation" undergraduate and graduate, to facilitate inter-disciplinary training and understanding of rehabilitation and its processes, in the full sense. Characteristics of the institute would be as follows: a)Undergraduate and graduate training,inservice training,	All disabilities and programs.	X			X			B7,schools & Departments in coordination with SAVR,DVR, DSS, pers. depts. inservice tng. etc.	Formation of the "Institute" after preliminary faculty curriculums committee recommendations relative to care courses.	$30,000 Administrative & Staff Costs. Faculty costs to be absorbed.

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-132-1033

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM, OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	EST. COST
		1	2	3	69	71	73			
and field work would be an interdisciplinary core curriculum geared to rehabilitation. b)Students would matriculate in their departments of specialization, and take a regularly scheduled part of their training in the "Institute for Rehabilitation". c)Students admitted would be those preparing for a rehabilitation emphasis in medicine, public health, nursing, psychology, social work, guidance, and counseling, education, vocational education, research, or administration. d)Parallel program is carried out; tailored to the needs of all professional and sub-professional personnel currently carrying out a rehabilitative emphasis, (inservice training)etc.										

RECOMMENDATIONS	RECOMMENDED FOR DIS-ABILITIES PROGRAM, OR COUNTY	PRIOR-ITY RATING			APPROX. IMPLEMEN-TATION ACTION			IMPLEMEN-TATION RESPONSI-BILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	EST. COST
		1	2	3	'60	'71	'73			
14)Recommend the reestablishment and strengthening of professional programs of vocational rehabilitation (counselor training and special education) in the major curriculum at the University of Hawaii, College of Arts & Sciences.	All Programs.	X			X			B7,College of Arts & Sciences	1)Coordinate the purposes of the "Institute" (See#13) closely with the regular curriculum in vocational rehabilitation. 2)Regular students in the vocational rehabilitation curriculum should provide "leadership" in student groups of the Institute, etc.	No Addn'l Cost.
15)Recommend the encouragement of an increase in training necessary for personnel both within the agencies which do rehabilitation, and outside the agencies in educational institutions in order to bring up the "quality" of the five rehabilitation services available to the public.	All Personnel	X			X			Personnel Officers of all agencies, SAVR,DVR, & DSS,	1)"Encourage" training and participation actively. 2)Initiate ad hoc committee to formulate joint plans.	No Answer
16)Recommend the increased use of public & private schools, community college, higher education, for the localized professional training needed for personnel in rehabilitation.	All Personnel	X			X			SAVR, DVR, & DSS.	Coordinate statewide budget and training requirements; initiate courses.	No Answer

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RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	EST. COST
		1	2	3	'69	'71	'73			
17)Recommend that "special incentives" be provided for current personnel in shortage categories to get additional education to upgrade themselves, i.e. tuition refund, time allowance, leaves, etc, as required.	All Personnel	X			X			Personnel Officers with SAVR, DVR, & DSS.	Utilize all possible sources of funds for training of these special groups (see committee report on personnel).	No Answer
18)Recommend the establishment of a "coordinated rehabilitation agency recruitment program" to facilitate better exposure and reduce recruiting costs. Meaningful sub-professional positions to be made available, as an aid to recruitment.	All Personnel	X			X			All depts. and all personnel officers. SAVR, DVR, DSS initiate.	1)Attain through coordination existing agencies services, i.e. responsibility might be given to Dept. of Labor, Employment Services. 2)All agencies involved, meet and resolve.	No Addn'l Cost
19)Recommend that revisions in statewide public-private policy toward the more effective use of highly specialized, full or part-time consultants for rehabilitation as follows:	All Personnel		X			X		A5,B5,C4,D1, D13, etc. All agency personnel officers; SAVR,DVR, & DSS.	1)Develop consultant policy in cooperation with all agency personnel officers. 2)Implement as appropriate.	(As Noted Below)
a)Establish fee schedule and salaries high enough to attract additional private sector specialist consultants.		X			X					No Cost
b)Establish a central consultant pool with central funding to pay the consultants.		X			X					$10,000 per year

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	EST. COST
		1	2	3	69	71	73			
c)Develop uniform statewide policies and procedures relating to use of consultants.			X			X				No Cost
d)Develop policy for funds to be made available for attendance by consultants at local and mainland conferences for professional stimulation purposes.			X			X				No Cost
e)Develop active coordinated recruitment techniques which will attract high quality personnel to needed consultant services.		X			X					No Cost
f)That a central file of all specialists in various phases of rehabilitation in Hawaii, be developed and maintained and made available to all 137 agencies and major divisions.		X			X					No Cost
g)Develop a method for continuous evaluation of the efficiency and utilization of consultants for use in the central file.		X			X					No Cost.

1044

RECOMMENDATIONS	RECOMMENDED FOR DISABILITIES PROGRAM OR COUNTY	PRIORITY RATING			APPROX. IMPLEMENTATION ACTION			IMPLEMENTATION RESPONSIBILITY	SUGGESTED WAYS TO IMPLEMENTATION LEGISLATIVE, ADMINISTRATIVE POLICY, PROGRAM	EST. COST
		1	2	3	'69	'71	'73			
20)Recommend that an orientation handbook for rehabilitation services be made available together with the functions and structure of each agency.	All Programs	X			X			SAVR, DVR, & DSS	Mimeograph, looseleaf, with replaceable pages which can be updated as necessary.	$1500 minimum
21)Recommend that each agency provide for a method of program and personnel evaluation, to be done jointly by the agency itself and outside groups or persons, with the full cooperation of the agency.	All Programs	X			X			All Agencies SAVR, DVR, & DSS.	Formulate uniform evaluating policy, with uniform standards applied to services for individual consideration by agency.	No Answer
22)Recommend that agencies provide and/or permit staff to act as supervisors for students assigned for field work experience.	All Programs	X			X			B7 with Agencies.	1)Coordinate with the "Institute for Rehabilitation" 2)Administration and training policy required.	No Cost
23)Recommend cooperative experimentation, research, and demonstration classes in rehabilitation.	All Programs Attn: Mentally Ill	X			X			B7 with line agencies; SAVR, DVR, & DSS.	Plan and implement cooperatively.	No Answer

01045

SUMMARY II: NARRATIVE

A. ADDENDA TO THE ADMINISTRATIVE RECOMMENDATIONS

(1) Nature of the Problem.
In order that the State of Hawaii may progress in the Plan implementation, involving the coordinated and comprehensive vocational rehabilitation function as formally practiced by our 137 major divisions and agencies, the committees and Policy Board have advocated a statewide policy and planning mechanism which will carry its own authority by virtue of the participation of line administrators carrying their own responsibility.

Recommendation.
RECOMMEND THAT A "STATEWIDE REHABILITATION COUNCIL," COMPOSITION AND FUNCTIONS AS DEFINED IN THE ADMINISTRATIVE RECOMMENDATIONS, WILL BE APPOINTED BY THE GOVERNOR OF THE STATE OF HAWAII, WITH APPROPRIATE CONSULTATION REGARDING THEIR OWN REPRESENTATIVES WITH COUNTY MAYORS, LOCAL FEDERAL AND PRIVATE NONPROFIT AUTHORITIES.

THE REHABILITATION COUNCIL WILL BE THE CENTRAL POLICY AND PLANNING COORDINATING MECHANISM FOR THE STATEWIDE SYSTEM FOR "REHABILITATION FOR EMPLOYABILITY." IT WILL BE COMPOSED OF LINE ADMINISTRATORS WHO WILL BE FULLY REPRESENTATIVE OF THE VARIOUS LOCAL FEDERAL, STATE, CITY AND COUNTY, AND PRIVATE NONPROFIT AGENCIES NOW PROVIDING REHABILITATION SERVICES IN THE STATE OF HAWAII. THE CHIEF CHARACTERISTIC OF THIS POLICY MECHANISM WILL BE CONCENSUS DECISION-MAKING ON THOSE ASPECTS OF THE STATEWIDE SYSTEM WHICH WILL BE "SHARED" BY THE VARIOUS AGENCIES.

(A) CHARACTERISTICS OF THE "STATEWIDE REHABILITATION COUNCIL"

(1) To be composed primarily of "line administrators" of all representative agencies currently giving rehabilitation services (local federal, state, city and county, private nonprofit, plus business and labor), in the cycle of five essential services (health-medical, psychological, social, educational, vocational services, including placement).

In addition, adequate provision should be made for representation on the Council for geographic areas and for the general public.

(2) The Governor of the State of Hawaii will appoint these relevant administrators and other representatives to the "Statewide Rehabilitation Council".

(3) The Council will be responsible directly to the Governor of the State of Hawaii.

(4) Authority for the line administration of the various programs providing parts of the rehabilitation services in the State is currently vested in the line administrator.

It is suggested therefore that concensus decisions made by this group about the direction of rehabilitation services in the State

would carry authority, and could be implemented by each administrator for his own department.

(B) THE PURPOSE OF THE REHABILITATION COUNCIL:

To arrive at decisions in administrative and policy matters in which the members share current "common interests" in their agencies and which are statewide in nature, i.e.,

(a) shared facilities,
(b) shared personnel,
(c) shared central administrative, diagnostic, placement services, etc., etc.

(C) FUNCTIONS OF THE REHABILITATION COUNCIL TO INCLUDE:

1. Policy guidelines for eligibility of clientele for comprehensive services.
2. Policy consideration of comprehensive client costs and how they can be met jointly through grant sharing.
3. Review of appropriate potential joint expenditure patterns in all areas.
4. Joint presentation of legislative program with joint planning, establishment, and support from all units.
5. Policy established for agency participation in statewide system.
6. Consideration of the various aspects of shared facilities and administrative policies.
7. Review of plans and procedures for effecting statewide vocational rehabilitation.
8. Review of research, and all central administrative unit functions as indicated.
9. "Arbitration Board" function for all disputes between agencies, etc. for matters concerned with vocational rehabilitation.
10. Policy on public relations to be carried out by the central administrative staff unit, e.g., interpretation to general public, potential client groups, media, etc.
11. Establishment of guidelines for proper minimal standards in the five essential services with due regard for national guidelines and the services in the Counties.
12. Final review of grant applications for all rehabilitation functions, i.e., research; and including all decentralized functions which are the jurisdiction of the statewide system.
13. Review and adoption of various matters referred by agencies, diagnostic unit, administrative unit.

Implementation Action Suggested.

(1) Council to be appointed by the Governor of the State of Hawaii.

(2) Staff support for the Rehabilitation Council is to be given by the Statewide Administrative Unit for Rehabilitation, Division of Vocational Rehabilitation, State Department of Social Services.

Cost: No cost.
Priority: #1, 1969.
Implementation Responsibility: Division of Vocational Rehabilitation, State Department of Social Services.

(2) Nature of the Problem.
A statewide staff unit for vocational rehabilitation is considered necessary in order to implement the many features of the Plan; to make available field services to the handicapped population by 1975.

Recommendation.
RECOMMEND THAT INITIATING ACTION FOR THE RECOMMENDATIONS OF THE HAWAII STATE VOC ATIONAL REHABILITATION PLAN AND THE CONTINUING PLANNING FUNCTION SHALL BE THE RESPONSIBILITY OF THE "STATEWIDE ADMINISTRATIVE UNIT FOR REHABILITATION." THIS UNIT WILL SUPPORT THE STATEWIDE EFFORT FOR COORDINATED SERVICES FOR VOCATIONAL REHABILITATION AS CURRENTLY GIVEN BY THE APPROXIMATELY 137 MAJOR DIVISIONS AND AGENCIES IN HAWAII FOR ALL MATTERS WHICH ARE TO BE SHARED OR ARE STATEWIDE IN NATURE, AFTER APPROPRIATE CONSULTATION WITH THE STATEWIDE REHABILITATION COUNCIL ON POLICY AND PLANNING MATTERS.

"STATEWIDE ADMINISTRATIVE UNIT FOR REHABILITATION."

To be responsible to the "Rehabilitation Council" in policy matters; administratively responsible to the Director, Division of Vocational Rehabilitation, State Department of Social Services.

1. Purpose of the Administrative Unit:

This central staff unit would be:
(a) the support staff for the Rehabilitation Council;
(b) the centralized administrative unit for all statewide "shared" functions and concerns and others as specified in the Plan;
(c) the support unit for the various functions of the Vocational Rehabilitation Community Service Centers.

2. Functions of the Administrative Staff Unit to be divided between two staff units ((a) and (b) below) to include:

(a) Personnel and Fiscal:
(1) total client case financing;
(2) coordination of financing of shared facilities;
(3) professional inservice training, with appropriate agencies, on the rehabilitation function for all agencies in all fields;
(4) coordination of rehabilitation funding applications for grants and contracts, etc;
(5) provision for additional itinerant diagnostic "specialists," as determined necessary by the client - Diagnostic, Screening, and Evaluation Units in the seven Vocational Rehabilitation Community Service Centers.

(b) Professional and Technical:

(1) responsibility for ongoing statewide vocational rehabilitation planning;
(2) coordination of suggested State-County Planning Councils;
(3) statewide public relations and communications efforts for rehabilitation;
(4) coordination of statewide data needs with the Statewide Information System;
(5) coordination of some aggressive case findings;
(6) responsibility for rehabilitation legislation (for those aspects which are statewide and/or come under the jurisdiction of the State plan);
(7) job placement of client after final discharge from the diagnostic unit. Maintenance of adequate statewide placement service;
(8) responsible for the maintenance of standards as established by the Rehabilitation Council.

Implementation Action Suggested:

(1) Establish unit.

(2) Initiate action as appropriate.

Cost: See Recommendation No. 5.
Priority: #1, 1969.
Implementation Responsibility: Division of Vocational Rehabilitation, State Department of Social Services.

(3) Nature of the Problem.
The Policy Board for the Plan recommends immediate implementation authority be given to the Division of Vocational Rehabilitation, since the earliest legislative presentation date possible is 1970.

Recommendation.

RECOMMEND THAT RESPONSIBILITY FOR THE ESTABLISHMENT AND FUNCTIONING OF THE "STATEWIDE ADMINISTRATIVE UNIT FOR REHABILITATION" BE DESIGNATED BY STATUTE, UNTIL SUCH TIME THAT GOVERNOR JOHN A . BURNS ASSIGNS IMMEDIATE INITIAL ADMINISTRATIVE RESPONSIBILITY FOR THIS UNIT TO THE DIVISION OF VOCATIONAL REHABILITATION, STATE DEPARTMENT OF SOCIAL SERVICES.

The Policy Board recommends that the overall leadership role and coordinating responsibility for all vocational rehabilitation in the State of Hawaii be given to the Division of Vocational Rehabilitation, by virtue of its sole agency role, and the 100% of its service in this field.

Implementation Action Suggested.

Designation, as indicated.

Cost: No cost.
Priority: #1, 1969.
Implementation Responsibility: Governor John A. Burns, State of Hawaii.

(4) Nature of the Problem.

In this general recommendation, the Board gave general recognition to the need for support for the future requests of the administrative unit, as determined necessary. It further recognizes that ongoing planning processes will change requirements for funds, staff, and legislation in addition to policy changes necessary.

Recommendation.
RECOMMEND THAT IN ORDER TO C ARRY OUT ITS RESPONSIBILITIES, THIS ADMINISTRATIVE UNIT (#3) BE GIVEN ADEQUATE FUNDS AND STAFF, LEGISLATIVE SUPPORT AND OPERATIVE FLEXIBILITY.

Implementation Action Suggested.

Future requirements may be determined in part by:

(a) rapidity of progress in implementation of Plan;

(b) progress at "sharing" resources, etc.

Cost: No answer.
Priority: #1, 1969.
Implementation Responsibility: Division of Vocational Rehabilitation, State Department of Social Services.

(5) Nature of the Problem.
Recommended staffing for the new unit.

Recommendation:
RECOMMEND THAT, IN ORDER TO SUPPORT THE FUNCTIONS OF THE STATEWIDE ADMINISTRATIVE UNIT FOR REHABILITATION, FOUR NEW POSITIONS BE ESTABLISHED TO PERFORM THE FUNCTIONS OF REHABILITATION COORDINATION. NEW PERSONNEL TO BE RESPONSIBLE TO THE DIRECTOR, DIVISION OF VOCATIONAL REHABILITATION, STATE DEPARTMENT OF SOCIAL SERVICES:

(a) TO COORDINATE STATEWIDE PERSONNEL FOR REHABILITATION ("SHARED" DIAGNOSTIC AND TREATMENT SERVICES, INSERVICE TRAINING, ETC.);

(b) TO COORDINATE STATEWIDE SHARED REHABILITATION FINANCE (COORDINATED INDIVIDUAL CASE-FUNDING AMONG DIVERGENT SOURCES FROM 137 DIVISIONS AND AGENCIES, ETC.);

(c) TO COORDINATE SHARED TECHNICAL SERVICES (DATA PROCESSING, COMMUNICATIONS, RESEARCH, ETC.);

(d) TO COORDINATE SHARED PROFESSIONAL SERVICES (STATEWIDE FIELD SERVICES, STAFF WORK FOR THE REHABILITATION COUNCIL, ETC.).

Implementation Action Suggested.

(1) Civil Service positions to be established as appropriate; State-funding or combination;

(2) clerical support is necessary.

Cost: $50,000 per year.
Priority: #1, 1969.
Implementation Responsibility: Division of Vocational Rehabilitation, State Department of Social Services.

(6) Nature of the Problem.
General support recommendation of the necessary expansion of Vocational Rehabilitation and rehabilitation cycle-of-services in all other agencies in order to provide comprehensive, effective, decentralized services.

Recommendation.
RECOMMEND THAT, IN ORDER TO DIAGNOSE, EVALUATE, AND PROVIDE COORDINATED SERVICES FOR THE BACKLOG OF POTENTIALLY ELEGIBLE CASES, THAT:

(a) THE DIVISION OF VOCATIONAL REHABILITATION, STATE DEPARTMENT OF SOCIAL SERVICES SUBSTANTIALLY INCREASE ITS VOCATIONAL REHABILITATION PROGRAM BY 1975; DECENTRALIZING SERVICES IN CONFORMANCE WITH THE STATEWIDE PLAN, TO INCLUDE VOCATIONAL EVALUATION, WORK EVALUATION AND ADJUSTMENT, PHYSICAL RESTORATION, COUNSELING, PLACEMENT, FOLLOW-UP AND USE OF NEW TECHNIQUES FOR REHABILITATION.

(b) ALL OTHER PUBLIC AND PRIVATE AGENCIES IN THE STATE OF HAWAII THAT PROVIDE REHABILITATIVE SERVICES SHOULD EXPAND THEIR PROGRAMS ABOVE THEIR PRESENT LEVEL OF EFFORT WHERE THERE IS A NEED, BUT WITH APPROPRIATE CONSULTATION WITH THE STATEWIDE PATTERN TO BE ESTABLISHED BY THE STATEWIDE ADMINISTRATIVE UNIT FOR REHABILITATION IN ORDER TO AVOID DUPLICATION.

Implementation Action Suggested.

Numbers and types of new positions to be determined after all efforts to share existing staff, finances, consultants, etc. have been made by the Rehabilitation Council; action for the seven designated catchment areas.

Cost: No answer.
Priority: #1, 1969.
Implementation Responsibility: Rehabilitation Council and individual agencies.

(7) Nature of the Problem.
The Hawaii State Vocational Rehabilitation Plan has coordinated its plan with all other planning which was relevant in the State of Hawaii preceding, by having representatives of those plans participate on committees and by adapting the recommendations of the plans which appeared to be desirable to the committees involved.

In recognition of the need for the ongoing planning to also be implemented with a consideration of other plans and programs, the Policy Board has mandated such consideration with particular attention to the proposed "Council of Human Resources," endorsed in principal by the Board.

Recommendation.
IT IS RECOMMENDED THAT THE "STATEWIDE ADMINISTRATIVE UNIT FOR REHABILITATION," DIVISION OF VOCATIONAL REHABILITATION, STATE DEPARTMENT OF SOCIAL SERVICES, BE COMMITTED TO COORDINATE WITH OTHER STATEWIDE PLANS AND PROGRAMS THAT HAVE BEEN OR WILL BE DEVELOPED TO PROVIDE ALL NEEDED HUMAN RESOURCES THROUGH AN APPROPRIATE STRUCTURE.

Implementation Action Suggested.

Implement by cooperation and coordination.

Cost: No cost.
Priority: #1, 1969.
Implementation Responsibility: All agencies, Statewide Administrative Unit for Rehabilitation, State Department of Social Services.

(8) Nature of the Problem.
All opinions of all professional and lay groups throughout the community indicated a recognition and need for an elimination of "fragmented" rehabilitation services now provided in a relatively uncoordinated manner by local federal, state, city and county, and private nonprofit agencies.

The goal of the Plan is to provide the comprehensive "cycle of vocational rehabilitation services" under-one-roof to the population in each catchment area, which will give a service-delivery system for vocational rehabilitation focused on the individual client who has a physical, mental, or social handicap.

Recommendation.
RECOMMEND THAT SEVEN DECENTRALIZED "VOCATIONAL REHABILITATION COMMUNITY SERVICE CENTERS" BE ESTABLISHED IN DESIGNATED CATCHMENT AREAS THROUGHOUT THE STATE OF HAWAII WHICH WILL BRING THE AGENCIES PROVIDING THE NECESSARY COMPREHENSIVE SERVICES TOGETHER "UNDER ONE ROOF" IN EACH GEOGRAPHIC LOCATION, AS FOLLOWS:

A. OAHU, CITY AND COUNTY OF HONOLULU:
   (1) Diamond Head Catchment Area. (Ct. 1-42) pop. 200,800.*
   (2) Lanakila Catchment Area. (Ct. 45-72) pop. 123,500.
   (3) Leeward Catchment Area. (Ct. 73-100) pop. 145,100.
   (4) Windward Catchment Area. (Ct. 101-113) pop. 96,000.

*1966. State Department, Planning and Economic Development.

B. KAUAI COUNTY (No specific location.) . . pop. * 9,230.
C. HAWAII COUNTY (At Hilo.) . . .. pop. 20,850.
D. MAUI COUNTY (Lanai, Molokai.) . . . . . pop. 16,560.

Characteristics of the Centers could include:

Seven Centers to be generalized, outpatient basic services for rehabilitation to include health-medical services, psychological services, social services for rehabilitation, educational services, vocational services, plus placement liaison. Intake unit in each Center, staffed with counselors, to "follow-up" client throughout agency treatment services in building after initial total diagnostic and evaluation "work-up."

Formal affiliate units to each Center to include hospital, school, community college, workshop, etc.

Implementation Action Suggested.

(1) Continued joint planning for program and facilities, land, etc.

(2) Joint use of variety of facilities funds, public-private. Dependent upon individual Center space allocations in each of the seven geographic areas.

Cost: No answer.
Priority: #1, 1975, or before.
Implementation Responsibility: Statewide Administrative Unit for Rehabilitation, Division of Vocational Rehabilitation, State Department of Social Services; Rehabilitation Council; all agencies.

(9) Nature of the Problem.
Due to geographic distances, even provision of adequate transportation makes one Vocational Rehabilitation Community Service Center not feasible for the handicapped population. Therefore, satellite centers are recommended.

Recommendation:
IT IS RECOMMENDED THAT HAWAII COUNTY, IN ADDITION TO ITS ONE COMPREHENSIVE VOCATIONAL REHABILITATION CENTER, ESTABLISH ALSO TWO SATELLITE CENTERS AT APPROPRIATE LOCATIONS, WITH THE UNDERSTANDING THAT THESE CENTERS MAY DEVELOP INTO FULL CENTERS AS THE POPULATION BASE GROWS; AT LEAST ONE PERSON TO BE LOCATED AT EACH OF THE SATELLITE LOCATIONS IMMEDIATELY, FOR INTAKE PURPOSES.

* 1966. Department of Planning and Economic Development.

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Implementation Action Suggested.

(1) Establish satellite centers at Kohala-Waimea and at Kona, initially with one counselor in each location.

(2) Coordinate closely with Hilo Vocational Rehabilitation Community Service Center.

Cost: $15,000 per year.
Priority: #1, 1969.
Implementation Responsibility: Statewide Administrative Unit for Rehabilitation; Division of Vocational Rehabilitation, Department of Social Services.

(10) Nature of the Problem.
Support recommendation for the total administrative recommendations.

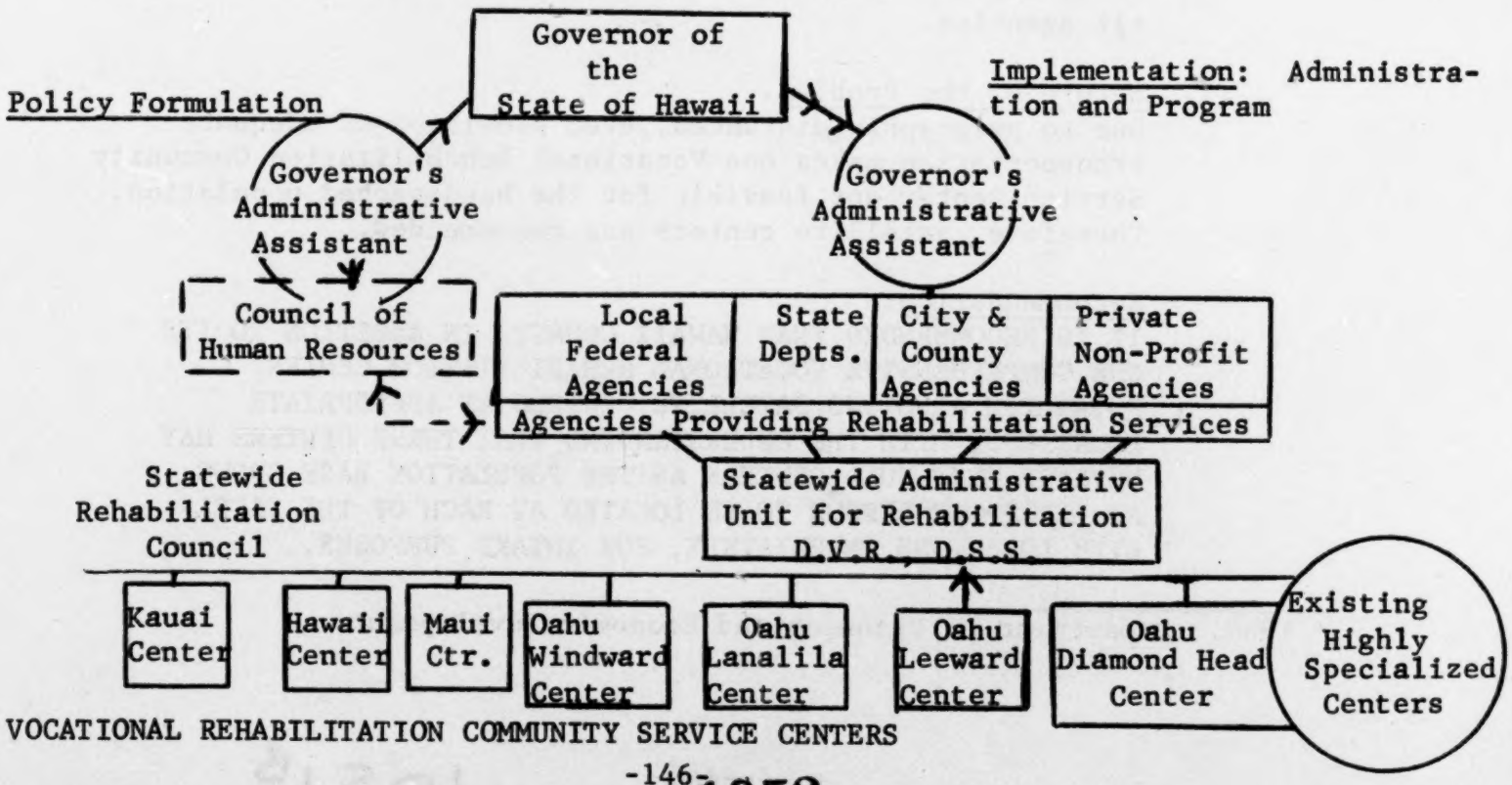
Recommendation.
IT IS RECOMMENDED THAT THE ORGANIZATION FLOW-CHART ATTACHED BE ADOPTED, AND ITS COMPONENT FEATURES IMPLEMENTED ACCORDINGLY.

Implementation Action Suggested.

(See individual recommendations.)

Cost: (See individual recommendations.)
Priority: #1, 1969, etc.
Implementation Responsibility: Rehabilitation Council; Division of Vocational Rehabilitation, State Department of Social Services.

FUNCTIONAL FLOW-CHART FOR STATEWIDE
COORDINATION OF PUBLIC-PRIVATE VOCATIONAL REHABILITATION SERVICES



(11) Nature of the Problem.
The success of the Statewide System for Vocational Rehabilitation, composed of a policy unit, a central staff unit, and a decentralized, comprehensive service-delivery system, will ultimately depend upon the professional persons involved in its organization and administration. In order to make this system workable, the Policy Board for the Plan has identified three phases of development. The rapidity with which each catchment area will move into the next phase will depend on itself.

Recommendation.
RECOMMEND THAT THE FOLLOWING SEQUENCE FOR ADMINISTRATIVE AND PROGRAM COORDINATION BE ESTABLISHED IN ORDER TO PHASE INTO THE ORDERLY DEVELOPMENT OF THE STATEWIDE SERVICE-DELIVERY PORTION OF THE SYSTEM:

(A) Phase 1:
Immediate establishment of comprehensive diagnostic and evaluation units; central total funding for clients; total information and referral system; provision of transportation; aggressive case-funding; formal contractual agreements.

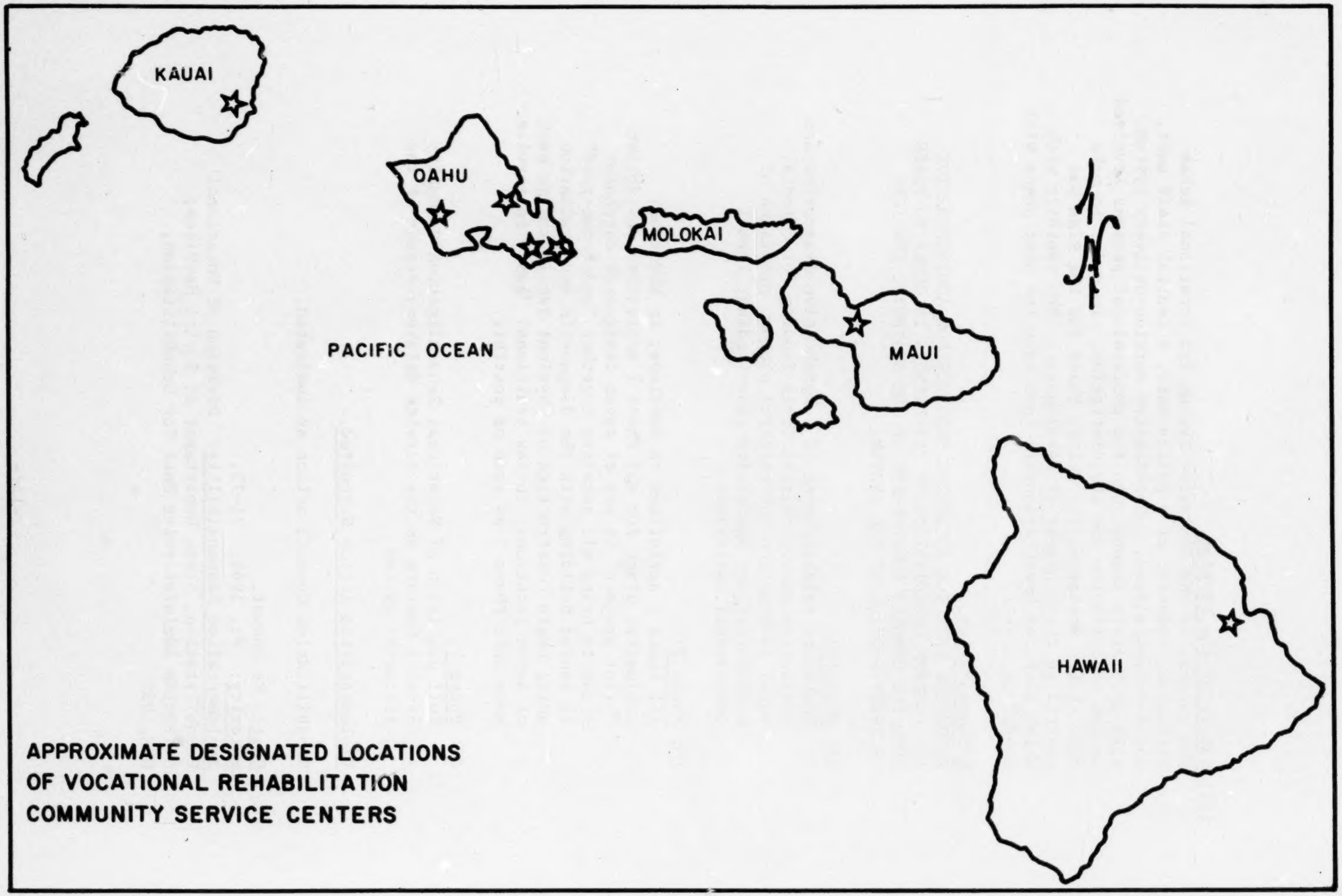
(B) Phase 2:
All Phase 1 activities to continue; in addition: evaluative stage for all Phase 1 activities; establish "pilot project" in one of seven designated catchment areas to bring all services together "under-one-roof" in rented building with the diagnostic and evaluation unit; begin construction of physical facilities in each of seven locations; review additional "gaps" in service. Move into Phase 3 as soon as possible.

(C) Phase 3:
Full provision of Vocational Rehabilitation Community Service Centers as the service delivery aspect of the statewide system.

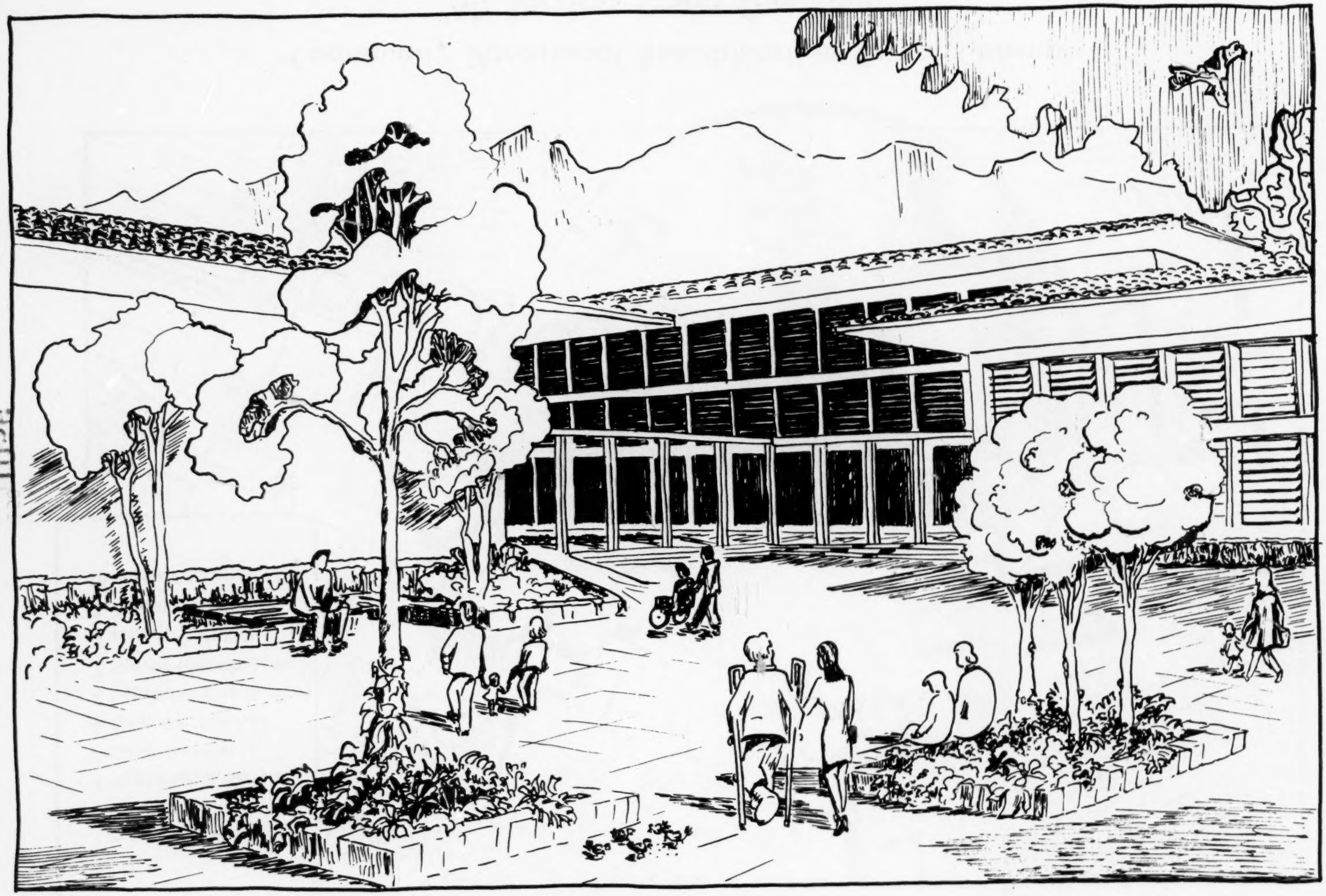
Implementation Action Suggested.

Rehabilitation Council action as indicated.

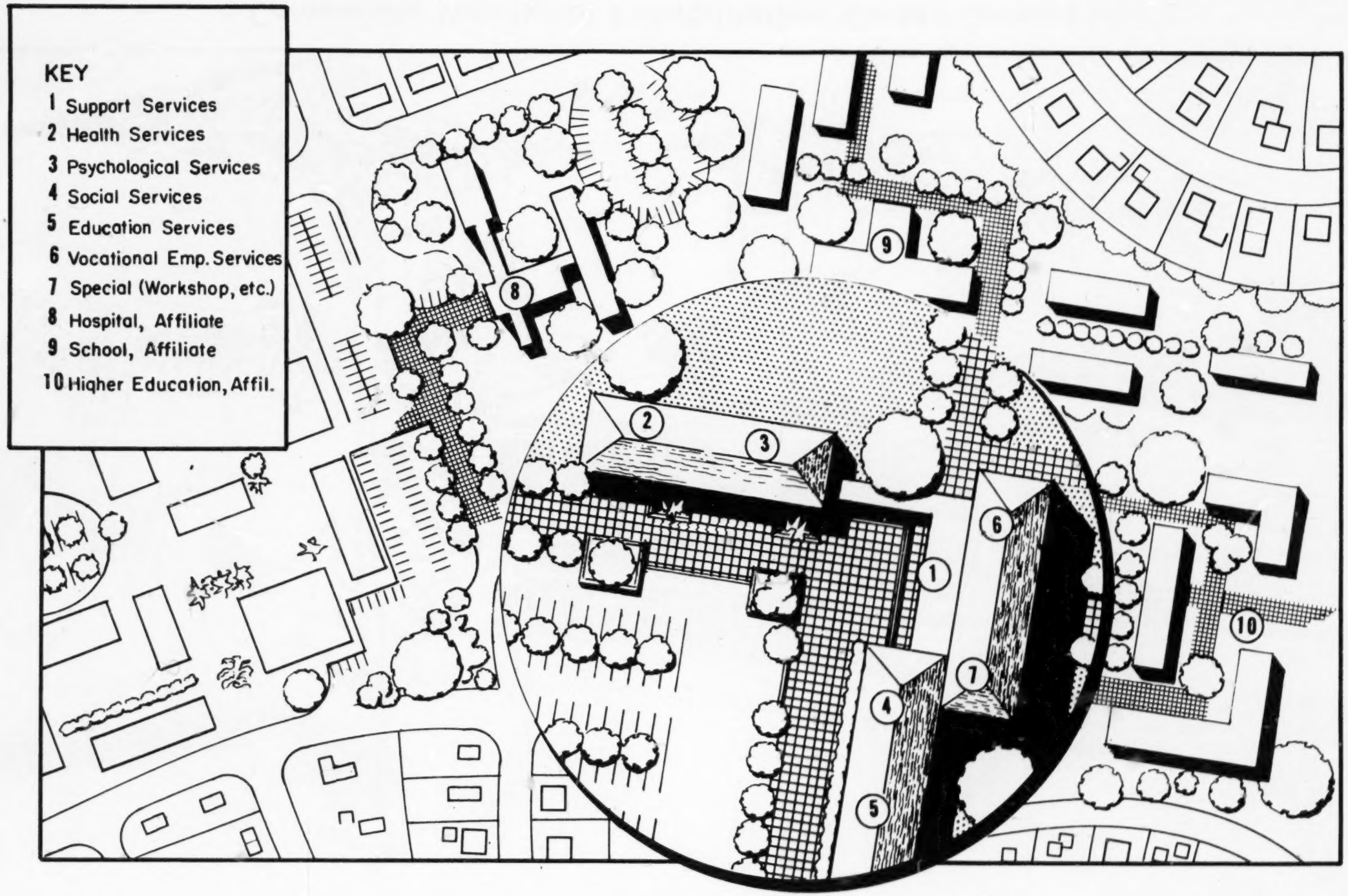
Cost: No answer.
Priority: #1, 1969. 71-73.
Implementation Responsibility: Division of Vocational Rehabilitation, State Department of Social Services; Statewide Administrative Unit for Rehabilitation, DVR, DSS.



APPROXIMATE DESIGNATED LOCATIONS
OF VOCATIONAL REHABILITATION
COMMUNITY SERVICE CENTERS



Community Vocational Rehabilitation Center Concept
"All Services Under One Roof"



Community Vocational Rehabilitation Center Concept

"All Services Under One Roof"

CHARACTERISTICS OF THE VOCATIONAL REHABILITATION COMMUNITY SERVICE CENTERS ARE AS FOLLOWS:

IN PHASE III:

A. Client Diagnostic, Screening, and Evaluation Unit: To provide a total diagnosis and evaluation for each person with physical, mental, and social disabilities, who is unemployable, so that an individualized rehabilitation program may be "tailored" for each individual which will end with placement in the competitive job market.

1. The diagnostic professional team of specialists will complete the client evaluation based on the professional categories of:

   (a) medical and health services
   (b) psychological services
   (c) social services
   (d) education services
   (e) vocational services

2. Information on required "tailored client program" is then given to the central Statewide Administrative Unit for Rehabilitation which supplies a case cost estimate, to include equipment needed, determines client eligibility for services of the various agencies.

3. Client is sent to the Vocational Rehabilitation Community Service Center near his home with affiliate units.

4. There is periodic "follow-up" of the client in all phases of treatment by the counselor in the "intake unit".

5. Records are kept on client with adequate safeguards by the Statewide Administrative Unit for Rehabilitation.

6. After treatment is completed, client is discharged and referred back to the central Administrative Unit for job placement and follow-up.

7. Professional comprehensive team is responsible for the periodic re-evaluation of client progress. This team is responsible for the effective integration of all services so that there is a total focus on the individual.

B. Comprehensive Services To Be Given In the State of Hawaii in a Combination Of Types of Facilities:

1. Vocational Rehabilitation Community Service Centers to be located near a hospital and a school as affiliated treatment units.

   Characteristics: Out-patient, small, generalized, comprehensive services to clients in that geographic area, to include health-medical, social services, psychological services, educational services, vocational services, including administrative support services, transportation, family counseling, etc.

Centers should incorporate existing or planned agencies and centers in that geographic location.

2. Centralized Centers now in existence for single or limited highly specialized disability use will be used as appropriate in their specialized capacity as part of the statewide system.

C. Basic Client Steps

1. Client entry through:

   (a) individual agencies, then referred to Vocational Rehabilitation Community Service Centers where they live.
   (b) aggressive case finding.
   (c) administrative units directly, DVR, DSS.
   (d) Physicians, others.

2. Plan "tailored" for each individual client.

3. Sent to treatment centers concurrently or in the proper sequences. Services to be prepaid on the basis of the total case, through "dove-tailing" of all agency funding through one central financial officer.

4. Re-evaluated periodically.

5. When treatment completed, refer back to diagnotic and evaluation unit for discharge at V.R.C.S.C.

6. Referred to central administrative unit for placement on job and periodic evaluation for the six-month period.

Summary Statement of the Use of Federal Funds:

In Fiscal Year 1967, the Federal allotment was $1,031,782. Federal monies actually spent were $917,257.

In Fiscal Year 1968, the Federal allotment was $1,201,292. Federal monies actually spent were 1,107,859.

Federal funds utilized, therefore, approximates the amounts currently available through Federal allocations. Increases in services, therefore, will suggest a need to explore additional funding patterns, including joint funding patterns of services.

C. Statement on the Relevance of the Final Recommendations of the Plan in Relation to the Division of Vocational Rehabilitation, State Department of Social Services

As noted in the final recommendations of the Plan summary, the composite plan, and various rationale specified, the organization of the statewide system is to be coordinated by the "Administrative Unit for Statewide Coordination." The responsibility for this unit is basically a management tool designated to the Division of Vocational Rehabilitation, State Department of Social Services.

Assumption of such responsibility for action leadership with the 137 major divisions and agencies involved in the provision of rehabilitation services is vital to the implementation success of the Plan.

As a support for this action tool, the Policy Board has made a number of administrative recommendations which will fully support the basic statewide management functions, including all input phases, center coordination, output services phases, and feedback functions.

Primary units will include a Rehabilitation Council composed of line administrators. The Division of Vocational Rehabilitation, Department of Social Services, is the "Administrative Unit for Statewide Coordination" and will provide the staff support for the statewide decision-making function of this Council, to be implemented with legislation.

Recommendation No. 5 includes four new staff positions to be allocated as soon as possible to that statewide unit; to be staffed by specialists in the various management system support functions. Positions, described in detail in the summary and in the composite plan, include statewide personnel, finance, technical services, and statewide coordination of professional services for the 137 agencies and major divisions.

Recommendation No. 4, "that in order to carry out its responsibilities, this administrative unit be given adequate funds and staff legislative support, and operative flexibility", recognizes that all needs cannot be planned for in advance and that full support should be provided.

The Board has thus gone on record as favoring such unspecified support in advance, during the ten-year implementation period, subject to the final approval of the Rehabilitation Council and the State Department of Social Services

Line coordination and functioning of the seven recommended Vocational Rehabilitation Community Service Centers is the service-delivery aspect of the statewide system. The counselor role of the Division of Vocational Rehabilitation, Department of Social Services, if operated as a central intake agent within each Center would function as a direct liaison with the centralized administrative unit for statewide coordination.

In addition, as the primary leadership unit for rehabilitation in the State of Hawaii, the Division of Vocational Rehabilitation will be the primary, but not sole, group to initiate the many diverse recommendations of the Plan, to involve fully the public and private agencies in the statewide direction for services and to modify and implement the planning itself as an on-going process.

In a sense, the statewide organization for rehabilitation with its delegation of "shared" and autonomous but coordinated responsibilities is similar to the national trend toward major interagency and intergovernmental systematic coordination of related functions. It is a management pattern which will allow maximum operational and administrative flexibility combined with a recognition of the need for "checks and balances" within the services provided by the various agencies within the State of Hawaii.

A strong concensus within the various committees and the Policy Board advocated this "moderate" administrative solution. Two extreme positions which were identified and discarded are: The completely autonomous and relatively uncoordinated action (laissez-faire) now present, v.s.complete reorganization and centralization of all agency functions in one department.

It is most important that the Division of Vocational Rehabilitation, State Department of Social Services, as the statewide administrative unit for coordination of public-private services, formulate and maintain a detailed system of administrative procedures to support the statewide system within the management units specified preceding.

Management procedures in writing should cover all administrative relationships and delegation of responsibility, as they interrelate between the Centers and the central system office, the agencies themselves, the community, Federal, City and County, and State government departments and political subdivisions.

Of particular importance to the system maintenance is a detailed investigation of pragmatic possibilities for financially sharing costs of facilities construction and joint client case costs.

Periodic evaluation of the statewide unit should be provided for as well as constant improvement of management and communications methods in every area involving the system. The evaluation process, as separate from planning, should result in new policies and legislative revisions, which will then be incorporated into the job descriptions of personnel and otherwise immediately implemented.

The success of the system will depend upon the effectiveness with which the purpose of the system is accomplished., e.g., total, comprehensive, efficient rehabilitation services made available through delivery systems to all people in the State of Hawaii who can benefit from such services. This criteria is the measure against which policy, program and evaluation should be judged.

The Statewide Administrative Unit for Rehabilitation, DVR, DSS should be an integrated part of the Division, to the extent feasible within existing policy and eligibility frameworks.

FINDINGS AND RECOMMENDATIONS

A. Estimates of the Prevalence and Incidence of Handicapped Persons by Category Projected to 1975.

The basic component of the Hawaii State Vocational Rehabilitation Plan is the statistical identification by number and category those persons in the State of Hawaii who are disabled and in need of vocational rehabilitation services.

Background information for the Plan's statistical base will be stated first, this will be followed by the general survey procedures utilized by the two major surveys, the selected findings of the major surveys with selected national data and the statistical findings by the four major categories with support tables.

In addition to this, several other major research studies were conducted in relation to the various phases of the Plan. The summary of the findings of each study will be reported in Section IV. (G), Special Planning Topics. They are:

(1) Agency Survey Research Report.

(2) Vocational Survey Supplement.

(3) Special Study of Court Cases of Mentally Retarded with Multiple Disabilities.

(4) Cost-Benefit Analysis.

I. BACKGROUND INFORMATION

Two major original research studies were conducted to obtain the necessary data. The format utilized by both survey programs was that of the U.S. National Health Survey, adapted for State of Hawaii use by the State Department of Health in an extensive and on-going survey of the population of Oahu, which contains eighty per cent of the population of the State. Data from the first State of Hawaii, Department of Health study was made available in compiled form to the Hawaii State Vocational Rehabilitation Plan through the fine cooperation of the Research, Planning and Statistics Office and the Public Health Nursing Branch of that Department. A second comparable and closely coordinated study was conducted under a project subcontract by the firm, Survey & Marketing Services, Inc. for the Counties of Kauai, Hawaii, and Maui. Both studies were extended to all residents of the State of Hawaii who are noninstitutional.

Basic publications describing the design and procedures in the Hawaii Health Survey were a paper on "Design and Procedures," the adaption of the national "Interviewer's Manual" for the State Health Surveillance Program, 1964, which included a detailed explanation of all methods to be followed in sampling, interviewing, coding, and tabulating data, as well as the definitions for all disability categories, and the use of "flash cards." Survey & Marketing Services, Inc. followed the same procedures in order to have as closely corelated data as is possible for the Counties of Hawaii, Kauai, and Maui.

In addition to the groups thus identified, "search-of-the-literature" method was utilized from mental retardation data, and the social disability categories of adult public offender, juvenile delinquent, alcoholics, draft rejectees, and dropouts. These categories were not included in the two major surveys but the data obtained was the best available in the State and is the source now in use by agencies giving services in these fields, e.g., mental retardation data was supplied by the State Department of Health who estimates a three per cent proportion of total Oahu population as noted in "Mental Retardation, a National Plan for a National Problem," U.S. Department of Health, Education and Welfare Report, 1963; other sources of data for social disabilities are noted in the footnotes for the statewide tables.

With this base, the Hawaii project has subsequently categorized the compiled data on incidence and prevalence of disability by the four suggested categories:

(1) Prevalence of impairments in broad categories.

(2) Prevalence of specific impairments (disabilities) which constitute a vocational handicap.

(3) Prevalence of people with specific vocational handicaps who need and are eligible and feasible for vocational rehabilitation services.

(4) Prevalence of people needing vocational rehabilitation services who can be contacted, who will be available and who will accept vocational rehabilitation services.

II. SURVEY METHOD

The State Department of Health, Health Surveillance Program and the comparable Survey & Marketing Services, Inc. Survey of the Neighbor Islands, had these objectives and basic procedures:

(1) Objective of the survey. "To institute, develop, and demonstrate the feasibility and utility of continuing health surveillance by means of interviews conducted in small random samples of households, independently selected each month; to provide sensitive up-to-date measures of morbidity, population characteristics, health attitudes and the degree of health information in the community, and other knowledge useful in health planning, evaluation and research." Concepts and procedures are based on those of the National Health Survey, and utilized over a three year period.

(2) Sampling. Electric light meters were the main sampling frame. Samples were randomly selected households, scientifically designed. Sampling did not include tourists and other nonresidents, persons in institutions, and members of the armed forces in barracks.

(3) Interviewers. The State Department of Health, Health Surveillance Program, assigned an estimated fifty public health nurses part-time, and three full-time, plus other assistance for interviewing and processing.

Interviewing, coding and tabulation processes were standardized. Survey & Marketing Services, Inc. utilized approximately thirty-five persons in interviewing and an additional five to ten persons in coding and tabulation.

(4) Questionnaire content. The four parts of the master questionnaire utilized are:

a. demographic characteristics

b. health probe questions (morbidity and hospitalization)

c. morbidity conditions

d. additional data

A supplementary questionnaire, the Vocational Survey Supplement administered concurrently by both survey agencies. Recall periods, data processing, and other procedures were specified and standardized.

(5) Survey Categories and Procedures.

The categories[1] utilized for each respondent produced three broad "limitation" categories, and two categories for those with "no limitation" in activity.

The three "limitation" categories are:

a. Unable to carry on major activity (preschool play, school, housework or work).

b. Limitation in amount or kind of major activity.

c. Not limited in major activity, but otherwise limited (church, sports, shopping, etc.)

If the respondent was indicated to be in one of the first three categories above, he or she was asked to specify the one or more chronic conditions causing the limitation. Each person interviewed was counted by major disabling condition only once, even though more than one may be reported by the respondent.

Institutionalized persons were not included in the Surveillance Program by either agency, nor in the categories of estimates of those who are limited in activity.

[1] Federal definitions utilized, see Appendix.

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(6) Survey Sample

Oahu Survey: 18,000 persons from 4,465 households were sampled by the State Department of Health.

Neighbor Island Survey: 2,275 household interviews were conducted by Survey & Marketing Services, Inc. The proportionate sample was distributed as follows:

County	Total Households	Sample
Hawaii County	15,500	1,012
Maui County	9,851	664
Lanai	620	41
Molokai	1,100	73
Kauai County	7,725	505
Total	34,796	2,275

III. SELECTED FINDINGS OF THE MAJOR SURVEYS WITH SELECTED NATIONAL DATA:

(1) The total number of persons with physical, mental, and social disabilities who are disabled and vocationally handicapped and who are estimated could benefit from vocational rehabilitation services in the State of Hawaii currently is 81,880. This number will increase to 96,117 in 1970, and to 110,494 in 1975, based on population estimates of the State Department of Planning and Economic Development.

Included in this category are those who have:

a. limitations in activity due to chronic conditions, but not in major activity

b. limitations in major activity, and

c. those who are unable to carry on major activity

(2) Of the total of 81,880 persons noted above who could "currently benefit from vocational rehabilitation services" include the three categories above:

a. 38,700 persons on Oahu were estimated to have physical and mental disabilities by the two major surveys conducted, e.g., 3,090 persons on Hawaii, 2,340 on Kauai, and 2,890 on Maui were similarly categorized. The statewide total of persons categorized as having physical and mental disabilities was therefore estimated to be 47,020 (approximately)

b. to the total of 47,020 was added estimates for mental retardation and the social disabilities, by designating 80 per cent of the statewide total in each category to Oahu which has 80 per cent of the population, and one-third of twenty per cent to each of the Neighbor Islands.

(3) The total number of persons with "activity limitations but not in major activity" is currently estimated to be:

Oahu:	18,300
Kauai:	990
Maui:	970
Hawaii:	840

The statewide total is therefore estimated to be 21,100 (approximately).

Percentages of the social disabilities category were not included in this table, since those who were identified as suffering from social behavioral disorders requiring treatment were designated under "vocationally handicapped," next reported.

(4) The total number of "vocationally handicapped" persons who have "limitations in major activity" or who are "unable to carry on major activity," are currently estimated to be:

Oahu:	20,400)	
Kauai:	1,340)	25,950 Total
Maui:	1,930)	
Hawaii:	2,230)	

To the total of 25,950 was added the mentally retarded total of 16,950, and the socially handicapped total of 17,916. Therefore, the total number of persons estimated vocationally handicapped is 61,072 (approximately).

(5) Selected national data in the major disability categories in comparison with selected Oahu survey data, Hawaii State Department of Health.

a. Selected chronic conditions causing activity limitation:

The four major chronic conditions causing activity limitation in the United States in that order are heart conditions, arthritis and rheumatism, mental and nervous conditions, and conditions of the back or spine.

In the category of[1] the musculoskeletal system, approximately thirty per cent of the population with chronic disabling conditions suffer some limitation of activity from arthritis, rheumatism, and orthopedic impairments.

In the State of Hawaii, the Oahu County data from the State Department of Health estimated activity limitations due to chronic conditions to be 38,700 persons or 6.8 per cent of the Oahu population who reported limitation of activity due to chronic conditions. Three per cent were limited to some extent

[1]Source: "Chronic Conditions and Activity Limitation: United States, July, 1961-June, 1963" Vital and Health Statistics, Series 10, No. 17, HEW, Public Health Service.

TABLE 1.

ESTIMATED NUMBER OF PERSONS IN STATE OF HAWAII POPULATION
DISABLED AND VOCATIONALLY HANDICAPPED, BY AGE AND COUNTY, 1966 1968

State of Hawaii	Total Population		Disabled with "Activity limitations but not in Major Activity"[1]		Disabled who are Handicapped Vocationally[2]		Sub-Total	Plus Percent Mentally Retarded	Plus Percent Socially Handicaps	Est. Total of Vocationally Handicapped 1966	Est. Total of Disabled and/or Vocationally Handicapped	Total Population
	Under 17	17+	Under 17	17+	Under 17	17+						
OAHU												
Total	224,500	340,900	3,000	15,300	2,800	17,600	38,700	13,560	14,632	48,590	66,892	565,400
City	116,500	207,600	1,200	9,900	1,600	11,100	23,800					
Remainder	108,000	133,100	1,800	5,400	1,300	6,500	15,000					
			18,300		20,400							
KAUAI	9,230	16,600	160	830	80	1,270	2 340	1,130	1,194	3,674	4,664	25,800
			990		1,350							
MAUI	16,560	30,120	290	680	190	1,740	2,900	1,130	1,194	4,254	5,224	46,820
			970		1,930							
HAWAII	20,850	37,730	130	710	170	2,060	3,070	1,130	1,194	4,554	5,394	58,860
			840		2,230							
TOTALS:			21,100		25,910		46,010	16,950	14,632	61,072	81,880	696,880

[1]Those with "activity limitations" but not in major activity.

[2]Those who have "limitations in major activity" or who are "unable to carry on major activity."

161-1067

TABLE 2.

STATEWIDE SUMMARY
ESTIMATED PERSONS COULD BENEFIT FROM REHABILITATION SERVICES
BY JUDICIAL DISTRICT

COUNTY	DISTRICT	PHYSICAL AND MENTAL DISABILITIES[1]	% STATEWIDE MENTAL RETARDATION[2] (16,950)	% SOCIAL[3] DISABILITIES STATEWIDE (17,916)	TOTAL ESTIMATED DISABILITIES
OAHU			80% Oahu = 13,560	80% Stwd. = 14,632	
City and County of Honolulu	Diamond Head (CT 1-45)	14,400 (39%)	 5,288	 5,706	. . . 25,394
	Lanakila (CT 46-72)	9,200 (23%)	 3,118	 3,365	. . . 15,683
	Leeward (CT 73-100)	8,000 (20%)	 2,712	 2,926	. . . 13,638
	Windward (CT 101-113)	6,800 (18%)	 2,440	 2,633	. . . 11,873
		SUB-TOTAL 38,700			66,588
HAWAII	Hilo City	1,120	1/3 of 20%	1/3 of 20%	
	South Hilo	380			
	North Hilo	40	1,130	1,194	5,414
	Hamakua	100			
	North Kohala	390			
	South Kohala	100			
	North Kona	340			
	South Kona	420			
	Kau	120			
	Puna	80			
		SUBTOTAL: 3,090			
KAUAI	Waimea	610	1/3 of 20%	1/3 of 20%	
	Koloa	560			
	Lihue	410	1,130	1,194	4,664
	Kawaihau	630			
	Hanalei	140			
		SUBTOTAL: 2,340			
MAUI	Hana, Makawao	870	1/3 of 20%	1/3 of 20%	
	Wailuku	1,250			
	Lahaina	240	1,130	1,194	5,214
	Molokai	290			
	Lanai	240			
		SUBTOTAL: 2,890			
STATEWIDE TOTAL:		TOTAL: 47,020	16,950	17,916	81,880

-162-1068

[1]Honolulu County incidences and population estimate from: "Activity Limitation Due to Chronic Conditions," Tables
State Department of Health, 1966.
Honolulu County population for 1965 estimated at:

All Ages	-	565,400
Under 45	-	453,400
45 and Over	-	112,000

Only household noninstitutional personnel included. Military personnel in barracks not included, but military personnel with families are included.

[2]Hawaii mental retardation incidence data based on conventionally accepted 3% proportion of total Oahu population estimated to be mentally retarded from "A Bird's-eye View of the Mental Retardation Division," leaflet by Mental Retardation Division, State Department of Health, undated.

[3]All population projections except those noted are from Department of Planning and Economic Development and are preliminary estimates subject to change--for restricted use only. Military population assuming 1960 equivalent of 50,000 deleted.

Total Population	10-19 Year-Old Population	15-19 Year-Old Population	20-Year-Old and Over
1970 - 800,000	1970 - 164,272	1970 - 83,453	1970 - 460,000
1975 - 912,000	1975 - 166,241	1975 - 88,160	1975 - 540,000

Hawaii data on incidences of public offenders from Table P1 report to Hawaii State Vocational Rehabilitation Plan Committee on Correctional Rehabilitation. Hawaii 1960 population data 20 and over estimated by U.S. Census Bureau at 359,000 with military personnel--without military personnel 306,000. No recent figures on incidences of public offenders available, although data on incidences of offenses are available. Data on offenses distort total number of public offenders.

Hawaii juvenile delinquent data from Family Court, First Circuit Court. Hawaii 1966 population estimated at 667,000 (excludes military population) from Department of Planning and Economic Development. Because rates based on population age groups 10-17 years old were unavailable, only 1966 Hawaii total civilian population data were available.

Hawaii 1958 alcoholism incidence and rate from "Report on Alcoholism in the State of Hawaii," p. 10, report by the Governor's Committee on Alcoholism, September, 1962. Incidences on alcoholism based on population projection as above.

Hawaii draft rejectee data from "Supplement to Health of the Army," p. 14, Office of the Surgeon General, U.S. Army, May 1965. Total draftees examined for Hawaii, 739.

Hawaii dropout data from "Hawaii Public Schools' Dropouts and Suspensions - 1965-1966," p. 2, Office of Instructional Services, Hawaii Department of Education, January 1967. Hawaii 9th-12th grade public school population from "Statistics on Public and Private School, Pupil Membership, 1965-1966," R.R. 20, Table 4, Department of Education, January 28, 1966, estimated at 41,389. Projected Hawaii public school population 9th-12th grades, 1970 and 1975 from "Statistics on Public and Private School Pupil Membership, 1965-1966," Table 6, R.R. 20, Department of Education, January 28, 1966: 1970 - 47,402; 1975 - 51,518.

Hawaii 1965, "45 and Over" population from Department of Planning and Economic Development. Preliminary estimates and subject to change--restricted use only. Population projected from Department of Planning and Economic Development preliminary estimate and subject to change--restricted use only.

[4]County data from "Incidence of Disability for Neighbor Islands," Survey and Marketing Services, Inc.

SOCIAL DISABILITIES

INCIDENCES AND RATE PER 1,000 POPULATION OF SELECTED TYPE OF HANDICAPS IN U.S. AND HAWAII AT SELECTED YEARS WITH PROJECTED INCIDENCES OF SELECTED HANDICAPS - 1970 AND 1975 FOR HAWAII ONLY[1]

Type of Handicap, Number, and Rate per 1,000 Population	U.S.	State of Hawaii	Projected Incidences 1970	Projected Incidences 1975
Adult Public Offender[2]				
Number in State Prison	185,200 (12/60)	591 (1960)	736	864
Rate (20 years and over)	1.6	1.6		
Median time served (months)	20.9	31.5		
Juvenile Delinquent[3]				
Number - excluding traffic cases	833,507 (1965)	4,026 (1965-66)	4,645	5,290
Rate	8.8	5.8		
Alcoholics[4]				
Number	6,500,000 (1965)	12,000 (1958)	19,234	22,244
Rate (20 years and over)	55.2	37.7		
Draft Rejectees[5]				
Number	448,790 (1964)	269 (1964)	(Data cannot be estimated)	
Administrative reasons	14,146 (1.7%)	1 (.6%)		
Mental requirements	234,067 (27.6%)	86 (24.8%)		
Medical	187,713 (22.2%)	160 (33.5%)		
Rate rejected per 1,000 draftees	529.5	364.0		
Dropouts[6]				
Number	750,000	1,030 (1965-66)	1,185	1,288
Rate	65.7	25.0		
		17,916	25,800	29,686
Older Worker - 45 and over (1965)[7]	57,200,000	154,748	187,580	217,366
45-64	39,000,000	120,482	143,346	163,530
65 and over	18,200,000	34,266	44,234	53,836

1071 SSOF

[1]All population projections except those noted are from Department of Planning and Economic Development and are preliminary estimates subject to change--for restricted use only. Military population assuming 1960 equivalent of 50,000 deleted.

Total Population	10-19 Year-Old Population	15-19 Year-Old Population	20-Year Old and Over
1970 - 800,000	1970 - 164,272	1970 - 83,453	1970 - 460,000
1975 - 912,000	1975 - 166,241	1975 - 88,160	1975 - 540,000

[2]U.S. and Hawaii data on incidences of public offenders from Table P1 report to Hawaii State Vocational Rehabilitation Plan Committee on Correctional Rehabilitation. U.S. 1960 population from "Trends," p. S-3 estimated at 117.7 million (20 years and over). Hawaii 1960 population data 20 and over estimated by U.S. Census Bureau at 359,000 with military personnel -- without military personnel 306,000. No recent figures on incidences of public offenders available, although data on incidences of offenses are available. Data on offenses distorts total number of public offenders.

[3]U.S. incidences from "Crime in the U.S.," Federal Bureau of Investigation, p. 104, July 28, 1966, which includes U.S. 1965 population at 194.6 million. Hawaii data from Family Court, First Circuit Court. Hawaii 1966 population estimated at 667,000 (excludes military population) from Department of Planning and Economic Development. Because rates based on population age groups 10-17 years old were unavailable, only 1966 Hawaii total civilian population data were available.

[4]U.S. estimates from undated leaflet published by Hawaii Committee on Alcoholism. U.S. population of 20 years and over estimated at 117.7 million. Hawaii 1958 incidence and rate from "Report on Alcoholism in the State of Hawaii," p. 10, report by the Governor's Committee on Alcoholism, September 1962. Incidences on alcoholism based on population projected as in Footnote 2 above.

[5]U.S. and Hawaii data from "Supplement to Health of the Army," p. 14, Office of the Surgeon General, U.S. Army, May 1965. Total draftees examined for U.S. - 847,511; for Hawaii - 739.

[6]Estimated annual number of dropouts for 1960-70 in U.S. from "Selected Reports and Statistics in School Dropouts," p. 12, Office of Education OE #20063, reprinted from "School Life," December, 1963 - January, February 1964. Ninth - twelfth-grade 1965 population estimate of 11.4 million in U.S. public schools from "Trends," p. S-42, USDHEW 1965 publication. Hawaii dropout data from "Hawaii Public Schools Dropouts and Suspensions - 1965-1966," p. 2, Office of Instructional Services, Hawaii State Department of Education, January 1967. Hawaii 9th-12th-grade public school population from "Statistics on Public and Private School, Pupil Membership, 1965-66," RR. 20, Table 4, Department of Education, January 28, 1966, estimated at 41,389.

1072 1991-1

Projected Hawaii Public School population 9th-12th grades, 1970 and 1975 from "Statistics on Public and Private School Pupil Membership, 1965-66." Table 6, R.R. 20, Department of Education, January 28, 1966: 1970 - 47,402; 1975 - 51,518.

[7]U.S. 1965 - 45 and Over Population from "Trend," p. S-3. Hawaii 1965, 45 and Over Population from Department of Planning and Economic Development. Preliminary estimates and subject to change--restricted use only. Population projection from Department of Planning and Economic Development preliminary estimate and subject to change--restricted use only.

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TABLE 3.

STATEWIDE SUMMARY AND SUPPORT TABLES

TOTAL ESTIMATED POPULATION ACCORDING TO CHRONIC CONDITION STATUS AND LIMITATION OF ACTIVITY STATUS BY AGE AND RESIDENCE

	With Limitation But Not In Major Activity[1]					With Limitation In Amount Of Kind Of Major Activity					Unable to Carry On Major Activity				
	All Ages	Under 17	17-44	45-64	65+	All Ages	Under 17	17-44	45-64	65+	All Ages	Under 17	17-44	45-64	65+
OAHU	18,400	3,000	7,300	5,600	2,400	14,500	2,100	5,100	4,600	2,700	5,900	700	900	1,500	2,800
KAUAI	980	160	240	420	170	960	70	200	360	330	400	10	30	120	230
HAWAII	840	130	310	270	130	1,430	100	400	720	210	820	70	140	370	220
MAUI	970	290	150	380	150	1,330	140	320	540	340	590	50	80	220	240
TOTALS	21,190	3,580	8,000	6,670	2,850	18,220	2,410	6,020	6,220	3,580	7,710	830	1,150	2,210	3,490

[1]Major Activity refers to ability to work, keep house or engage in school or preschool activities.

1074 1168

OAHU (CITY AND COUNTY OF HONOLULU)

TOTAL ESTIMATED POPULATION ACCORDING TO CHRONIC CONDITION STATUS AND LIMITATION OF ACTIVITY STATUS BY AGE AND RESIDENCE: OAHU, APRIL 1964 - MARCH 1966

Chronic Condition and Limitation of Activity Status	All Ages		Under 17 Years		17-44 Years		45-64 Years		65+ Years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
				OAHU						
Total Population	565,300	100.0	224,500	100.0	228,900	100.0	88,200	100.0	23,800	100.0
Persons with no chronic condition	360,200	63.7	172,300	76.8	138,700	60.6	40,900	46.4	8,300	35.1
With one or more chronic conditions	205,100	36.3	52,200	23.2	90,200	39.4	47,200	53.6	15,400	64.9
With no limitation of activity	166,400	29.5	46,300	20.6	77,000	33.6	35,500	40.3	7,600	31.9
With limitation but not in major activity*	18,400	3.2	3,000	1.4	7,300	3.2	5,600	6.4	2,400	10.1
With limitation in amount or kind of major activity*	14,500	2.6	2,100	.9	5,100	2.2	4,600	5.2	2,700	11.2
Unable to carry on major activity*	5,900	1.0	700	.3	900	.4	1,500	1.7	2,800	11.7
38,800										
				CITY OF HONOLULU						
Total Population	324,200	100.0	116,500	100.0	132,100	100.0	58,700	100.0	16,800	100.0
Persons with no Chronic Condition	205,300	63.3	88,700	76.2	83,000	62.9	27,500	46.8	6,100	36.2
With one or more Chronic Conditions	118,800	36.7	27,800	23.8	49,100	37.1	31,300	53.2	10,700	63.8
With no limitation of activity	95,000	29.4	25,000	21.5	41,500	31.3	23,600	40.1	5,000	29.7
With limitation but not in major activity*	11,100	3.4	1,200	1.0	4,100	3.1	3,800	6.4	2,000	11.9
With limitation in amount or kind of major activity*	9,000	2.8	1,100	.9	3,000	2.3	3,000	5.1	1,900	11.3
Unable to carry on major activity*	3,700	1.1	500	.4	500	.4	900	1.6	1,800	10.9
23,800										

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OAHU (CITY AND COUNTY OF HONOLULU), Continued

Chronic Condition and Limitation of Activity Status	All Ages		Under 17 Years		17-44 Years		45-64 Years		65+ Years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
			REMAINDER OF OAHU							
Total Population	241,100	100.0	108,000	100.0	96,800	100.0	29,400	100.0	6,900	100.0
Persons with no Chronic Condition	154,900	64.2	83,600	77.4	55,600	57.5	13,400	45.7	2,300	32.4
With One or More Chronic Conditions	86,200	35.8	24,400	22.6	41,100	42.5	16,000	54.3	4,700	67.6
With no Limitation of Activity	71,300	29.6	21,300	19.7	35,500	36.7	12,000	40.6	2,600	37.0
With Limitation but not in Major Activity*	7,300	3.0	1,800	1.7	3,200	3.3	1,800	6.3	400	5.9
With Limitation in amount or kind of Major Activity*	5,500	2.3	1,000	1.0	2,100	2.1	1,600	5.4	800	11.0
Unable to carry on Major Activity*	2,200	.9	300	.2	400	.4	600	2.0	1,000	13.7
15,000										

*Major activity refers to ability to work, keep house, or engage in school or preschool activities.

1076 1059

COUNTY OF KAUAI
TOTAL ESTIMATED POPULATION ACCORDING TO CHRONIC CONDITION STATUS AND LIMITATION OF ACTIVITY STATUS, BY AGE: KAUAI, JUNE - OCTOBER 1967

Chronic Conditions and Limitation of Activity Status	All Ages		Under 17 Years		17-44 Years		45-64 Years		65+ Years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	25,800	100.0	9,230	100.0	7,930	100.0	6,500	100.0	2,140	100.0
Persons with no chronic condition	17,220	66.7	7,730	83.7	5,290	66.8	3,530	54.3	670	31.0
With one or more chronic conditions	8,580	33.3	1,500	16.3	2,640	33.2	2,970	45.7	1,470	69.0
With no limitation of activity	6,240	24.2	1,260	13.7	2,170	27.3	2,070	31.9	740	34.6
With limitation but not in major activity*	980	3.8	160	1.7	240	3.0	420	6.4	170	8.1
With limitation in amount or kind of major activity*	960	3.7	70	.8	200	2.5	360	5.5	330	15.4
Unable to carry on major activity*	400	1.6	10	.1	30	.4	120	1.9	230	10.9
	2,340		240		470		900		730	

*Major activity refers to ability to work, keep house, or engage in school or preschool activities.

COUNTY OF HAWAII

TOTAL ESTIMATED POPULATION ACCORDING TO CHRONIC CONDITIONS STATUS AND LIMITATION OF ACTIVITY STATUS, BY AGE: HAWAII, JUNE - OCTOBER 1967

Chronic Conditions and Limitation of Activity Status	All Ages		Under 17 Years		17-44 Years		45-64 Years		65+ Years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	58,860	100.0	20,850	100.0	19,550	100.0	13,550	100.0	4,630	100.0
Persons with no chronic condition	43,340	73.7	18,440	88.4	14,740	75.4	7,720	57.0	2,270	49.0
With one or more chronic condition	15,510	26.3	2,410	11.6	4,810	24.6	5,830	43.0	2,360	51.0
With no limitation of activity	12,420	21.1	2,120	10.2	3,950	20.2	4,470	33.0	1,800	38.8
With limitation but not in major activity*	840	1.4	130	.6	310	1.6	270	2.0	130	2.9
With limitation in amount or kind of major activity	1,430	2.4	100	.5	400	2.1	720	5.3	210	4.5
Unable to carry on major activity	820	1.4	70	.3	140	.7	370	2.7	220	4.7
	3,090		300		850		1,360		560	

*Major activity refers to ability to work, keep house, or engage in school or preschool activities

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COUNTY OF MAUI

TOTAL ESTIMATED POPULATION ACCORDING TO CHRONIC CONDITIONS STATUS AND LIMITATION OF ACTIVITY STATUS, BY AGE: MAUI, JUNE - OCTOBER 1967

Chronic Conditions and Limitation of Activity Status	All Ages		Under 17 Years		17-44 Years		45-64 Years		65+ Years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	46,820	100.0	16,560	100.0	15,210	100.0	10,880	100.0	4,030	100.00
Persons with no chronic condition	32,820	69.9	14,090	85.1	10,850	71.3	5,890	54.1	1,880	46.6
With one or more chronic conditions	14,000	29.8	2,470	14.9	4,360	28.7	4,990	45.9	2,150	53.3
With no limitation of activity	10,870	23.2	1,960	11.8	3,710	24.4	3,800	34.9	1,370	34.0
With limitation but not in major activity*	970	2.1	290	1.8	150	1.0	380	3.5	150	3.7
With limitation in amount or kind of major activity	1,330	2.8	140	.8	320	2.1	540	5.0	340	8.4
Unable to carry on major activity	1,590	1.3	50	.3	80	.5	220	2.0	240	6.0
	2,890		480		550		1,140		730	

*Major activity refers to ability to work, keep house, or engage in school or preschool activities.

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TABLE 4. STATEWIDE ESTIMATED NUMBER WITH ACTIVITY LIMITATIONS AND SUPPORT TABLES

ESTIMATED NUMBER OF PERSONS WITH ACTIVITY LIMITATION DUE TO CHRONIC CONDITIONS AND RATE PER 1,000 POPULATION BY NEIGHBORHOODS AND AGE: OAHU, APRIL 1964 - MARCH 1966

Neighborhoods (Census tract numbers in parenthesis)	All Ages		Under 45 Years		45+ Years	
	Number	Rate	Number	Rate	Number	Rate
OAHU	38,700	68.4	19,100	42.2	19,600	174.9
Hawaii-Kai to Aina Haina (1,2,3)	1,000	58.2	600	41.6	400	127.3
Waialae-Kahala to Diamond Head (4,5,6)	600	56.5	300	42.9	300	87.4
Kaimuki (7,8,13,14)	1,600	79.5	500	31.8	1,200	203.3
Wilhelmina Rise (9)	700	71.0	300	35.6	500	151.5
Palolo and St. Louis Heights (10,11,12,28)	1,300	64.1	500	30.6	800	186.6
Kapahulu (15,16)	1,000	81.6	200	27.0	800	198.3
Waikiki (17,18,19,20)	1,600	104.5	400	38.9	1,200	246.8
Date, Moiliili and McCully (21 to 26)	1,900	65.7	1,200	50.5	700	131.4
Manoa and Woodlawn (27,29,30,31)	1,800	74.8	700	40.1	1,100	164.3
Makiki Heights, Tantalus, Pauoa (32,33,44)	700	77.5	200	25.6	500	191.0
Central Waikiki and Punchbowl (34,43)	1,200	67.5	300	25.3	900	210.9
Lower Makiki and Ala Moana (35,36,37)	700	74.0	300	45.6	400	171.4
Kakaako, Downtown, Queen Emma (38-42,51,52)	600	79.6	400	72.7	200	98.4
Nuuanu Valley and Kamehameha Heights (45 to 50)	2,300	75.4	1,100	50.1	1,200	143.9
Palama, Kapalama, Kalihi-Waena (53-56,61,62)	2,100	100.1	900	58.6	1,200	218.4
Iwilei and Kalihi-Kai (57,58,59,60)	1,800	87.5	800	49.0	1,000	215.7
Kalihi-Uka (63,64,65)	1,300	71.9	700	44.8	600	198.0
Moanalua (66 to 72)	1,400	47.7	1,000	35.5	400	236.4
Hickam, Halawa, Aiea (73 to 77)	1,600	56.8	1,000	40.8	600	157.0
Waimalu and Pearl City (78 to 81)	900	47.1	600	33.1	300	152.8
Waipahu and Waipio (82,87,88,89)	700	40.1	300	18.2	400	127.3
Ewa and Barbers Point (83,84,85,86)	900	39.3	600	28.0	300	114.6
Wahiawa Judicial District (90 to 95)	1,400	53.0	500	24.9	800	203.1
Waianae Judicial District (96,97,98)	1,900	83.2	1,100	56.2	800	224.1
Waialua Judicial District (99,100)	600	76.0	400	57.1	300	150.9
Koolauloa Judicial District (101,102)	500	56.1	300	35.2	300	137.9
Kualoa to Kahaluu (103,104)	800	74.5	600	60.9	200	189.2
Kaneohe (105,106,107,108)	2,100	69.7	1,400	52.1	700	198.3
Kailua and Lanikai (109,112)	1,500	68.1	800	41.8	800	183.2
Maunawili, Keolu, Waimanalo (110,111,113)	1,900	82.4	1,400	69.5	500	156.0

174 01080

ESTIMATED NUMBERS OF PERSONS WITH ACTIVITY LIMITATION
DUE TO CHRONIC CONDITIONS AND RATE PER 1,000 BY
JUDICIAL DISTRICTS AND AGE: KAUAI, JUNE 1967-NOVEMBER 1967

Districts	All Ages		Under 45 Years		45+ Years	
	Number	Rate	Number	Rate	Number	Rate
Kauai	2,340	90.8	710	41.2	1,630	189.0
Waimea	610	88.5	240	52.1	370	157.9
Koloa	560	88.0	70	15.3	490	223.6
Lihue	410	76.5	90	28.2	310	157.5
Kawaihau	630	106.2	260	59.9	370	232.8
Hanalei	140	105.3	50	63.8	90	172.4

ESTIMATED NUMBERS OF PERSONS WITH ACTIVITY LIMITATION
DUE TO CHRONIC CONDITIONS AND RATE PER 1,000 BY
JUDICIAL DISTRICTS AND AGE: MAUI, JUNE - OCTOBER 1967

Districts	All Ages		Under 45 Years		45+ Years	
	Number	Rate	Number	Rate	Number	Rate
Maui	2,790	61.8	980	31.9	1,810	126.1
Hana, Makawao	870	90.0	300	43.8	580	195.6
Wailuku	1,250	54.8	410	26.6	840	115.3
Lahaina	240	42.7	110	27.9	140	74.3
Molokai	240	50.7	100	29.1	140	101.1
Lanai	180	82.8	70	50.5	110	140.4

ESTIMATED NUMBERS OF PERSONS WITH ACTIVITY LIMITATION
DUE TO CHRONIC CONDITIONS AND RATE PER 1,000 BY
JUDICIAL DISTRICTS AND AGE: HAWAII, JUNE - OCTOBER 1967

Districts	All Ages		Under 45 Years		45+ Years	
	Number	Rate	Number	Rate	Number	Rate
Hawaii	3,090	52.4	1,150	28.3	1,920	105.8
Hilo City	1,120	43.9	370	38.3	730	93.7
South Hilo	380	70.3	130	35.2	260	141.0
North Hilo	40	19.2	---	----	40	52.6
Hamakua	100	22.3	60	19.0	40	29.7
North Kohala	390	122.6	100	47.6	280	311.5
South Kohala	100	52.2	30	42.2	70	106.5
North Kona	340	72.7	190	58.8	150	106.1
South Kona	420	98.4	160	51.5	260	242.4
Kau	120	38.4	30	17.7	80	73.5
Puna	80	19.3	70	21.8	20	13.2

(12) Nature of the Problem.

One of the major recognized needs in rehabilitation in the State of Hawaii is the need for communication across the disciplines and the organizational and political groups now operating in this field in the State and providing relatively uncoordinated services to people. The agencies in the State have few persons concerned with public relations and communications, reflecting the national level where it is "recognized that less than one-fourth of the State agencies now have full-time personnel assigned to this function..." In terms of the statewide system, the Board supports the need of the agencies for communication and mutual shared understandings to a degree not now achieved. For this reason, a program of shared technical services will include a public relations communications function.

Recommendation.

RECOMMEND A PUBLIC INFORMATION (RELATIONS) PROGRAM IN REHABILITATION, ON THE STATE, DISTRICT AND COUNTY LEVELS; FOCUSED ON SPECIFIC PUBLICS AND SOCIO-ECONOMIC LEVELS.

Implementation Action Suggested.

In general, the communications position will include shared professional services for public relations programs which can be utilized mutually by the many diverse agencies. Specific publics will include both internal and external publics:

(1) All rehabilitation agencies evaluate their own public relations program to determine effectiveness.

(2) Investigate the possible use of "shared funding for statewide multi-media and legislative" approaches.

Cost: $8,000 per year.
Priority: #1, 1969.
Implementation Responsibility: All agencies; Statewide Administrative Unit for Rehabilitation, DVR, DSS.

(13) Nature of the Problem.

Specific features identified as needed in the State of Hawaii.

Recommendation.

RECOMMEND THAT SOME SPECIFIC FEATURES OF THE PUBLIC RELATIONS PROGRAM BE AS FOLLOWS:

(a) COORDINATE AND INTEGRATE PROGRAM WITH REHABILITATION AGENCIES, WORKSHOPS, AND FACILITIES THROUGH FORMAL AGREEMENTS AND SPECIAL WORKSHOPS.

(b) IMPROVE PUBLIC RELATIONS PROCEDURES FOR INTERPRETATION AND DISSEMINATION OF INFORMATION ABOUT REHABILITATION POSITIONS.

(c) CERTAIN PORTIONS OF THE PUBLIC INFORMATION PROGRAM BE GEARED TO THE GENERAL PUBLIC TO HELP "ERASE STIGMA" CONNECTED WITH THE MENTALLY ILL; TO REDUCE FEAR OF WORKING WITH THE HANDICAPPED THUS ASSISTING WITH THE ATTITUDINAL "STIGMA" BARRIER TO EMPLOYMENT; TO BETTER ORIENT THE COMMUNITY TO THE NEEDS OF THE DEAF, ETC.

Implementation Action Suggested.

Implement as indicated.

Cost: No cost.
Priority: #2, 1971.
Implementation Responsibility: Statewide Administrative Unit for Rehabilitation, DVR, DSS.

(14) Nature of the Problem.
An identified need is the required grants and contracts proposals which will be both individually proposed and jointly proposed, in order to facilitate the total forward movement of the statewide plan. In order to systematically apply for such grants, from federal and private sources, it is anticipated that a technical writer skilled in this area should be employed, as necessary.

Recommendation.
RECOMMEND THAT TECHNICAL WRITERS BE AVAILABLE TO REHABILITATION AGENCIES TO ASSIST IN THE FORMULATION OF APPLICATIONS FOR GRANTS AND CONTRACTS.

Implementation Action Suggested.

(1) Technical assistance to be provided through consultant or professional staff services to be added to the Statewide Administrative Unit for Rehabilitation.

(2) Grants and contracts for rehabilitation to be coordinated to aid in implementation of the total statewide Plan.

Cost: $3,000 per year.
Priority: #2, 1971.
Implementation Responsibility: SAVR, DVR, DSS.

(15) Nature of the Problem.
From aggressive case-finding or referral, when client first arrives at the intake unit of the Vocational Rehabilitation Community Service Centers for initial comprehensive diagnostic and evaluation work-up, he should be fully aware of all processes for maximum benefit.

Recommendation.
RECOMMEND THAT, AS MUCH AS FEASIBLE, THE WORKER BE CERTAIN THAT THE CLIENT UNDERSTAND THE TOTAL REHABILITATION PROCESS; FROM ESTABLISHMENT OF THE INITIAL CONTACT, THROUGH THE CLIENT REHABILITATION AND VOCATIONAL PROCESSES.

Implementation Action Suggested.

(1) Responsibility should be assumed by the "intake" unit counselor at the Vocational Rehabilitation Community Service Centers.

(2) Counselor must be aware of the services to be offered to the client.

Cost: No cost.
Priority: #2, 1971-73
Implementation Responsibility: DVR, DSS counselors on behalf of all agencies.

(16) Nature of the Problem.
Committees stressed the need for interagency orientation regarding the specific services which each provides and the role designation within which it is provided. In order to increase "functional" cooperation, this device is also seen as an important and useful one. It was recommended that such orientations be held for all employees periodically, and that a full explanation of the nature and functions of the statewide system be incorporated into this context.

Recommendation.
RECOMMEND THE ESTABLISHMENT OF A PLANNED PROGRAM OF REHABILITATION SERVICES ORIENTATION BETWEEN AGENCIES TO BE COORDINATED BY THE CENTRAL ADMINISTRATIVE UNIT.

Implementation Action Suggested.

Agency orientation to be systematically held by the SAVR, DVR, DSS. with all agencies participating.

Cost: No cost.
Priority: #1, 1969.
Implementation Responsibility: SAVR, DVR, DSS in cooperation with all agencies.

(17) Nature of the Problem.
The designation of common semantic terminology will also serve as a basis for the common information system for client information and data, which will, in turn, service all agencies and the Community Service Centers. Internal follow-up in the agency data collection procedures will also need to be modified in terms of the terminology which has been agreed upon by the groups of professionals involved in services.

Recommendation.
RECOMMEND THAT SEMANTIC BARRIERS BE LESSENED BY AGREEMENT ON COMMON TERMINOLOGY AMONG THE VARIOUS DISCIPLINES; FURTHER RECOMMEND THE ESTABLISHMENT OF A COMMON INFORMATION SYSTEM BASED ON THESE COMMON DEFINITIONS.

Implementation Action Suggested.

(1) Institute internal changes in agencies to support the common information system.

(2) Devise safeguards for confidentiality of client records with SWIS.

Cost: No cost.
Priority: #1, 1969.
Implementation Responsibility: SAVR, DVR, DSS with all agencies.

(18) Nature of the Problem.
Of special importance to the communications with various ethnic groups throughout the State of Hawaii general public relative to both potential clients and to increase the permissiveness of acceptance of clients back into society, was thought to be the use of the television media and radio language broadcasts. Extent and uses made are to be determined, as appropriate.

Committees stressed in particular the aging group, whose finances and transportation are limited and geographically in isolated areas of the State. However, attention to the communications difficulties should be surveyed for all disability groups, special attention to aging.

Recommendation.
RECOMMEND EXPANSION AND FURTHER DEVELOPMENT OF EDUCATIONAL TELEVISION, WITH SPECIAL EMPHASIS ON VOCATIONAL REHABILITATION.

Implementation Action Suggested.

Develop with public service television and radio broadcasts.

Cost: $5,000.
Priority: #2, 1971.
Implementation Responsibility: Statewide Administrative Unit for Rehabilitation; DVR, DSS.

(19) Nature of the Problem.
Communication between agencies is basic.

Recommendation.
RECOMMEND THAT AN ORIENTATION HANDBOOK FOR REHABILITATION SERVICES BE MADE AVAILABLE, TOGETHER WITH THE FUNCTIONS AND STRUCTURE FOR EACH AGENCY.

Implementation Action Suggested.

Implement as one of the basic publications of the statewide system; to be distributed to administrations of all of the relevant agencies and divisions, and utilized as a basic reference.

Cost: $3,000.
Priority: #1, 1969.
Implementation Responsibility: SAVR, DVR, DSS.

(20) Nature of the Problem.
A centralized information and data system, to operate statewide, for the benefit of all clients and agencies now providing services in vocational rehabilitation is basic requirement.

Recommendation.
DEVELOPMENT OF A CENTRALIZED INFORMATION AGENCY. THERE IS RECOGNIZED NEED FOR:

(a) CUMULATIVE AND STANDARDIZED DATA ABOUT CLIENTS,

(b) INFORMATION AND STATISTICS IN THE GENERAL POPULATION ABOUT PERSONS IN NEED OF REHABILITATION,

(c) INFORMATION TO BE GENERALLY AVAILABLE TO OTHER AGENCIES AND TO THE PUBLIC CONCERNING THE CHANGING PROGRAMS AND SERVICES OF AGENCIES PROVIDING REHABILITATION (FEDERAL, STATE, CITY AND COUNTY, PRIVATE NONPROFIT),

(d) AN ADMINISTRATIVE COMMUNICATIONS CHANNEL FOR WORKING ON PROCEDURES WITHIN DEPARTMENTS AND BETWEEN DEPARTMENTS AND AGENCIES,

(E) DISSEMINATION OF INFORMATION ABOUT VOCATIONAL REHABILITATION.

Implementation Action Suggested.

(1) Establish computerized central data bank.

(2) Formal agreements to use and provide input data.

(3) Adopt internal procedures to assure uniformity of data.

(4) Since it involves interchange of privileged information, it involves also establishment of safeguards for confidentiality.

Cost: $150,000.
Priority: #1, 1969.
Implementation Responsibility: Statewide Administrative Unit for Rehabilitation, DVR, DSS; all agencies, and Statewide Information System, SWIS.

A. Program Committee Recommendations:

Cross-Tabulated Recommendations of the Committees

Since many recommendations made by the program, disability, geographic, and administrative committees indicated a common recognition of specific needs for quality and quantity of rehabilitation services for that specialized area, the Policy Board for the Plan requested a working summary of the recommendations by individual recommendations.

The cross-tabulation indicated the extent of need, by endorsing committee. For the recommendations which were finally accepted as part of the Plan by these committees please see the Summary.

1. Committee on Blind and Deaf:

Specialized Rehabilitation Services	Number of Recommendations
Medical	1, 13, 14, 15
Psychological	1, 8, 10a, f, 11a
Social	2, 13
Educational	7, 8, 13, 14, 16, 17
Vocational	Prepl. 2, 5, 6, 22, 23
Personnel	3, 4, 5, 8
Research	1, 9
General Program Workshops and Facilities	7, 8, 29
Communications	4

2. Committee on Heart, Cancer, Stroke:

Specialized Rehabilitation Services	Number of Recommendations
Medical	7, 10a, b, e, f; 12, 17, 18, 19, 20, 21, 22, 24
Psychological	1, 10g, h, i, j
Social	12, 21
Educational	0
Vocational	0
Personnel	5
Research	0
General Program, Workshops and Facilities	0
Communications	0

3. Committee on Mentally Ill, Alchoholism, Drugs:

Specialized Rehabilitation Services	Number of Recommendations
Medical	1, 28a-b
Psychological	1
Social	2, 12, 18, 21, 22, 23
Educational	6, 18, 14
Vocational	23
Personnel	7, 10, 11, 12, 14
Research	4
General Program Workshops and Facilities	9, 15, 26, 27
Communications (See also Administration)	2

4. Committee on Mentally Retarded:

Specialized Rehabilitation Services	Number of Recommendations
Medical	2b, 10c, d, 11, 25
Psychological	0
Social	10
Educational	2, 7a, b, 16, 20
Vocational	15, 16, 17
Personnel	0
Research	2
General Program Workshops and Facilities	0
Communications	1

5. Committee on Physical Restoration and Recreation

Specialized Rehabilitation Services	Number of Recommendations
Medical	1, 5, 6, 7, 8, 9, 3, 10a
Psychological	0
Social	21
Educational	9, 17
Vocational	7
Personnel	9, 2, 5, 6
Research	0
General Program, Workshops and Facilities	1, 19
Communications	2c

6. Committee on Aging

Specialized Rehabilitation Services	Number of Recommendations
Medical	1, 2, 4, 5, 10a, g
Psychological	1, 11c, 2
Social	2, 3, 4
Educational	11
Vocational	18, 19, 20, 21, 22
Personnel	8
General Program, Workshops and Facilities	0
Research	0
Communications	7

7. Committee on Correctional Rehabilitation

Specialized Rehabilitation Services	Number of Recommendations
Medical	1, 2, 12
Psychological	1, 3, 6, 7
Social	26, 27, 28, 29
Educational	3, 7a
Vocational	3, 9, 5a
Personnel	12
Research	5
General Program, Workshops and Facilities	0
Communications	0

8. Committee on Economic Opportunity Programs, Low Income Disabled, Rural Disabled and Military Rejected

Specialized Rehabilitation Services	Number of Recommendations
Medical	1, 2, 3, 10b, f, 23, 24, 25
Psychological	3, 5, 11b
Social	2, 5, 6, 14, 16, 17
Educational	4, 6, 15
Vocational	4, 5
Personnel	5, 8, 9,10, 24
Research	3
General Program Workshops and Facilities	14, 21
Communications	1

9. Committee on Job Placement

Specialized Rehabilitation Services	Number of Recommendations
Medical	2, 27
Psychological	2
Social	24, 25
Educational	13
Vocational	Pre Pupil 1a, b, 8, 9, 10, 11, 12, 14 Govt. 1, 2, 3, 4, 5, 8, 9, 10 Private 1, 2, 4, 5, 8, 9, 10
Personnel	5, 13
Research	0
General Program, Workshops and Facilities	0
Communications	1, 6, 4

10. Committee on Counseling, Vocational Education, Continuing Education

Specialized Rehabilitation Services	Number of Recommendations
Medical	2, 10a, b
Psychological	1, 10b, d, e, 11c, d
Social	5, 6, 7, 8, 9
Educational	1, 2, 3, 4, 7, 8, 10, 11, 14
Vocational	0
Personnel	1, 6
Research	6, 8, 9, 10, 11
General Program, Workshops and Facilities	13, 16, 19, 20, 22
Communications	2

11. Committee on Workshops and Facilities

Specialized Rehabilitation Services	Number of Recommendations
Medical	3, 4, 10a, 11, 16
Psychological	1, 2, 3, 8, 9, 10c
Social	1, 10, 11, 12
Educational	12
Vocational	2, 3, 13 (prepl.)
Personnel	2, 13
Research	2
General Program, Workshops and Facilities	2, 3, 4, 5, 10, 11, 13, 19, 20, 24
Communications	1, 2, 3, 6

B. Administrative Committees:

In addition to the Program Committees preceeding, recommendations were made by the Administrative Committees:

1. Internal Agency Management
2. Statewide coordination of services
3. Legislation
4. Rehabilitation Program Committee

They are reflected throughout the tabular summary.

C. Special Study Report Recommendations. State Plan for Workshops and Rehabilitation Facilities, Vocational Rehabilitation and Services for the Blind, Department of Social Services, September 1968.

REGIONAL RECOMMENDATIONS

Principles in Priority Setting

The principles that have been established for determining priorities for the workshops and rehabilitation facilities planning are:

1. Number and types of disabled individuals
2. Population density
3. Need for the project
4. Economic and industrial factors
5. Transportation and geographic factors
6. Community interest, support and resources
7. Availability of existing facilities and services
8. Feasibility for successful continuity of program
9. Availability of trained personnel
10. The extent of rehabilitation services from the project

Priority I is assigned to the need with greatest urgency which requires immediate consideration and implementation.

Priority II is assigned to the need with moderate urgency and the recommendation to be implemented within two years.

Priority III is assigned to the need with least urgency and the recommendation to be implemented in five years.

PLANNING AREA CONSIDERATION

I. Planning Area I (City and County of Honolulu)

a. Recommend expansion and improvement of physical facilities, equipment and services of existing workshops and facilities. Priority I was assigned to category A which shows high utilization by the Division of Vocational Rehabilitation. Priority II was assigned to category B which has comparatively low utilization.

Category "A"

Lanakila Crafts (including Nanakuli Workshop Satellite)
Goodwill Industries of Honolulu
Salvation Army Men's Social Services
Vocational Development Center
Rehabilitation Center of Hawaii
Shop for the Blind

Category "B"

Leahi Hospital
University of Hawaii Speech Clinic
Hawaii State Hospital (workshop sections)
Waimanalo Training School and Hospital (workshop sections)
Queen's Medical Center (OT and PT sections)
St. Francis Hospital (OT and PT sections)
Hawaii Youth Correctional Facility
Oahu Prison

b. Recommend a study for the establishment of a central comprehensive vocational evaluation service with priority I.

c. Recommend a study be made for vocational rehabilitation program for the alcoholic and further development of an activity center for severely disabled persons with priority I.

d. Recommend a study to be made for the establishment of terminal workshop programs in this area, especially in the Honolulu metropolitan area where such needs seem greatest; devise best way to provide such services assigned priority II.

e. A study is recommended for the development of a vocational rehabilitation facility for the public offender with further clarification of "public offenders." Priority II.

f. To study the need for the sheltered workshop program for the aging. Priority II.

g. Recommend establishing satellite workshops in the following order: Wahiawa and Eva on priority I; Koolaupoko and East Honolulu on priority II; and Waialua-Koolauloa on priority III.

A greater need for the development of additional workshops is indicated in this planning area although there are four large workshops and two comprehensive rehabilitation facilities. The percentage of the Vocational Rehabilitation clients served in terms of the total population of area is lowest in the State.

II. Planning Area II (County of Maui)

a. Recommend undertaking a study to replace a workshop with comprehensive program on the Island of Molokai. The study should also include possible means of transportation for clients and available job opportunities in the community. Priority I.

b. A study should be made for possible formation of itinerant professional workers who will provide technical services. Priority II.

c. Consideration should be given for establishment of a workshop satellite on the Island of Lanai and Hana area on Maui. Priority III.

III. Planning Area III (County of Hawaii)

a. Recommend the improvement of the workshop program of the Rainbow Crafts. Priority I.

b. Recommend the expansion of the prevocational training and activity program for its severely disabled clients. Priority I.

c. A study is needed for a construction of workshop which replaces the present physical facility of the Rainbow Crafts. Priority II.

d. Recommend expansion of rehabilitation facility in Hilo. Priority II.

e. Recommend a study be made for establishing a comprehensive evaluation and training center for the Island with possible dormitory facility. Priority III.

IV. Planning Area (County of Kauai)

a. Recommend establishment of a satellite production workshop in the West Kauai district. Priority I.

b. Recommend expansion of the presently provided prevocational evaluation and activity program to serve more severely disabled clients. Priority II.

c. Recommend expansion and improvement of the rehabilitation facility and services. Priority III.

General Recommendations

These recommendations were developed by the Advisory Committee in response to the need in the State for better vocational rehabilitation services to disabled persons. Recommendations with an asterisk are to be further studied for implementation by the Hawaii State Vocational Rehabilitation Plan.

Priority I was assigned to the following recommendations:

a. Provide more training programs for the subprofessional workers in the workshop and facilities.

*b. A continuous systematic training program be provided at the local college and university for professional and ancillary staff of workshop and facilities.

*c. Educational programs be established for physicians, para-medical personnel, and other personnel involved in various aspects of Rehabilitation.

*d. Workshops be encouraged to provide a wider variety of jobs for training and employment.

*e. Public educational programs for the handicapped be coordinated and integrated with rehabilitation workshops and facilities and existing

agency programs through formal agreements, with the workshop activities to be placed in the classroom setting whenever practical.

*f. Training of the handicapped be carried out in industry and business whenever feasible to provide more realistic training.

*g. Reduction in overlapping in rehabilitation services.

h. A study to be made for the need for terminal workshop and activity centers and financial feasibility of such establishment and cooperation for the severely disabled persons whose productivity is well below the competitive employment level.

i. Establishment of transitional houses in rehabilitation with qualified professional staff to assist in the transition from the rehabilitation agency and hospital to employment.

*j. Semantic barriers be lessened by agreement on common terminology.

*k. Waiver of the three-year residential restriction in civil service which restricts the hiring of professional rehabilitation personnel in the shortage categories from other states.

*l. Amendment of Federal statutes to permit welfare clients to retain a major portion of their earnings from the workshops or employment without affecting the welfare benefits during their probational or training period.

*m. Use of uniform medical and other client records dealing with rehabilitation services.

*n. A computerized and centralized information system for rehabilitation services.

Priority II was assigned to the following recommendations:

a. Provide a rehabilitation workshop service in each Comprehensive Mental Health Center as a component service.

*b. A public relations program be established to enhance community understanding of rehabilitation services rendered by the workshops and facilities. Staff should be provided for this purpose with all agencies contributing.

*c. The system be adequately staffed with an itinerant social worker pool. Members will provide social work services to implement the rehabilitation process, through assignment to a public and private nonprofit agency.

*d. Establish a retirement system or pension plan for rehabilitation workshop and home industry workers and vendor operators.

*e. The State supplement earnings of handicapped persons in supervised employment programs to being the wage level equal to the wages paid for comparable work.

*f. A study be undertaken to review insurance laws (including Social Security Insurance, Workmen's Compensation Insurance) waivers, etc., which affect clients in workshops for revision and amendments to provide better protection and coverage.

SUMMARY

It may be said in summary that:

1. All groups agree on the need for administrative coordination and communication of the various aspects of the five essential rehabilitation services. The variation in pattern in the three plans reflects two individual points of view on the desirability of generalization versus specialization and centralization versus decentralization. Whether or not any facility can or should contain all of the five services appears to be questionable in the minds of the committee members. To allow administration of all rehabilitation services to rest in the hands of one agency was generally felt to be not feasible since "vested interest would block any forward movement by any single group."

2. There was some thought that joint equal use of facilities and the administration of the program between the various governmental levels and types of service would insure participation to a greater degree, although it was noted that any program dealing with so many individuals would be a problem. The committee appeared to feel, however, that comprehensive services and coordination of services are necessary.

TABLE 5.

STATEWIDE SUMMARY
PERSONS ESTIMATED COULD BENEFIT FROM REHABILITATION SERVICES,
PHYSICAL, MENTAL, AND SOCIAL DISABILITIES, PROJECTED TO 1975

YEAR	HONOLULU COUNTY[1]	KAUAI COUNTY[4]	HAWAII COUNTY[4]	MAUI COUNTY[4]	OTHER STATEWIDE DATA: MENTAL RETARDED[2]	OTHER STATEWIDE DATA: SOCIAL DISABLED[3]	TOTAL ESTIMATED PERSONS WHO COULD BENEFIT FROM REHABILITATION SERVICES
1966	38,700 80% MR. 13,560 80% SD. 14,300 TOTAL 66,892	2,340 MR. 1,130 SD. 1,194 4,664	3,090 MR. 1,130 SD. 1,194 5,414	2,790 MR. 1,130 SD. 1,194 5,114	16,950	17,916	81,880
					34,866 80% Oahu	20% Counties	
1970	43,100	2,486	3,205	2,926	18,600	25,800	96,117
					44,400		
1975	50,200	2,688	3,413	3,137	21,370	29,686	110,494
					51,056		

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194-039

TABLE 6.

ESTIMATED NUMBER AND RATE PER 1,000 U.S. POPULATION AND HONOLULU COUNTY POPULATION WITH ACTIVITY LIMITATIONS DUE TO CHRONIC CONDITIONS BY AGE, U.S. JULY 1961-JUNE 1963, AND JULY 1963-JUNE 1965, AND HONOLULU COUNTY, APRIL 1964-MARCH 1966, AND PROJECTED ESTIMATE OF ACTIVITY LIMITING CHRONIC CONDITIONS, 1970 AND 1975, BY AGE GROUPINGS, HONOLULU COUNTY ONLY.

Selected Chronic Conditions Limiting Activity[1]	UNITED STATES			Honolulu County[3]			Honolulu County[4] Projections		Kauai County[5] Projections			Hawaii County[5] Projections			Maui County[5] Projections		
	All Ages	Under 45	45 & Over	All Ages	Under 45	45 & Over	All Ages 1970	All Ages 1975	All Ages	1970	1975	All Ages	1970	1975	All Ages	1970	1975
Visual Impairments[2]																	
Number	1,285,000	190,000	1,095,000	1,400	500	900	1,738	2,043	70	74	80	160	165	176	80	85	91
Rate	6.9	1.4	20.0	2.5	1.1	8.0											
Hearing Impairments[2]																	
Number	461,000	127,000	334,000	800	400	400	993	1,161	30	33	36	30	31	32	60	61	66
Rate	2.5	1.0	6.1	1.4	.9	3.6						Speech 120					
Heart Conditions[2]																	
Number	3,619,000	384,000	3,235,000	4,000	800	3,200	5,092	6,018	310	329	356	310	324	345	290	303	324
Rate	19.4	3.0	60.0	7.1	1.8	28.5											
Digestive, Allergy, Circulation, Other Conditions[2]																	
Number	2,064,000	455,000	1,609,000	2,500	1,000	1,500	1,711	2,006	20	22	24	50	52	55	20	21	25
Rate	11.0	3.4	29.4	4.4	2.2	13.4											
Vascular Lesions of the Central Nervous System																	
Number	654,000	36,000	618,000	1,900	300	1,600	2,449	2,899	360	381	412						
Rate	3.5	.3	11.3	3.4	.7	14.3											

Selected Chronic Conditions Limiting Activity[1]	UNITED STATES			Honolulu County[3]			Honolulu County[4] Projections		Kauai County[5] Projections			Hawaii County[5] Projections			Maui County[5] Projections		
	All Ages	Under 45	45 & Over	All Ages	Under 45	45 & Over	All Ages 1970	All Ages 1975	All Ages	1970	1975	All Ages	1970	1975	All Ages	1970	1975
Peptic Ulcers																	
Number	544,000	159,000	385,000	700	300	300	889	1,042	40	41	44	90	92	98	50	52	56
Rate	2.9	1.2	7.0	1.2	.7	2.7											
Chronic Sinusitis and Bronchitis																	
Number	608,000	205,000	403,000	1,100	800	300	1,331	1,541				40	43	46	80	85	91
Rate	4.3	2.7	8.0	2.8	2.0	6.2											
Other Conditions of Respiratory System																	
Number	461,000	119,000	341,000	600	300	300	758	886	70	74	80	20	21	22	80	85	91
Rate	2.5	.9	6.2	1.1	.7	2.7											
Conditions of Genitourinary System																	
Number	1,110,000	364,000	746,000	1,300	600	700	1,580	1,791	40	41	44	60	61	65	50	52	56
Rate	6.0	2.8	13.6	2.3	1.3	6.2											
Arthritis and Rheumatism																	
Number	3,300,000	327,000	2,973,000	2,700	800	1,900	3,401	4,005)									
Rate								)									
Other Diseases of Muscles, Bones & Joints								)	310	329	356	260	269	286	280	293	314
Number	801,000	362,000	439,000	1,600	900	700	1,945	2,267)									
Rate	4.3	2.7	8.0	2.8	2.0	6.2											
Neoplasm, Malignant and Benign																	
Number	474,000	142,000	332,000	900	100	800	1,097	1,280	40	41	44	130	134	143	50	52	56
Rate	2.5	1.1	6.1	1.5	.2	7.1											

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Selected Chronic Conditions Limiting Activity[1]	UNITED STATES			Honolulu County[3]			Honolulu County[4] Projections		Kauai County[5] Projections			Hawaii County[5] Projections			Maui County[5] Projections		
	All Ages	Under 45	45 & Over	All Ages	Under 45	45 & Over	All Ages 1970	All Ages 1975	All Ages	1970	1975	All Ages	1970	1975	All Ages	1970	1975
Asthma-Hay Fever																	
Number	1,118,000	538,000	580,000	5,100	4,100	1,000	5,971	6,900	240	255	276	260	269	286	280	293	314
Rate	6.0	4.0	10.6	9.0	8.9	8.9											
Orthopedic Impairments[2]																	
Number	4,065,000	1,542,000	2,523,000	8,000	4,500	3,500	5,085	11,312	1280	1361	1471	1440	1496	1593	500	525	563
Rate	21.8	11.7	46.1	14.1	9.9	31.2											
Diabetes																	
Number	537,000	59,000	478,000	900	100	800	1,139	1,351	130	137	148	130	134	143	50	52	56
Rate	2.9	.4	8.7	2.2	.2	7.1											
Hypertension w/o Heart Involvement																	
Number	1,330,000	152,000	1,178,000	2,900	500	2,400	3,692	4,639	310	329	356	220	226	241	140	147	157
Rate	7.1	1.2	21.5	5.1	1.1	21.4											
Varicose Veins																	
Number	524,000	116,000	408,000	900	300	600	1,099	1,297				20	21	22	10	10	11
Rate	2.8	.9	7.5	1.6	.6	5.4											
Hernia																	
Number	590,000	105,000	485,000	400	100	300	498	588							50	52	56
Rate	3.2	.8	8.9	.7	.2	2.7											
Paralysis (Complete or Partial)																	
Number	899,000	335,000	564,000	1,500	500	1,000	1,870	2,200	30	33	36	130	134	143	130	137	147
Rate	4.8	2.5	10.3	2.7	1.1	8.9											

Selected Chronic Conditions Limiting Activity[1]	UNITED STATES			Honolulu County[3]			Honolulu County[4] Projections		Kauai County[5] Projections			Hawaii County[5] Projections			Maui County[5] Projections		
	All Ages	Under 45	45 & Over	All Ages	Under 45	45 & Over	All 1970	Ages 1975	All Ages	1970	1975	All Ages	1970	1975	All Ages	1970	1975
Mental and Nervous Conditions Number	1,701,000	581,000	1,220,000	1,600	900	700	1,945	2,267	90	96	104	110	116	124	130	137	147
Rate	9.1	4.4	22.3	2.8	2.0	6.2											
	26,145,000			40,800			44,283	57,493									
Mental Retardation Number	5,400,000	n/a	n/a	16,950	n/a	n/a	18,600	21,370									
Rate	28.9			30.0													
	31,545,000			57,750			62,883	78,863									
				17,916	+Social		25,800	29,686									
				75,666			88,683	108,549									
Other Impairments Number									30	33	36	2[illegible]	208	221	240	251	270
Other Conditions of the Circulatory System Number									70	74	80	80	85	91	50	52	56
Other Chronic Conditions Number									120	129	139	110	116	124	80	85	91
									3,590	3,812	4,122	3,970	3,997	4,256	2,700	2,830	3,038

[1] U.S. Incidences without footnote[2] designation from "Chronic Conditions and Activity Limitations, U.S.- July 1961 - June 1963," Table 3, USDHEW. Rates based on 1962 population estimate of:

All ages	-	186,700,000	(Totals are number
Under 45	-	132,000,000	of conditions reported.)
45 & Over	-	54,700.00	

Population estimates from "Trends," USDHEW.

[2] U.S. incidences from "Age Patterns: In Medical Care, Illness, & Disability, U.S. - July 1963 - June 1965," Table 26, USDHEW, 1965 ed. Rates based on 1964 population estimate of:

All Ages	-	192,100,000
Under 45	-	135,900,000
45 & Over	-	56,400,000

Population estimate from "Trends," USDHEW, 1965 ed.

[3] Honolulu County incidences and population estimate from: "Activity Limitation Due to Chronic Conditions," Tables 6 and 14, Hawaii State Department of Health, 1966. Honolulu County population for 1965 estimated at:

All Ages	-	565,400
Under 45	-	453,400
45 & Over	-	112,000

Only household noninstitutional personnel included. Military personnel in barracks not included, but military personnel with families are included.

[4] U.S. Figures on mental retardation incidence from "Mental Retardation, A National Plan for a National Problem," U.S. Department of Health, Education, and Welfare Report for the President's Panel on Mental Retardation, p. 6, 1963.
Hawaii data based on conventionally accepted 3% proportion of total Oahu Population estimated to be mentally retarded from "A Bird's-eye View of the Mental Retardation Division" leaflet by Mental Retardation Division, State Department of Health, undated.

[5] Survey and Marketing Services, Inc.

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V. PREVALENCE OF IMPAIRMENTS IN BROAD CATEGORIES:

Based on the total statewide population of 565,400[1], the Tables which follow list the estimated persons who could benefit from vocational rehabilitation services.

Included in this category are those who are disabled with "activity limitations but not in major activity" as well as those "who have limitations in major activity" and those who are "unable to carry on major activity." Definitions used are those of the U.S. Health Survey, as noted in the State Department of Health, Health Surveillance Report, from which our data was derived.

Included in these estimates were the three basic categories of physical, mental, and social disabilities. Federal definitions established the Hawaii criteria for vocational rehabilitation categories, as follows:

(1) "PHYSICAL OR MENTAL DISABILITY" means a physical or mental condition which materially limits, contributes to limiting or, if not corrected, will probably result in limiting an individual's activities or functioning. It includes behavioral disorders characterized by deviant social behavior or impaired ability to carry out normal relationships with family and community which may result from vocational, educational, cultural, social, environmental, or other factors.

(2) SOCIAL DISABILITY categories are included within the physical and mental disability definition above, by the phrase "a behavioral disorder characterized by deviant social behavior, etc."

Based on these definitions, the Tables which follow establish persons with chronic conditions with activity limitations, as noted in paragraph No. 2 above, for all ages.

Physical and mental disabilities in the State of Hawaii	47,020
Plus statewide mental retardation data	16,950
Plus social disabilities data	14,632

VI. PREVALENCE OF SPECIFIC IMPAIRMENTS WHICH CONSTITUTE A VOCATIONAL HANDICAP.

In A. preceding, it was established that the total Hawaii population of approximately 565,400 persons contained about 81,880 persons who were estimated to be limited to some degree in activity due to physical, mental or social handicaps.

Of this group, those who have "limitations in major[2] activity" or who are "unable to carry on major activity" can be categorized as those who have impairments which constitute a vocational handicap.

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[1]State Department of Planning and Economic Development

[2]Major activity refers to ability to work, keep house, or engage in school or preschool activities.

The Tables which follow summarize those found to be "handicapped vocationally" are:

(1) physical and mental disability categories, those who are limited in vocational activity, total 25,910.

(2) plus the total statewide estimate of the mentally retarded and the socially handicapped, total 31,582.

The approximate total prevalence of specific impairments which constitute a vocational handicap is therefore estimated to be 61,072.

VII. PREVALENCE OF PEOPLE WITH SPECIFIC VOCATIONAL HANDICAPS WHO NEED AND ARE ELIGIBLE AND FEASIBLE FOR VOCATIONAL REHABILITATION SERVICES:

In (III. (1)) preceding, we identified those who have activity limitations which impair their activity. The total for this group in the State of Hawaii is estimated to be 81,880. This group could benefit from vocational rehabilitation comprehensive services.

In (III. (2)) preceding, we identified those within the 81,880 who have limitations in their major activity, therefore constituting a vocational handicap. This group totals 61,072 in the State of Hawaii.

Of the total estimated group of 61,072, whose limitations constitute a vocational handicap, those who "need and are eligible and feasible" for vocational rehabilitation services can be estimated with the following alternative considerations:

(1) State of Hawaii planning has been mandated to provide a forward direction for all public and private agencies who provide vocational rehabilitation services, in order to ascertain what services can be coordinated in order to provide more comprehensive and coordinated service to the handicapped population by 1975. Each of these agencies has its own "eligibility criteria" for funding and services, as derived from various federal or State of Hawaii statutes, policy and role of the agencies themselves, and, etc.

The Policy Board for the Hawaii plan has therefore felt that the basic criteria for services must be the provision of truly comprehensive and total "cycle of services" to all those with physical, mental, and social disabilities. The goal is a coordinated statewide system with all agencies participating and contributing. This goal can be met without restrictions of age, socio-economic status, type of disability, etc. within the various Federal and State disability criteria and eligibility standards, by a coordination of existing available funds and services. The statewide system is recommended to be coordinated by the Division of Vocational Rehabilitation, State Department of Social Services.

Under this criteria for services, the prevalence of persons with specific vocational handicaps who need and are eligible and feasible for vocational rehabilitation services is 61,072.

(2) Estimates of persons with specific vocational rehabilitation handicaps who need and are eligible and feasible for Division of Vocational Rehabilitation Services, State Department of Social Services:

As the major "sole" State agency within the statewide vocational rehabilitation system and also the recommended agency to do the coordinating of the various support services and functions as recommended, the Division of Vocational Rehabilitation, State Department of Social Services eligibility criteria should be applied, regarding the number of cases that could be serviced by that agency.

Alternate methods for estimating:

a. Based on the existing survey of disabled persons, acceptance rates for the Division of Vocational Rehabilitation, State Department of Social Services can be applied. As noted in the attached Table of MAJOR DISABLING CONDITIONS OF 2,951 APPLICANTS, the 1967-68 acceptance rates for those feasible and eligible for services is 40% of the total number of applicants.

b. According to another source, the national median acceptance rates in fiscal 1964 among the general agencies according to the "Vocational Rehabilitation Administration" was 55% among the general agencies.[1]

(3) Age Adjustment:

Mental and physical disabilities causing limitations in major activity, including only the age group 17-60: 24,200

Include an arbitrary 50% of the total social disabilities (for which an age breakdown is not available): 7,316

Include 50% of the total mental retardation estimate (for which an age breakdown is not available): 8,475

The total number of persons who might be eligible and feasible for Vocational Rehabilitation Division services is: 39,991

a. If the above were considered to be applicants for Division of Vocational Rehabilitation services rather than those eligible and acceptable for services, then the estimate of 40% acceptance rate could be applied to this total. The current estimate for Vocational Rehabilitation Division services then becomes 15,996

b. If the above were considered to be applicants rather than those eligible and acceptable for services, and the national estimate of 55% acceptance rate among the general agencies was applied as a criteria, then the total number of persons who might be eligible and feasible for Vocational Rehabilitation Division services then becomes 21,995

[1]Monroe Berkowitz, "Estimating Rehabilitation Needs," Bureau of Economic Research, Rutgers, the State University, 1967 New Jersey.

MAJOR DISABLING CONDITIONS OF 2,951 APPLICANTS FOR VOCATIONAL REHABILITATION SERVICES FOR HAWAII, DIVISION OF VOCATIONAL REHABILITATION, D.S.S. DURING THE PERIOD OF JULY 1967 - JUNE 1968

DISABILITY	%	NUMBER OF TOTAL (ABOVE)	ACCEPTANCE RATES NUMBER ELIGIBLE
Physical			
1. Dental	0	0	0
2. Visual	1	30	12
3. Hearing	6	177	72
4. Heart Conditions	9	266	108
5. Digestive, Allergy	0	0	0
6. Vascular Lesions of Central Nervous System	6	177	72
7. Peptic Ulcers	0	0	0
8. Chronic Sinusitis and Bronchitis	0	0	0
9. Other Respiratory	2	60	24
10. Genitourinary	0	0	0
11. Arthritis and Rheumatism	3	85	36
12. Orthopedic impairments	22	649	264
13. Other diseases of muscles, bones and joints	0	0	0
14. Neoplasm	1	30	12
15. Asthma-Hay Fever	0	0	0
16. Diabetes	2	60	24
17. Hypertension	0	0	0
18. Paralysis	3	86	36
19. Hernia	0	0	0
20. Varicose veins	0	0	0
21. All other chronic conditions	5	148	60
Mental			
1. Mental Conditions	10	300	120
2. Nervous Conditions	0	0	0
3. Mental Retardation	24	708	288
4. Behavioral Disorders of various types	3	85	36
Social			
1. Adult Offenders	1	30	12
2. Juvenile Delinquents	1	30	12
3. "Dropouts"	0	0	0
4. Alcoholics	1	30	12
5. Draft Rejectees	0	0	0
6. The Aging (who seek employment)	0	0	0
7. Rural Disabled	0	0	0
8. Culturally and Economically Deprived (who are unemployable)	0	0	0
9. Public Assistance Clients	0	0	0
10. (All others as appropriate)	0	0	0
TOTAL		2,951	1,200

VIII. PREVALENCE OF PEOPLE NEEDING VOCATIONAL REHABILITATION SERVICES WHO CAN BE CONTACTED, WHO WILL BE AVAILABLE AND WILL ACCEPT VOCATIONAL REHABILITATION SERVICES.

The prevalence of people needing vocational rehabilitation services who can be contacted was established in the preceding sections of this report. Survey samples contain names and addresses of respondents and follow-up could be made on the basis of this confidential register, with the concurrence of those organizations.

Prevalence of persons who will be available and will accept vocational rehabilitation services was more difficult to estimate. An attempt to obtain this information on a sample basis was done, however, through the supplementary questionnaire designed by the Project Office, and administered concurrently with the Health Surveillance Survey by both the State Department of Health and the Survey & Marketing Services, Inc. survey teams. The supplementary questionnaire was called the "Vocational Rehabilitation Survey Supplement." It attempted to ascertain the basic attitudinal and employability factors in relation to client willingness to accept services in rehabilitation.

(1) Summary of the Vocational Rehabilitation Survey Supplement Findings:

(Due to the relatively small sample Oahu findings cannot be projected.)

Two questions only will be summarized here in the Table following:

a. Number of persons currently receiving rehabilitation who have chronic conditions with activity limitations, and the kind of help received, and

b. General "attitudes" about rehabilitation "help" and the ways it can assist the individual.

SUMMARY OF FINDINGS OF TWO QUESTIONS OF THE VOCATIONAL REHABILITATION SURVEY SUPPLEMENT*

County	OAHU	HAWAII	KAUAI	MAUI	TOTALS
Respondents Sample	111	2,790	2,070	2,340	
QUESTIONS: (Asked of those who are Limited in Activity)					
(1) Are you receiving rehabilitation help?					
Yes	19	590	720	460	1,789
No	93	1,710	1,150	1,680	4,633
Would not state	0	490	200	200	890
					7,312
(2) Of those receiving rehabilitation help, what type are you receiving?	medical, therapy	medical, institutional, financial	medical, various	financial	
(3) Of those receiving help, where was it obtained?					
1 Public agency	14	320	160	110	604
2+ Public agencies	0	120	100	60	280
1 Private agency	2	50	350	70	472
2+ Private agencies	0	0	10	0	10
Public and Private agencies .	3	70	30	50	153
					1,519
(4) Of those receiving help, what results do you expect from rehabilitation?					
To get a job	) 14	180	130	160	484
To get a better job	)	210	120	140	470
To do housework/full time . .	0	690	370	240	1,300
To take better care of self .	9	560	580	1,080	2,229
Don't know/not applicable . .	88	0	0	0	88
					4,571
(5) Of those not receiving help: Would you accept rehabilitation help if it were available to you?					
Yes	26	1,120	920	1,490	3,556
No	11	400	100	400	911
Don't know/not applicable	74	0	0	0	74
					4,541

NOTE:

*Due to the relatively small sample the Oahu findings could not be projected.

(2) Summary

a. Well over half of the persons interviewed, who are limited in activity, are not receiving rehabilitation help.

Implication: the current services of the 137 agencies and divisions providing rehabilitation services are not meeting the present need.

b. Of those who are receiving rehabilitation help, most of it is medical.

Implication: The "cycle of rehabilitation services," health-medical, psychological, social, educational, vocational, ending with placement in the competitive job market, is not available geographically, and services are not coordinated to focus on the individual client.

c. Of those receiving help and responding to this question, just under half were obtaining assistance from one public agency; the next largest group from one private agency.

Implication: Since services are currently "fragmented" among the divergent agencies who are carrying out their individual "role" and policy in rehabilitation, and since the individual client tendency is to ask assistance from only one agency, total client rehabilitation is not obtained since each may need more than the services of one agency.

d. Motivation for rehabilitation. Of those who were receiving rehabilitation help, just under half had a personal care motivation; the next largest groups had a work motivation and expected to be able to do more housework, obtain a job in competitive employment with motivation toward a better job or obtaining a job.

Implication: Otherwise stated, all of those, except 88, had a self-motivation work or a self-care objective, thus reemphasizing the basic principles of a democratic society.

e. Of those not receiving help, their willingness to accept rehabili-help if it was available, was two-thirds as great as the next response.

Implication: It is assumed that those who responded "no" and "don't know/or no answer", will need to be "motivated" to accept rehabilitation services in order to make this total complete.

SUMMARY OF PART IV.

As summarized in the preceding sections of the Part IV. report, the need for vocational rehabilitation services is great, and the services provided through the 137 major agencies and divisions, public and private, are not meeting the need.

In a survey conducted by the Project, the total volume of handicapped served was identified by the 137 major agencies and divisions as 43,298 persons in one or more specific services in the rehabilitation cycle of five essential services. If we assume that the need of each individual client is for four or five coordinated services, the total number who could be provided with current services is between 8,000-13,000 persons of the estimated 81,880 persons in the State of Hawaii who could benefit from such services. A closer estimate could not be obtained since there is no central data registry for clients.

The problems are essentially the problems of the Project, e.g., quality of services, quantity of services, and coordinated efficiency of services, also combined with an obvious need for aggressive "case finding" and client motivation.

State Vocational Rehabilitation Plan
State Department of Planning and Economic Development

Code:	
N.A.	- not applicable
-	- none
No data	- data not kept

Summary Analysis of Organizations Providing Rehabilitation Services
State of Hawaii--(D R A F T)

	Client Services Provided									Other Data						
Organization	Screening/ Evaluation of Handicapped for Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
FEDERAL GOVERNMENT																
Hawaii State Hq., SelectiveServ.Sys.	x	x	-	-	-	-	-	-	x	-	Military Rejectee	N.A.	x	x	x	x
Interagency Board of U. S. Civil Service Examiners for Hawaii and Pacific Area	-	-	-	-	-	-	-	Job Asses. of Handicapped	Education Vocational	Placement	16 and over	All	x	x	x	x
Regional Medical Program of Hawaii	-	-	-	-	-	-	-	-	N.A.	Med. Prof. Support (Stroke, Heart, Cancer	Medical Institutes	N.A.	x	-	-	-
U.S. Army Tripler General Hospital (Physical Medicine) (Psychiatry and Neurology)	x	x	x	x	x	x	x	-	-	-	All Ages Military	All	x	-	-	-
U.S. Veterans Administration Regional Office				x	x	Benefit Payments	-	-	x	-	Eligible Veterans	All	x	-	-	-

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Organization	Clients Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
CITY AND COUNTY OF HONOLULU Committee on Aging	-	-	-	-	-	Recreation Counsel	x	x	x	Planning-Aging	Over 55	Aging	x	-	-	-
Department of Civil Service	-	-	-	-	-	-	-	Job Assessment	-	Placement	Over 16	No data	x	-	-	-
Department of Health - Maluhia Hospital	x	x	-	x	-	x	-	-	x	-	-	All chronically ill	x	-	-	-
Department of Parks and Recreation	-	-	-	-	(Some Counseling)	Recreation	-	Some	-	-	All Ages	No data	x	-	-	-
Honolulu Police Department Juvenile Crime Prevention Division	-	-	x	-	-	Some Group Work	-	-	-	-	Lower In-Come 17 and Under	Juvenile Delinquents	x	-	-	-
Honolulu Jail	-	-	x	-	-	Recreation Library		Farming Public Parks	-	-	All Ages	Social Disabilities	x	-	-	-
Urban Renewal Office	-	-	Some	-	Personnel Adjustment (only)	Counseling	Remedial	Work Project	x	-	16 and over	Social, Mental, Visual	x	-	-	-

Organization	Client Services Provided: Screening/ Evaluation of Handicapped for Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
STATE GOVERNMENT																
Department of Budget and Finance																
Commission on Aging	-	-	-	-	-	-	x	x	x	Planning Aging	65 and over	Aging	x	x	x	x
Senior Opportunity Center	-	-	-	-	-	Some recreation	x	x	x	Services, Aging	65 and over	Aging	x	-	-	-
Commission on Children and Youth	-	-	-	-	-	-	-	-	x	Information Coordination	Social Agencies	N.A.	x	-	-	-
Department of Education Library of Hawaii	-	-	-	-	-	-	Braille, tapes, Visually handicapped	-	-	Transcribing Units for Visually handicapped	All Ages	Visual	x	x	x	x
Office of Instructional Services, Special Education Branch	x	x	-	x	-	x	x	x	x	Counseling	School age (6-18)	All	x	x	x	x
Vocational Education Branch, Adult Education Section	-	-	-	-	-	-	x	x	-	-	Over 16 years	Social	x	x	x	x

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Organization	Client Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Manpower Training Section	-	-	x	-	-	x	-	x	x	Counseling	Adults	Social (Educational)	x	-	-	-
Department of Health Children's Health Services Division Crippled Children Branch	x	-	-	x	x	x	-	-	-	-	Below 21	Mostly Orthopedic-	x	x	x	x
Maternal and Child Health Services Branch	x	-	-	-	-	-	-	-	-	-	Infants, Mothers	General health supervision	x	x	x	x
Communicable Disease Division, Tuberculosis Branch	x	-	-	x	-	-	-	-	-	Small surveillance	Visual, nerve	Visual, nerve disorders	x	-	-	-
Medical Health Services Division Chronic Disease Branch	x	-	-	-	-	-	-	-	Consultation	Consultation	All ages	-	x	-	-	-
Hospitals and Medical Facilities Branch	-	-	-	-	-	-	-	-	-	Facilities Planning	-	Health facilities for disabled	x	-	-	-

Organization	Client Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArt.	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Public Health Nursing Branch	-	-	-	Nursing	-	-	-	-	-	Services to schools	Families	Children Heart, Tuberculosis	x	x	x	x
Mental Health Division		x		-	x	-	-	-	x	-	Mentally Ill	-	x	x	x	x
Hawaii State Hospital	x	x		x	x	x				Job Placement	All Ages	Mentally Ill, Committed	x	-	-	-
Preventive and Clinical Services Branch	-	x		x	x	x		Some Sheltered	x		All Ages	Mentally Ill, Alcoholic, Drugs	x	x	x	x
Waimano Training School and Hospital	-	-	-	x	x	x	x	x	x			Mentally Retarded	x	-	-	-
Mental Retardation Planning	-	-	-	-	-	-	-	-	x	Retardation Planning	All Ages	Mentally Retarded	x	x	x	x

1118

Organization	Client Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArt	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Judiciary Department																
District Court of Honolulu	-	-	x	-	-	Counseling	-	x	-	Disposition of matters referred to Court	-	Social (some)	x	-	-	-
First Circuit Court Adult - Probation - Office	-	-	-	-	-	Counseling	-	-	-	Disposition of matters referred to Court						
Family Court	-	-	-	-	x	x	-	-	x	Job Placement	Families		x			
Department of Labor and Industrial Relations Apprenticeship Division								Training	x		16 years and over	No data	x x	x x	x x	x x
Employment Services Division								x	x	Counseling Job Placement	16 and over	Disabled Veterans, others	x	x	x	x

1119

Organization	Client Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Workmen's Compensation Division									x	Workmen's Compensation	16 and over	No data	x	x	x	x
Department of Planning and Economic Development Commission on Manpower and Full Employment								Projects Initiation		Information, Projects, Communications	Unemployable	No Direct Services	x	x	x	x
Department of Social Services Board of Paroles and Pardons	-	-	-	-	Counseling	x	-	x			Adult Offenders	Social (w/ Mental and Physical 89)	x	-	-	-
Corrections Division Juvenile Parole Branch	-	-	-	-	-	x	-	x			Juvenile Parolees	Social	x	x	x	-
Hawaii State Prison	x	x	x	x	x	x	x	x			Adult Offenders	Almost all	x	-	-	-

-214- 01111120

Organization	Client Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Hawaii Youth Correctional Facility	x	-	x	x	-	x	-	x	-	-	Juvenile Offenders	Social Mentally Retarded	x	-	-	-
Hawaii Housing Authority	-	-	-	-	-	-	-	-	-	Public Housing	Low Income	Almost all (88% over 35years)	x	-	-	-
Public Welfare Division	-	-	x	-	Counseling	x	-	x	-	Economic Assistant	-	No Records Kept	x	x	x	x
Vocational Rehabilitation Division	x	x		Some Therapy	x	x		x		Other Services Purchased	16 and Over	Physical and Mentally Handicapped	x	x	x	x
Rehabilitation Services for Blind and Visually Handicapped	x	x			x	x		x		Sheltered Employment, Homebound	91% 20 Years and Over	Blind and Visually Handicapped	x	x	x	x
Governor's Committee Employment of Handicapped										Informal Referral	Handicapped Seeking Jobs	Orthopedic Primarily	x	x	x	x

215-1121

Organization	Client Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Hawaii Office of Economic Opportunity	-	-	-	-	-	-	-	-	Some	Coordinates Community Action Programs of O.E.O.	Low Economic Group	No Records Kept	x	x	-	x
University of Hawaii College of Arts and Science										Training of Professionals	Vocational Rehabilitation		x			
College of Education										Training of Professionals	Counselors Special Education Teacher		x			
Community College System				-	-	-	x	-		Classes	Various					
Counseling and Testing Center	-	x	-	-	x	-	-	-	-	Therapy, Counseling	10 Students, University	Visual Orthopedic	x	-	-	-

IS-216-1122

Organization	Client Services Provided: Screening/ Evaluation of Handicapped for: Phys. Dis.	Ment. Dis.	Social Dis.	Medical Serv.	Psycho. Serv.	Social Serv.	Educational Serv. LibArts	Vocational Serv.	Client Infor. and/or Referral	Other Data: Allied Profes. Serv. (Rehab. Conn.)	Groups Served Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Juvenile Delinquency and Youth Development Center										Training of Professionals	Personnel					
School of Medicine										Training of Professionals	Personnel					
School of Nursing										Training of Professionals	Personnel					
School of Public Health										Training of Professionals	Personnel					
School of Social Work										Training of Professionals	Personnel		x			
Speech and Hearing Clinic	Speech and Hearing	-	-	Speech, Hearing Therapy	-	-	-	-	some	Research, Training	All	Almost All	x			

Organization	Client Services Provided: Screening/Eval of Handicapped For: Phy Dis	Ment Dis	Soc Dis	Med Serv	Psycho Serv	Soc Serv	Educ Serv LibArts	Voca Serv	Client Infor &/or Referral	Other Data: Allied Prof Serv (Rehab Comm)	Groups Serv Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
PRIVATE NON-PROFIT American Cancer Society	x	-	-	-	-	pers. adjustment	-	-	x	home bound care		speech & hearing locally	x	x	x	x
American Red Cross	-	-	-	-	-	x	counseling	-	-	International Disaster Relief		no records kept	x	x	x	x
Arthritis Foundation																
Big Brother of Hawaii						x				prevention primarily	boys	Emot. Behav., probs., mainly				
Castle Memorial Hospital	x	-	-	x	-	-	-	-	gen. hosp. serv.				x	-	-	-
Catholic Social Serv. (Fam. Counseling Un. Unmarried Parents & Adoption Unit Kalihi Fam Serv. Unit)	-	-	x	-	x	x	-	-		counseling			x	-	-	-
Chamber of Commerce	-	-	-	-	-	-	-	-	some	employer policy	business	no direct services	x	x	x	x
Child & Family Service	-	-	x	-	-	x	-	-		counseling			x	-	-	-
Church College of Hawaii	-	x	-	-	x	-	x	-	some	counseling	students	Various	x	-	-	-
Clergy Counseling Service	-	-	-	-	-	x	-	-	x	informal counseling	families individuals	Various	x	-	-	-

Organization	Client Services Provided: Screening/Eval of Handicapped For: Phy Dis	Ment Dis	Soc Dis	Med Serv	Psycho Serv	Soc Serv	Edu Serv LibArts	Voca Serv	Client Infor &/or Ref.	Other Data: Allied Prof. Serv (Rehab-Comm)	Groups Serv Pri-marily	Disab-ilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Easter Seal Soc for Crippled Children	-	-	-	ther-apy	x	-	x	-	x		child-ren	Ortho-pedic, speech & hear-ing	x	-	-	-
Eye of the Pacific Guide Dogs, Inc.	-	-	-	-	-	-	-	-	pro-vide guide dogs			blind	x	-	-	-
Goodwill Indus-tries of Honolu-lu Inc.	-	-	x	-	-	-	-	x		shel-tered work-shop		mentally retarded Emotion. disord.	x	-	-	-
Hawaii Assn to Help Retarded Children	-	-	-	-	-	coun-seling fam	x	-	Re: ment-ally retd.			mentally retarded	x	-	-	-
Hawaii Committee on Alcoholism	-	-	-	-	-	coun-seling	-		x	couns-ultat-ion	Adults	alcohol-ics	x	-	-	-
Hawaii Council of Churches	-	-	-	-	-	-	-	-	x	couns-eling	general	various	x	x	x	x
Hawaii Education Association	-	-	-	-	-	-	-	-	x	guid-ance to tea-chers	educa-tors					
Hawaii Employers Council	-	-	-	-	-	-	-	-	some	employ-er policy	busi-ness	no dir-ect policy	x	-	-	-
Hawaii Heart Association	-	-	-	-	-	-	-	-	x	resear-ch. comm. serv.	no direct serv.	cardio-vascular	x	x	-	-
Hawaii League for Nursing	-	-	-	-	-	-	-	-	some	prof. policy	nurses	concern-ed with all	x	-	-	-

1125

Organization	Client Services Provided: Screening/Eval of Handicapped For: Phy Dis	Ment Dis	Soc Dis	Med Serv	Psycho Serv	Soc Serv	Edu Serv LibArts	Voca. Serv	Client Infor &/or Ref-erral	Other Data: Allied Prof. Serv. (Rehab Comm)	Groups Serv Pri-marily	Disab-ilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Hawaii Medical Association	-	-	-	-	-	-	-	-	some	prof policy	physic-ian	concerned with all	x	x	x	x
Hawaii State Dental Society	-	-	-	-	-	-	-	-	some	prof policy	dent-ists	adequate dental	x	x	x	x
Hawaii State Health Council	-	-	-	-	-	-	-	-	some	prof policy	private health agencies	concerned with all	x	-	-	-
Hawaii Tuber-culosis Assn.																
Honolulu Coun-cil of Social Agencies	-	-	-	-	-	-	-	-	x	plng. coor-dinat-ing	social agenc-ies	-	x	-	-	-
Honolulu County Medical Society	-	-	-	-	-	-	-	-	-	prof policy	physic-ians	concerned with all	x	-	-	-
Hospital Assn.	-	-	-	-	-	-	-	-	-							
John Howard Association			x	-	-	x	-	x	x	finan-cial aid	parol-ees, drug addicts	social behavior	x	-	-	-
Kaiser Found-ation Medical Center	x	-	-	x	-	-	-	-	-	gen. med-ical	-	acute	x	-	-	-
Kauikeolani Childrens Hosp-ital Rehabilit-ation Center of Hawaii	x	-	x	x	-	x	-	x	x	-		orthopedic	x	-	-	-
Kauakini Hospital	x	-	-	x	-	-	-	-	x			acute care	x	-	-	-
Lanakila Crafts	-	-	x	-	-	x	-	x	-	shel-tered emplo-yment	adults	phy. & ment handi.(multi disab.)	x	-	-	-

C-920-11126

Organization	Client Services Provided: Screening/Eval. of Handicapped For: Phy Dis	Ment Dis	Soc Dis	Med Serv	Psycho Serv	Soc Serv	Edu. Serv LibArts	Voca Serv	Client Infor &/or Ref-erral	Other Data: Allied Prof Serv (Rehab Comm)	Groups Serv Pri-marily	Disab-ilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Leahi Hospital	x	-	-	x	x	x	-	x	-	acute care rehab.		T.B. Chronic M.R., Ment. Illiness	x	-	-	-
Maunalani Hospital													x	-	-	-
Mental Health Assn. of Hi.				-	-	coun seling	-	-	x	Educ. Demons	other agen.	mentally ill	x	-	-	-
National Foundation March of Dimes	-	-	-	-	-	-	-	-	x	Edu.		infantile paralysis	x	-	-	-
National Rehabilitation Association									-			congenital malformations				
National Social Workers Association									-							
Society for Crippled Children & Adults	x	-	-	therapy	x	-	x	-	x		children & adults	orthopedic speech & hearing	x	x	½	x
Occupational Therapy Assn.																
Palama Settlement	-	-	x	-	-	x	x	x	-		Palama neighborhood	M.R. speech hearing, drug add.	x	-	-	-
Queen Liliuokalani Children's Center	-	-	x	-	-	x	-	-	-		Haw'n children		x	-	-	-
Queen's Hosp. (Occupational Therapy Dept. Phys. Therapy, Dept. Psychiatric Program)	x	x	-	x & therapy	x	-	-	-	x	-		general, short term, acute	x	-	-	-
St. Francis Hosp. (Child Dev. Ctr, Phys Therapy Dept., Psych. Unit)	x	x		x	x	x	-	-	x			multi-disability	x	-	-	-

XS-24- 1127

Organization	Client Services Provided: Screening/Eval of Handicapped For: Phy Dis	Ment Dis	Soc Dis	Med. Serv.	Psycho Serv	Soc Serv	Educ. Serv (Lib Arts)	Voca. Serv	Client Infor &/or Referral	Other Data: Allied Prof. Serv (Rehab Comm)	Groups Serv Primarily	Disabilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Salvation Army (Facilities for Children, Men's Soc. Serv. Ctr.	x	x	x	x	x	x	-	x	x			emotional disorders, alcoholics	x	x	x	x
School Counseling Assn.	-	-	-	-	-	-	-	-		prof. stand.	counselors		x	-	-	-
Senior Action Congress	-	-	-	-	-	x	-	-	x		voluntary organs.	senior citizens	x	-	-	-
Shriners Hosp. for Crippled Children	x	-	-	x	-	-	-	-	-	home bound care	children	orthopedically crippled child.	x	-	-	-
Susannah Wesley Community Ctr.				-	-	x	-	-			Kuhio Park Kalihi Valley	mentally retarded, cerebral palsey	x	-	-	-
United Cerebral Palsy of Hi.-Day Care Center				-	-	x	x	-		day care ctr.	pre-school	cerebral palsey, retarded, speech	x			
Waialae Catholic Center			x			x			x	pub. educ.			x	-	-	-
NEIGHBOR ISLANDS Hawaii Kona Center for Rtd.Child.								x		shel-tered work-shop	ment. retd.	mentally retarded & mentally ill	-	x	-	-
Brantley Ctr., Inc.	-	-	x					x		tng. ctr.	ment. retd.	ment. rtd. ment ill	-	x	-	-
Hilo Hospital	x	x	-	x	x	-	-	-	some	home bnd. care	-	Hosp. Div: gen.,TB, Ext care, Psych.	-	x	-	-
Rainbow Crafts			x	-	-	-	-	x	x			sheltered workshop	-	x	-	-

-222- 1128

Organization	Client Services Provided: Screening/Eval. of Handicapped For: Phy Dis	Ment Dis	Soc Dis	Med Serv	Psychd Serv	Soc Serv	Educ Serv (Lib Art)	Voca Serv	Client Infor &/or Ref-erral	Other Data: Allied Prof Serv (Rehab Comm)	Group Serv Prim-arily	Disab-ilities Served	Location Services Actually Given: Oahu	Hawaii	Kauai	Maui
Big Island Training Ctr.	-	-	-	-	-	x	-	-		day care	ment. rtd. child.	mentally retarded	-	x	-	-
Kauai																
Kapaa Child Dev. Center	-	-	-					x		day care	ment. rtd. child.		-	-	x	-
Rehabilitation Unlimited Kauai	-	-	x	-	-	-	-	x	some	shel. wkshp.	-	unrestrict-ed	-	-	x	-
Kauai Veterans Memorial Hosp.	x	-	-	x	-	-	-	-	x	-			-	-	x	-
Samuel Mahelona Hospital	x	-	-	x	x	x	-	x				chronic, pulmonary, mental	-	-	x	-
G.N. Wilcox Memorial Hosp.	x	-	-	x	-	x	-	-	x	-	various		-	-	x	-
Hanapepe Child Tng. Center													-	-	x	-
Lanai																
Lanai Comm. Hospital	x			x	-	-	-	-	-		25 bed gen. hosp.	various	-	-	-	x
Maui																
Kula Sanatorium	x	x	-	x	x	x						chronic, TB psychiatric	-	-	-	x
Maui Mem Hosp	x			x								chronic	-	-	-	x
Day Hosp, Men. Health Div, Phys. Therapy, Maui Comm. Hosp.												physical & mental	-	-	-	x
Ka Lima O Maui	-	-	x	-	-	-	x	x	x	-	-	multi-disab.	-	-	-	x
Molokai																
Molokai Gen Hosp.	x	-	-	x	x	-	-	-	some	-	acute patien-ts	acute care gen. hosp.	-	-	-	x
Molokai Comm-unity Center Inc.	-	-	-	-	-	-	-	x		shel-tered wkshp.	multi-disab-ility		-	-	-	x

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ABSTRACT - This program guide was prepared to assist administrators and others in establishing minimum standards of education for schools of medical technology. The Board of Schools of the American Society of Clinical Pathologists emphasizes the basic need for an adequate staff, a properly equipped laboratory, sufficient teaching material, a program oriented to the teaching of medical technology, and students who are considered as students and not as supplementary laboratory workers. Also included in the booklet are the essential elements of an approved school in relation to: (1) administration, (2) organization, (3) faculty, (4) admissions, (5) curriculum, (6) ethics, (7) health, and (8) accreditation. Suggestions for the organization and conduct of an approved school of medical technology are included as guidelines for administrators. (JS)

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18p

BOARD OF SCHOOLS

710 SOUTH WOLCOTT AVENUE

CHICAGO, ILLINOIS 60610

THE AMERICAN SOCIETY OF

CLINICAL PATHOLOGISTS

NEW ESSENTIALS

FOR APPROVED SCHOOLS

OF MEDICAL TECHNOLOGY

APPROVED AFTER DECEMBER 1, 1968

First Edition

April 1969

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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FOREWORD

The Board of Schools was established by the American Society of Clinical Pathologists in 1949 for the primary purpose of maintaining high standards of education in approved schools of medical technology and the development of new schools through evaluation and survey. It acts in an advisory capacity to the Council on Medical Education of the American Medical Association which is the official accrediting body for schools of medical technology. The Board is a standing committee of the American Society of Clinical Pathologists and consists of six members of this Society and five members of the American Society of Medical Technologists.

This booklet is designed as a guide in the organization of an accredited school of medical technology. It must be stressed that the requirements as stated in the "Essentials of an Accredited School of Medical Technology" are the MINIMUM requirements for the establishment and operation of a school.

Schools of Medical Technology must be affiliated with accredited colleges and universities whereby an educational sequence of three years of college and one year of hospital training will lead to a baccalaureate degree. This affiliated program should be a cooperative effort. There should be liaison between the college and school of Medical Technology so that the preclinical work is satisfactory to the school and the practical clinical work, including didactic instruction, meets the collegiate requirements for a degree.

The Board of Schools believes the basic attributes of a good school of medical technology should include the following:

1. A pathologist-director who is interested in the proper education of medical technologists.

2. An education coordinator and other ASCP registered medical technologists* who are interested in educating medical technologists.

3. A program which imparts fundamental knowledge of medical technology and practical skill in the field.

Therefore, in order to establish a school based on these concepts the following are necessary:

1. An adequate staff of well trained ASCP registered medical technologists who can impart their knowledge to the student through the teaching of methods, as well as the demonstration and supervision of the performance of laboratory tests.

* This asterisk relates only to Medical Technologists, MT (ASCP)'s, not to other ASCP registered specialists.

2. A properly equipped modern laboratory where even the more complicated tests can be taught.

3. Sufficient clinical and adjunct teaching material to give the student necessary practical skill and knowledge.

4. A program, well oriented to the teaching of medical technology, to include lectures, laboratory practice and examinations.

5. Students who are considered as students and not as supplementary laboratory workers.

Application for approval of a school for medical technologists should be made to the Council on Medical Education of the American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610. Forms will be supplied on request and should be completed by the director of the school requesting this approval.

HISTORY

The members of the American Society of Clinical Pathologists from the inception of that organization have been cognizant of the importance of well qualified laboratory personnel to work with pathologists. They realized that, with the rapid development of laboratory medicine, the training and evaluation of this personnel should be standardized and in 1928 established the Registry of Medical Technologists. It was soon found from applications of students requesting to become registered that the type of training received by these students varied greatly from school to school. In 1933, on the basis of information obtained from a questionnaire, the Registry published a list of 215 schools of medical technology. The same year the American Society of Clinical Pathologists asked the Council on Medical Education and Hospitals of the American Medical Association to work with the Registry on essentials for schools and to inspect and approve schools of medical technology. The Council inspected 196 schools and published the first list of 96 approved schools in the August 26, 1936 issue of The Journal of the American Medical Association. From this beginning the number of approved schools has increased to more than 787. With this rapid growth of the number of schools, the Council asked the American Society of Clinical Pathologists in 1949 for assistance in its evaluation program. As a result of this request, the Society established the Board of Schools to assist the Council in the evaluation and survey of schools and in the formulation of standards for the training of medical technologists.

Essentials for an Approved School of

Medical Technology

Revised to December 1, 1968

These Essentials were prepared by the Council on Medical Education of the American Medical Association with the cooperation of the Board of Schools of the American Society of Clinical Pathologists and the American Society of Medical Technologists, and adopted by the House of Delegates of the American Medical Association when presented for approval.

(NOTE: Essential #8 under II Organization, applies only to schools applying for approval after December 1, 1968)

Three organizations are primarily concerned with the training of medical technologists: the Council on Medical Education of the American Medical Association, the American Society of Clinical Pathologists, and the American Society of Medical Technologists. The Board of Schools of Medical Technology is primarily concerned with the evaluation and survey of schools of medical technology, acting in an advisory capacity to the Council, assisting also in the maintenance of high standards of education and in the development of new schools of medical technology. The Board of Registry of Medical Technologists investigates and certifies the competency of the technologists.

The Council, with the cooperation of the Board of Schools and the American Society of Medical Technologists, has established the following standards for this type of program.

Technologists are being trained in these schools to work under the direction of qualified physicians and not as independent practitioners.

The Essentials, printed in bold face, are listed under the various headings by numbers (1, 2, 3 etc.). The material which is indented and printed in script is explanatory, is listed a,b,c---, and is not part of the Essentials.

Essentials for schools approved prior to December 1, 1968, are printed separately. For copies, write to the Secretary, Board of Schools, 710 S. Wolcott Avenue, Chicago, Illinois 60612.

I. ADMINISTRATION

1. The Schools for training medical technologists may be conducted by approved medical schools, hospitals, or other acceptable laboratories suitably organized in accordance with present educational standards.

   a. *Space, light and modern equipment should be adequate for the personnel and the number of tests performed, with sufficient additional space and equipment for students.*

   b. *A classroom is necessary and should be available when needed.*

2. The School of Medical Technology must be affiliated with an accredited college or university so that the combined program is productive of a baccalaureate degree. The only exception to this requirement are those programs that admit only students who already possess a baccalaureate degree.

3. Resources for continued operation of the school should be insured through regular budgets, gifts, or endowment, but not entirely through student's fees.

   a. *The establishment of scholarships should be encouraged. Information may be obtained from the National Committee for Careers in Medical Technology, 9650 Rockville Pike, Bethesda, Maryland 20014, or from the Executive Office of the American Society of Medical Technologists, Hermann Professional Building, Houston, Texas 77025.*

4. All clinical training of technologists shall be under competent medical control.

II. ORGANIZATION

5. Adequate space, facilities, and modern equipment should be provided in the clinical training laboratory. A library containing up-to-date reference material, texts, and scientific periodicals pertaining to laboratory medicine should be readily accessible to the student.

   a. *The library should include the latest editions of books and journals concerning laboratory tests, and these should be readily accessible to students.*

b. *Demonstration material should be available, such as:*

(1) *Hematology. Blood smears of various hematological diseases.*

(2) *Parasitology. Preserved fecal specimens containing various parasites and ova, together with stained preparations of parasites.*

(3) *Bacteriology and mycology. Stock cultures.*

(4) *Audio-visual teaching aids.*

6. A satisfactory record system shall be provided for all work carried on in the clinical laboratory; monthly and annual classification of work in the clinical laboratory should be available.

a. *Monthly and annual tabulation and classification of tests must be kept. An itemized report of these tests must be submitted with a school's application for approval and at the time of a survey.*

b. *This detailed report is necessary in order to judge whether sufficient personnel are available to perform the work and also have time for teaching and supervising students. It is also necessary to know the number and variety of tests performed in order to determine whether the available clinical material is adequate for teaching students.*

7. The school shall keep records of each student's attendance, grades, and types of tests performed. In addition, the school must have on file an outline of the complete curriculum.

This curriculum should include the rotation of assignments, the outline of the instruction supplied by the laboratory and a list of the prepared specimens which are used to augment the experience of the student.

a. *Each student should submit an application form, references for recommendations (this should include two science instructors and transcript of college credits, including courses in progress.)*

b. *The prospective student should be requested to have the transcript of college credits evaluated by the Registry of Medical Technologists, Post Office Box 2544, Muncie, Indiana 47302. (Consult Registry publication for fees for this evaluation). The applicant should send complete instructions regarding where the evaluations are to be sent.*

c. *The following records of each student should be kept:*

1. *Attendance. Excused and non-excused absences should be recorded.*

2. *Grades. The minimum number of grades for each student should be for,*

   (a) *technical ability in each section of practical laboratory work.*

   (b) *written examination on work performed in each section, and*

   (c) *periodic examinations on didactic lectures.*

3. *Records should be kept.*

8. The school should have at least ten students enrolled in each clinical year.

   a. *The student capacity for which a school is approved shall not be exceeded without obtaining approval from the Council on Medical Education, 535 North Dearborn Street, Chicago, Illinois 60610.*

   b. *To increase the student capacity of a school a request must be made to the Council including the following supporting data in duplicate:*

      1. *The last annual statistical report of laboratory procedures.*

      2. *A complete list of all laboratory personnel with the qualifications and years of experience of each one.*

      3. *The laboratory space available in square feet.*

III. FACULTY

9. The School should have a competent teaching staff. The director must be a graduate in medicine who is certified in Clinical Pathology by the American Board of Pathology, or who has had training and experience in clinical pathology acceptable to the Council. He shall take part in and be responsible for the actual conduct of the clinical training. He shall be in attendance for sufficient time to supervise properly the laboratory work and teaching.

a. *If the director is not certified in clinical pathology, or eligible for such certification, he must submit to the Council, as a part of the school's application for approval, his curriculum vitae emphasizing his training and experience in clinical pathology.*

b. *For changes in directors see Essential 20 under Admission to the Approved List.*

10. In clinical laboratory teaching, the enrollment should not exceed two students to each full-time ASCP registered medical technologist. The staff must include one teaching coordinator whose primary duty is supervising the teaching program, who possesses at least a baccalaureate degree and is a registered medical technologist with no less than three years of experience.

    a. *The education coordinator and the instructors must be not only well qualified to instruct students, but they also must have a keen interest in teaching and producing well trained medical technologists. They should be registered (ASCP) medical technologists in order that the student become familiar with the advantages of being registered as well as to instill in the student the high ideals and ethics of the profession.*

    b. *Education coordinators should be members of ASMT and should attend at least one scientific meeting or workshop each year.*

    c. *A change in the position of education coordinator should be reported to the Board of Schools with a copy of the curriculum vitae of the new appointee, including degrees, ASCP registration number, number of years of experience and name and location of hospital where it was obtained.*

    d. *Duties of Education Coordinator*

    The Education Coordinator has the primary responsibility of all aspects of instruction for coordination. Other duties include recruitment, liaison with the university or college, participation in selection of students for admission, maintenance of students records, instruction of instructors in teaching principles and technic and selection of educational aids. There should be direct participation in some part of the teaching program, in addition to assuming the main responsibility of counselling students, he should serve as an exemplar of innovated teaching. He should be concerned with curriculum development, public relations and the preparation of brochures and catalogs regarding the educational program. He should also participate in the examination of students and the evaluation of their technical competence and professional development.

IV. PREREQUISITES FOR ADMISSION

11. Before engaging in any clinical training a student must have acquired a minimum of 90 semester hours (135 quarter hours) of academic credit in a college or university approved by a recognized regional accrediting agency. The prerequisite college credits must include 16 semester hours of biology, 16 semester hours in chemistry and a course in mathematics.

    a. *The director and education coordinator should have appointments on the college faculty.*

    b. *In a college affiliated program, the education coordinator and the appointed member of the college faculty, who also serves as preclinical advisor, should cooperate and work continuously together on the combined program.*

    c. *For the prerequisites necessary for training in specialties such as histologic technique, chemistry, microbiology, and blood banking, see the booklet published by the Board of Registry of Medical Technologists. Students in these specialties may participate in one or mre phases of the medical technology course, but not in its entire program.*

The courses listed below are required.

Chemistry

A minimum of 16 semester (24 quarter) hours is required. These courses must have solid academic content and may not include survey courses.

Organic Chemistry or Biological Chemistry must be included in the requirement.

Quantitative Analysis is strongly recommended.

Biological Sciences (Biology)

A minimum of 16 semester (24 quarter) hours is required. These courses must have solid academic content and may not be survey courses.

At least one course in Microbiology must be included in the requirement. Immunology, Genetics, and Physiology, and Anatomy are recommended.

Mathematics

One course in mathematics is required. This should be taken at the highest level for which the student is prepared.

Courses in Basic Statistics and Physics are strongly recommended.

V. CURRICULUM

12. With the exception of the integrated programs, where it is necessary to conform to college calendars, the course of training must be at least twelve months in duration and should be uninterrupted.

    a. *A maximum vacation or absence allowance is limited to two weeks exclusive of nationally recognized holidays, during a minimum 12 months course. This would have no reflection on the number of hours which must conform to the minimum 2000 hours (40 hours per week x 50) during the minimum 12 months period.*

    b. *An orientation period should be given before the student begins his regular lecture and rotation schedule.*

13. The basic principles commonly utilized in diagnostic laboratory tests should be emphasized. Technical instruction should cover procedures in hematology, serology, clinical chemistry, microbiology, and such other topics as may possess or come to have value in laboratory medicine.

    The instruction should follow a planned outline and include text assignments, lectures, discussions, demonstrations, supervised practice, practical examinations and quizzes, both oral and written. It should include instruction in all branches of Laboratory Medicine.

    a. *A complete outline of the curriculum must be submitted in duplicate to the Council on Medical Education with the application form for an approved school.*

    b. *The plan of instruction must include the following:*

        (1) *Rotation and length of time spent in the various departments of the laboratory.*

        (2) *Number of lectures and titles. This must include the name of the lecturer.*

        (3) *A list of demonstrations to be given, covering material not included in the laboratory.*

        (4) *Textbooks used and assignments.*

        (5) *Number of oral, written and practical examinations.*

        (6) *A terminal evaluation of a student's performance in each area.*

14. Each student should receive clinical training under close supervision. Approved schools should have available laboratory material equivalent to that provided by a hospital of 250 beds and 7,500 yearly discharges, with a distribution of clinical material sufficient to provide adequate technical training in the various laboratory divisions.

In order that students may become capable medical technologists, it is necessary, after proving proficiency in laboratory procedures, that they perform some of the daily tests with careful supervision, to develop speed, and ability in organization.

VI. ETHICS

15. Excessive student fees and commercial advertising of the school are considered to be unethical.

Approved schools may be listed in the yellow pages of the telephone book as "approved by the American Medical Association".

16. Schools must not substitute students for paid medical technologists.

a. *Students should not take the responsibility or the place of a qualified medical technologist.*

b. *The staff of medical technologists should be adequate to accomplish the work of the department without the students being present.*

c. *Students should not perform tests in the laboratory without competent supervision.*

d. *Any indication of exploitation of students will result in disapproval of a school.*

VII. HEALTH

17. A physical examination shall be required for admission to an approved school. Health care and hospitalization should be available to the student.

a. *Every precaution should be taken to prevent any health hazard in the laboratory.*

b. *The health service of the college and hospital should be available to the student. Emergency health care must be provided.*

c. *Hospitalization for a limited time should be made available by the hospital or college student health service, either directly, or through hospitalization insurance.*

VIII. ADMISSION TO APPROVED LIST

18. Applications for approval of a school for training medical technologists should be made to the Council on Medical Education of the American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610. Forms will be supplied by the Council for this purpose on request and should be completed and signed by the director of the laboratory requesting approval.

19. Approval may be withdrawn whenever, in the opinion of the Council, a school does not maintain an educational program in accordance with the above standards. Whenever a training program has had six or less students for two consecutive years, approval will be withdrawn.

    a. *If, upon survey, a school's educational program is found to be inadequate, the director of the school of medical technology and the Dean of the affiliated college will be notified. If the deficiencies are not corrected within one year, a recommendation will be made that the approval be withdrawn.*

20. When there is a change in the directorship of an approved school, the curriculum vitae of the new director, giving the details of his training and experience in clinical pathology, must be submitted promptly to the AMA Council on Medical Education. If the new director's credentials are in order, approval of the school will be continued.

    No students may enroll while a school is without a director. Students already in school may complete the course.

21. The Annual Report requested by the Council on Medical Education must be completed, signed by the director, and returned to the Council promptly.

    A failure to complete and return the Annual Report for two consecutive years will result in a recommendation that approval be withdrawn.

SUGGESTIONS FOR ORGANIZATION AND CONDUCT OF AN APPROVED SCHOOL OF MEDICAL TECHNOLOGY

The material included on the following pages is intended to serve as a guide for the organization and conduct of an approved school. Only the items to be included in the various necessary forms will be outlined, because the actual format is a matter of convenience of use by the schools concerned. Each school should develop its own forms, criteria for selection of students, policy concerning student health program, curriculum and student records. These should be formulated by a consultation committee composed of the director, education coordinator and instructors in the school.

A brochure describing the course in detail should be available for distribution.

Active recruitment should be carried on in surrounding high schools, colleges, science fairs, and youth organizations. Recruitment material may be obtained from the State Pathology Society, the State Societies of the American Society of Medical Technology, or the National Committee for Careers in Medical Technology.

I. APPLICATION FORM AND SELECTION OF STUDENTS

A. Application form
   1. Personal history data.
      a. Name, permanent address, local address, phone, parent or guardian's name and address and phone.
      b. Birth date, birth place, citizenship status, marital status.
      c. General statement about health.
   2. Scholastic record.
      a. Official transcript of collegework plus Registry evaluation
      b. Reference from at least two science professors at college.
      c. Honors and activities.
   3. Employment.
      List of positions held since high school, including type, length, employer, reason for leaving.
   4. Military service record.
   5. Personal reference or former employer - names and addresses.
   6. Brief statement of interest in medical technology in applicant's own handwriting.
   7. Recent photograph, if possible.

B. Selection of students.
   Selection of students should be based on pre-defined

criteria established by the school in cooperation with the affiliated college. An admissions committee of teaching and supervisory personnel should review each application.

II. ROTATION SCHEDULE OF STUDENTS DURING HOSPITAL TRAINING

There are two general patterns for rotation of students. In the one, all students are admitted at the same time, usually starting in one of several laboratory areas. In the second, students are admitted on a staggered basis over a period of weeks into one laboratory area. The exact system followed by any one school is dependent upon such factors as physical space, number of instructors, laboratory census at any one time of the year, and coordination of training program and laboratory service of the hospital. Physical arrangement of laboratory and combinations of areas existing in the service unit are factors which must be considered in the allotment of time for practice and experience in the various laboratory areas. A definite rotation plan should be established and each student, instructor, and supervisor should receive a copy.

III. DIDACTIC SCHEDULE (FORMAL LECTURES, DEMONSTRATIONS, MOVIES, ETC.)

The time allotted and material to be covered in the didactic schedule may depend upon the requirements of the affiliated college in assigning credit hours for the hospital program and should be developed with the cooperation of the affiliated college. It should include the basic principles of the underlying procedures performed in the laboratory in each discipline and be adequate to cover each subject thoroughly.

Lectures should be supplemented by use of reading assignments, student projects, seminars and audio-visual aids.

Accredited schools of medical technology presently operate under one of two general didactic schedules. In one the lectures on a given subject are given to all students regardless of laboratory assignment; i.e., a student may be in practical training in bacteriology but may receive lectures on hematology. In the second system, the lectures and laboratory experience are coordinated; i.e., the student in the bacteriology area receives lectures on bacteriology. This system requires repetition of lectures by the instructor to a smaller number of students at a time but gives the student the opportunity to correlate didactic and practical material in units.

IV. GRADES, EXAMINATIONS, EVALUATION OF PRACTICAL WORK

A. Each school should develop a standard form for the reporting of grades from various laboratory areas and a master grade form should be a part of each student's record. The final grade in a laboratory area should be decided on the basis of:

1. Performance in examinations -- written and/or practical and/or oral.

2. Performance of practical work.

B. To facilitate the above, it is recommended that forms be devised to rate the students on factors such as accuracy, precision, ability to organize work, manual dexterity, initiative, progress, etc.

Since students should be evaluated in factors which are not involved in performance of practical work but are nevertheless important in the overall evaluation of the student as a potential practicing medical technologist, each evaluation should include comments on the student's ability in such areas as cooperation, stability of emotions, leadership, attitude, ability to work with people, punctuality, and potential as a medical technologist or teacher. These comments should not influence the official grade of the student but are useful in counselling the student and in recommending the student for employment.

A natural corollary to the evaluation of students is the need to train instructors in the proper performance of this duty. The orientation of those who evaluate the student is the responsibility of the director and the teaching supervisor.

C. Written examinations must be given at announced intervals. The material covered should include didactic information and practical problem situations. Straight recall of book and lecture facts should be avoided.

D. It is recommended that the approved school provide for each student's use, a check list of tests that he should perform in each laboratory area. In this way the laboratory and the student share the responsibility for the completeness of the student's experience.

V. CERTIFICATE

It is highly recommended that the accredited school grant a certificate upon satisfactory completion of its program. This certificate should include the hospital name and address, the student's full name and the length and year of training. It should be signed by the hospital administrator and the director of the approved school. Such a certificate should not be confused with Registry certification.

VI. REGISTRATION

All graduates of AMA accredited schools of medical technology become eligible, and are expected to take the examination for registration given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists. Until a graduate has passed this examination he is not entitled to use the designation MT (ASCP) after his name.

Registry examinations are given twice annually. Application forms are available from the Registry of Medical Technologists, P.O. Box 2544, Muncie, Indiana 47302.

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Brodsky, Stanley M.
Report of Electro-Mechanical Technology Curriculum Development Project.

State Univ. of New York, Albany.
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ABSTRACT - A previous study using a national sampling established the need for electro-mechanical technicians and identified the kinds of preemployment training preferred by employers. Using this information as a springboard the present study made use of regional study committees to provide curriculum information to faculties involved in planning a new program in electro-mechanical technology or in modifying an existing program. The results of this study were five curriculum outlines as derived from the knowledge, opinions, research, and interaction of the 71 experts serving on the committees. Also, of special interest to curriculum developers were the identification of five specialty areas, which are: (1) maintenance and trouble-shooting, (2) field service, (3) manufacturing and automated processes, (4) research and development, and (5) drafting. The demand for electro-mechanical technicians was verified in all four regions, and recommendations were made concerning admission requirements and course requirements. Areas needing further study are development of teaching aids, teacher preparation, and program costs. (AUTHOR/JS)

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REPORT OF

ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM DEVELOPMENT PROJECT

Prepared by

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Submitted to

Office of the University Dean for Two-Year Colleges
State University of New York

Mr. John T. Henderson
Assistant University Dean

December 1967

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This report is evidence of a comprehensive process involving literally thousands of man-hours of creative thought, interaction, judgment, and production. An undertaking of this sort does not occur unless someone in a position to do something about it identifies the problem. In this case, the someone is Mr. John T. Henderson, Assistant University Dean for Two-Year Colleges of the State University of New York, on whose initiative exploratory meetings were convened, and under whose guidance the ad hoc Advisory Committee evolved the plan for this project. The direction provided by the ad hoc Advisory Committee was invaluable to the organization and carry-through of the project.

Within the established framework, the outcomes depended entirely on the talent and energy of the four Regional Directors. Their initiative and cooperative performance has been admirable throughout. My sincere thanks and appreciation to Professors R. J. Lehman, P. Nevaldine, H. W. Pollack, and L. Wertman for their excellent professional efforts.

All of the planning and organizational functions would have been meaningless without the dedicated services of the consultants from colleges, industry, government, and schools who participated in the Regional Study Committees. Their individual and collective contributions form the basis of this report. I want to express sincere thanks to all of the consultants, whose names are listed in the appendix.

Finally, we must recognize the interest in electro-mechanical technology by many engineers and educators, which helped to bring this interdisciplinary area to the attention of the State University of New York and the State Education Department.

S. M. Brodsky
Project Director

CAPSULE SUMMARY

This project has produced five curriculum outlines representing the diversity of approaches to training the general electro-mechanical technician. A typical interregional curriculum is given under Results, Objective 8. Four regionally developed curriculums are included in Regional Reports.

Seventy-one professionals participated directly in this project: 35 educators and 36 from industry and government (see Appendix A). The results of this study are derived from the knowledge, opinions, research, and interaction of these 71 experts.

Five specialty areas for electro-mechanical technicians are identified as:

1. maintenance and trouble-shooting
2. field service
3. manufacturing and automated processes
4. research and development
5. drafting

Typical tasks are given to define the general electro-mechanical technician as well as the first four specialties given above (see Results, Objective 2). Training draftsmen requires different treatment than all other categories of electro-mechanical technicians, and is not pursued in this study.

The demand for electro-mechanical technicians has been verified in all regions of the state, although expectations of a heavy demand for research and development, and design as functions for these technicians have not materialized. (See Conclusions and Recommendations; also see Central Region Report for survey results.)

Several strong recommendations concerning admission requirements, mathematics course content, physics courses, technical laboratories, and technical communication are summarized under Conclusions and Recommendations.

A number of areas are recommended for further study and development, particularly detailed course content and teaching guides; suggested laboratory equipment, costs, and laboratory activities; and in-service training for faculty.

INTRODUCTION

Background

Although the present groundswell of interest in electro-mechanical technology programs is a recent development, the Instrument Society of America has been calling for similar inter-disciplinary programs to train instrumentation technicians for more than ten years. This effort has triggered the development of a variety of special-purpose instructional and laboratory devices, the launching of instrumentation technology curriculums in a number of colleges, technical institutes, and high schools, and the publication of a guide for a two-year curriculum.[1] Most instrumentation technology programs have been oriented toward the process industries, with emphasis on control and measurement functions.

The study of technical occupations[2] conducted by the New York State Department of Labor's Division of Research and Statistics, in 1962, found that the category of electro and mechanical engineering technicians was the largest group, constituting 28 per cent of the total number of technicians in the state. Within this category, those considered to be electro-mechanical technicians made up one-third of the total electro and mechanical engineering technicians. This surprising finding indicated that industry had found it necessary to train inter-disciplinary technicians from the typical single-field oriented pool of associate degree graduates and others. Certainly there was no continuing supply of electro-mechanical technicians coming from the post-secondary institutions. Projected numbers of jobs in 1970 and 1975 for the electro-mechanical technician subgroup were given for New York State as shown in Table 1. Of course, a considerable body of information about electro-mechanical technicians in 1962 is given in the published report.

Examination of Table 1 shows that while trouble-shooting functions are the major occupational area, greater growth rates are anticipated in design and development functions than in trouble-shooting. Development is forecast to show the most dramatic increase in demand for electro-mechanical technicians. Numbers of electro-mechanical technician jobs in the large urban areas of the state are also shown in Table 1, arranged by region to match the four regions used for the present study: Western, Central, Hudson, and Metropolitan—Long Island.

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[1]U.S. Department of Health, Education, and Welfare, Office of Education, Instrumentation Technology, OE-80033. (Washington: Government Printing Office, 1964).
[2]New York State Department of Labor, Division of Research and Statistics, Technical Manpower in New York State. 2 vols. 1964.

TABLE 1

ELECTRO-MECHANICAL TECHNICIAN JOBS IN NEW YORK STATE

Function	1962	1970	1975	Percent Change 1962-70	1970-75	1962-75
by Function[1]						
Design	1,744	2,324	2,758	33.3	18.7	58.1
Development	2,474	3,558	4,384	43.8	23.2	77.2
Trouble shooting and rel.	9,767	11,107	12,069	13.7	8.7	23.6
State Totals	13,985	16,989	19,211	21.5	13.1	37.4
by Area[2]						
Buffalo	846	1,025	1,135	21.2	10.7	34.2
Rochester	785	1,163	1,408	48.2	21.1	79.4
Sub-totals	1,631	2,188	2,543	34.1	16.2	55.9
Binghamton	768	953	1,110	24.1	16.5	44.5
Syracuse	607	763	850	25.7	11.0	40.0
Utica	246	267	288	8.5	7.9	17.1
Sub-totals	1,621	1,983	2,248	22.3	13.4	38.7
Albany	737	986	1,168	33.8	18.5	58.5
Westchester	539	712	809	32.1	13.6	50.1
Sub-totals	1,276	1,698	1,977	33.1	16.4	55.0
Nassau-Suffolk	3,338	4,453	5,335	33.4	19.8	59.8
New York City	4,737	5,175	5,532	9.2	6.9	16.8
Sub-totals	8,075	9,628	10,867	19.3	12.9	34.6
All Other Areas	1,382	1,492	1,576	8.0	5.6	14.0

[1]Ibid., Vol. IB, p. 25.
[2]Ibid., Vol. IB, pp. 28-37.

INTRODUCTION

During the summer of 1965, representatives of six community colleges and technical institutes met at the invitation of a large computer manufacturer to discuss the need for technicians trained with inter-disciplinary backgrounds. The needs of the expanding business equipment manufacturers alone indicated the desirability of developing associate degree programs in electro-mechanical technology. The six institutions formed a consortium to facilitate relations with industry and governmental agencies while each school developed its own electro-mechanical technology curriculum. The industry has provided a variety of equipment on both short- and long-term loan bases, while a grant from the U. S. Department of Health, Education, and Welfare has been awarded to support certain teacher training activities.

In September 1966, M. W. Roney of Oklahoma State University reported the results of a field study of electro-mechanical technician occupations, in which he established the need for such technicians on a national sampling basis and identified the kinds of pre-employment training preferred by industry. The respondents indicated that by 1970 they will require 25 per cent more electro-mechanical technicians than their combined hires of electronic technicians and mechanical technicians. The desired nature of pre-employment training was summarized as follows:

1. The training should put emphasis on electrical and mechanical principles rather than on specific applications of these principles.
2. Communication skills are extremely important in the work of electro-mechanical technicians and should be given special attention in the training program.
3. A study of the interrelationship of electrical and mechanical elements of systems and devices should be central in the specialized technical courses of the instructional program. Whenever possible, electrical and mechanical principles should be studied together, and not as separate entities.
4. Principles of electrical and mechanical physics are basic tools in the work of electro-mechanical technicians and all technical instruction should develop analytical skills for which these tools are fundamental. In addition, there is an increasing need for the technician to work with new applications of other physical sciences, such as: optical equipment, thermal energy devices, hydraulic and pneumatic controls, and a wide variety of measuring instruments.[1]

Part II of Roney's study consisted of the development of a suggested electro-mechanical technology curriculum. This study was discussed in December 1966 by an ad hoc advisory committee convened by Dean John T. Henderson of the State University of New York. Committee responses to the suggested curriculum and

[1]Maurice W. Roney, "Electro-Mechanical Technology. A Field Study of Electro-Mechanical Technical Occupations, Part I" (Stillwater, Oklahoma: Oklahoma State University, September 1966), p. 26 (mimeographed).

other materials indicated that it would not be a suitable guide for SUNY institutions interested in developing such programs. Therefore, a second meeting of the ad hoc committee was called in March 1967 to plan an approach to such programs for New York State. The committee identified a number of areas requiring exploration and suggested a plan of action. These suggestions have been used to develop the objectives and organizational pattern for the Electro-Mechanical Technology Curriculum Development Project, funded by a grant under the Vocational Education Act.

Assumptions

The present study was designed to produce certain curriculum information as a guide for faculties planning to institute an electro-mechanical technology program or to modify an existing program. The following assumptions were made:

1. The need for electro-mechanical technicians is sufficiently documented by the Roney study (Part I) and by the New York State Department of Labor study. Aside from superficial regional verification, no further study is required.
2. A two-year associate in applied science degree curriculum, which meets State Education Department requirements, can be designed to satisfactorily prepare electro-mechanical technicians.
3. Properly selected and oriented industrial consultants are competent to identify and specify the skills, abilities, knowledges, and understandings which various types and grades of electro-mechanical technicians are expected to use in industry.
4. Properly selected and oriented two-year college technology faculty members are competent to develop curriculum materials to implement the specifications established by industrial consultants.

Organization and Methods

Regional study committees were organized by each of four Regional Directors. Study committees consisted of from 10 to 20 consultants, including 5 to 7 community college faculty members, 4 to 11 industrial consultants, and 1 to 2 persons from secondary schools and/or appropriate state agencies. A total of 71 persons participated directly in this project either on a study committee or the ad hoc advisory committee. Of these,35 were affiliated with schools or colleges, 30 were industrial consultants, and 6 were from governmental agencies. A listing of participants is given in Appendix A. Table 2 summarizes the distribution of participants by affiliation and region.

Each study committee had a series of meetings in which they attacked a list of specific objectives prepared by the Project Director and based on the plan outlined by the ad hoc advisory committee (see Appendix B for a statement of the objectives). The typical schedule included two meetings of the full committee followed by two meetings of the college consultants.

TABLE 2

NUMBER OF PARTICIPANTS IN THE STUDY, BY AFFILIATION AND REGION

Committee	Affiliation				Total
	College or University	Industry	Government Agency	Secondary School	
Central Region	5	4	1	0	10
Hudson Region	7	5	1	1	14
Metropolitan–Long Island Region	7	8	1	1	17
Western Region	7	11	1	1	20
Sub-totals	26	28	4	3	61
Ad Hoc Advisory	5	2	2	0	9
Project Director	1				1
Totals	32	30	6	3	71

Each of the four regional committees independently developed an electro-mechanical technology curriculum outline, and a fifth curriculum outline was subsequently evolved by consensus of the Regional Directors and Project Director.

The entire process was under heavy time pressure inasmuch as the first introduction of the Regional Directors to the objectives and procedures for the project took place on May 1, 1967 and a wrap-up meeting with the ad hoc advisory committee was scheduled for June 28, 1967.

RESULTS

In retrospect, it was generally agreed that the tight time schedule required by fiscal limitations served an important positive function. Participants tended to respond to the time pressure with enthusiasm and a sense of urgency, so that each study group felt the goal-oriented continuity and teamwork.

Industrial consultants, as a group, represented an appropriately diversified sample of organizations based on geography, products, size, and technician functions.[1] College consultants were balanced with roughly equal representation from electrical and mechanical technology faculties comprising a corps of experienced and highly qualified personnel. May and early June, however, is a difficult period for college consultants because of end-of-academic-year activities, although meeting attendance and production did not appear to suffer.

It was agreed that available time would be insufficient to complete work on all of the objectives. Thus, efforts were concentrated on the first eight objectives (see Appendix B for the list of objectives), although individual regional committees contributed data to other selected objectives.

Objective 1.
Superficial Verification of Need for Electro-Mechanical Technicians

All regions reported enthusiastic response and interest in this study on the part of employers. Industrial consultants verbally verified the need in general terms. Prof. Nevaldine, Regional Director for the Central Region, conducted a mail survey of industries in that region. He found that 84 per cent of the respondents feel a moderate to great need for electro-mechanical technicians. See Regional Reports, Central Region for further details of survey findings.

While the data from most regions are qualitative, each Regional Director was convinced that the need had been substantially verified in his region.

[1]The sample of industrial organizations was intended to cover New York State, although one firm from Connecticut and one from New Jersey were included in the Metropolitan—Long Island study committee.

Objective 2.
To Identify the Occupational Titles, Functions, and Levels of Responsibility that are Characteristic of Electro-Mechanical Technicians

All regions contributed to this objective, but with varying emphases. Thus, there is no basis for consensus on job titles, although an extensive list was gathered by the Central Region.

Four areas of specialization within the broad field of electro-mechanical technology were identified as:

1. maintenance and trouble-shooting
2. field service
3. manufacturing and automated processes
4. research and development

In addition to these, the job of electro-mechanical draftsman was identified as an important occupational area by all but the Western Region. Such draftsmen would be heavily engaged in the areas of packaging and documentation required for procurement or manufacturing. However, only the Central Region attempted to meet this need by including a one-year engineering drawing sequence in their proposed curriculum. The Metropolitan—Long Island Regional Study Committee concluded that electro-mechanical draftsmen could be trained in existing Design-Drafting Technology curriculums with some slight modification. They implied that the program to train general electro-mechanical technicians was substantially different than one for electro-mechanical draftsmen.

Descriptions of several types of electro-mechanical technician occupations were developed based on typical tasks and functions performed by these technicians. The Western Region data were sampled heavily in these job descriptions.

The various types of electro-mechanical technicians can be operationally defined as those who have the education and training equivalent to completion of a two-year associate degree curriculum which qualifies them to perform the functions indicated in the following job descriptions.

Electro-Mechanical Technician — General. Tests, troubleshoots, analyzes, diagnoses, calibrates, and adjusts precision electro-mechanical components, devices, systems, and instruments. Constructs electrical, mechanical, and electro-mechanical breadboards according to specifications for the purpose of evaluation and feasibility studies. Assists engineers in the design, specification, and installation of electro-mechanical systems such as process control equipment. Obtains performance data and design information on electro-mechanical components, mechanisms, gears, chains, brakes, bearings, sprockets, relays, switches, photoelectric devices, operational amplifiers, oscillators, logic circuit components, pneumatic cylinders and control valves, hydraulic cylinders and fluidic controls, servo-systems, electrical and electronic components from technical literature and other sources. Conducts tryout testing of systems or devices, reports results, and modifies to eliminate defects. Designs and modifies simple

parts and brackets. Uses hand tools, soldering, drill press, and, less frequently, other machine tools. Prepares sketches of parts to be manufactured, and occasionally prepares engineering assembly or detail drawings. Acts as liaison between engineering department and manufacturing. Uses and understands a wide range of measuring and testing instrumentation including ammeter, voltmeter, multimeter, wattmeter, strip-chart recorder, x-y plotter, ohmmeter, bridges, oscilloscope, potentiometer, thermometers, thermocouples, pyrometers, pressure gages and manometers, strain gages, flowmeters, continuous recorders, etc. Performs mathematical computations; reduces data; prepares graphs, charts, and tables; prepares written reports; reads and interprets engineering drawings, schematics, and wiring diagrams; and orally communicates with supervisors, clients, vendors, and others. Usually works with minimum supervision and may supervise lower-grade technicians and skilled workers.

Electro-Mechanical Technician – Maintenance and Trouble-Shooting. Similar to Electro-Mechanical Technician – General, except for more emphasis on the following activities. Works from well-documented procedures or develops and recommends procedures for diagnosis of malfunctions in components, instruments, or complex systems. Performs operational or emergency maintenance to permit continued use of laboratory and prototype equipment. Aligns, calibrates, maintains, and repairs complex specialized process machinery, numerically controlled machines, and a wide range of test, control, and instrumentation equipment. Assists in installation, and performs acceptance tests on new equipment. Inspects highly complicated types of electrical, electronic, hydraulic, pneumatic, and mechanical equipment. Keeps historical records of machine and equipment performance and maintenance schedules. Maintains stock of supplies and replacement parts and orders replacement materials. Frequently works alone or in charge of a small maintenance team.

Electro-Mechanical Technician – Field Service. Similar to Electro-Mechanical Technician – Maintenance and Trouble-Shooting, except for additional emphasis on the following activities. Usually works alone on client's premises with responsibility for customer liaison and customer satisfaction. Uses a variety of techniques for oral and written communication with clients, colleagues, and supervisors. Works from well-documented installation, testing, or trouble-shooting procedures but should be capable of improvising temporary solutions in emergencies. May initiate or influence additional sales of company product lines as an incidental result of customer liaison. May train customer personnel in operation, safety, or other aspects of the equipment.

Electro-Mechanical Technician – Manufacturing and Automated Processes. Similar to Electro-Mechanical Technician – Maintenance and Trouble-Shooting, except for more stress on the following functions. Provides technical supervision and assistance in installation, startup, maintenance, and operation of hydraulic–pneumatic control systems, numerically controlled machinery, electro-mechanical devices and systems concerned with production and manufacture. Manages operation of manufacturing department's data

acquisition and quality control systems. Coordinates engineering specifications and instructions with manufacturing. Analyzes and reports on operational problems. May suggest solutions and participate in problem-solving efforts.

Electro-Mechanical Technician – Research and Development. Similar to Electro-Mechanical Technician – General, except for more emphasis on the following activities. Devises control and recording circuitry for testing arrangement. Designs systems that measure and record important process variables. Monitors engineering tests and recommends revision in procedures based on results and observations. Conducts controlled tests on equipment, such as reliability studies and environmental evaluations. Assists engineers and scientists in the installation, operation, debugging, and evaluation of new specialized and prototype equipment. Prepares sketches and drawings of assemblies and subassemblies. Does limited design such as mounts for transducers and test fixtures. Usually works closely with engineer or scientist, but requires little supervision.

Objective 3.
To Identify the Unique Needs, Special Skills, and Orientations Required of Electro-Mechanical Technicians in the Region

All Regional Directors reported that the greatest demand for electro-mechanical technicians was in the maintenance and trouble-shooting area, although all of the specializations were needed in all regions, with the following exceptions. The Western Region reported less demand for the manufacturing and automated process specialty, and the Central Region found a lower requirement for field service.

Independently, each of the four regional study committees decided to draft one general electro-mechanical technology curriculum rather than separate programs for each specialization area. The consensus was that most colleges could not afford to initiate more than one electro-mechanical technology curriculum, and that where one was offered it should be the general electro-mechanical technician program. When an institution was able to offer additional specializations, these could be organized by introducing variations in some second-year courses of the general program while retaining a common first year.

Objective 4.
To Suggest the Elements Which Should be Included in a Working Definition of Electro-Mechanical Technology and Electro-Mechanical Technician

The technology is amenable to definition in more general terms than the technician. A definition of electro-mechanical technology should identify its unique characteristics which distinguish it from other technologies.

Thus, electro-mechanical technology refers to that part of engineering technology which deals with the inter-disciplinary treatment of electrical, electronic, and mechanical – including hydraulics and pneumatics – principles and applications.

The Central Region evolved a formal definition of an electro-mechanical technician, while the Hudson Region used selected job descriptions for the purpose. Other regions contributed heavily to Objective 2, which helps us to identify the tasks usually performed by an electro-mechanical technician.

Objective 5.
To Identify the Level and Sophistication of an Assumed Two-Year AAS Electro-Mechanical Technology Curriculum by Recommending (a) the Admission Requirements, (b) the Nature of the Mathematics Content, (c) the Nature of the Science Content

Minimum admission requirements to an electro-mechanical technology curriculum should include a high school diploma or its equivalent, and two years of college preparatory high school mathematics, that is, 9th year and 10th year mathematics. While not required, a course in high school physics or chemistry is considered desirable background preparation for this program. The Metropolitan – Long Island Region dissented on the mathematics prerequisite, maintaining that 10th year mathematics need not be required as a minimum, but agreed that one year of algebra (9th year mathematics) was essential.

Formal mathematics content should be limited to topics in algebra and trigonometry with some areas of analytic geometry and an introduction to number systems included in a one-year sequence. Concepts of introductory calculus should be given in appropriate technical courses to deal with such topics as rates of change and areas under curves. The Hudson Region was alone in preferring a three-semester mathematics sequence, including introductory calculus, probability, and statistics in the last course. It is recognized that students frequently present more than the minimum of two years of high school mathematics. An alternate mathematics sequence which includes a thorough review of algebra and trigonometry, and treats topics in analytic geometry and introductory calculus, should be available to those students who can demonstrate their readiness for an advanced sequence. Conversely, provision should be made for applicants with potential who present less than two years of required mathematics through a pre-tech program, a system of conditional admission, a pre-admission summer course, or some other suitable arrangement.

Each region proposed a different approach to physics offerings, ranging from a single three-hour course without laboratory[1] (Western Region) to a one-year sequence with labs, while content organization varied in each version. This unexpected diversity can be attributed to general dissatisfaction with traditional physics programs in existing technical curriculums. Inter-regional discussion of this matter indicated a universal feeling that physics must be given as Applied Physics to

[1]The Western Region proposed to give separate courses in Mechanics and in Principles of Fluid Power taught by engineering technology faculty, completely eliminating these areas from their Topics in Physics lecture course.

provide a meaningful underpinning for technician curriculums. The fifth curriculum outline, which evolved from the inter-regional discussion, includes a one-year sequence in Applied Physics with certain strong recommendations concerning the nature of the course content and laboratory objectives. Furthermore, it was generally agreed that if the specified physics sequence could not be realistically implemented in a given institution, an alternative along the lines of the Western Region proposal should be seriously considered.

Objective 6.
To Identify Technical Subject Areas
to be Considered for the Curriculum

Each regional committee developed an electro-mechanical technology curriculum which was a product of the particular backgrounds of the participants, the sampling of regional industry, the way in which the participants interacted at regional meetings, and differences in regional conditions and needs. It is not surprising that each curriculum outline varies from those of other regions, much as mechanical technology curriculums vary from college to college. In this study, we have sampled the diversity which would tend to occur when individual college faculties approach the problem of developing a new curriculum, although the variations encountered here are probably more restricted because of the blending of highly qualified and experienced faculty members from several institutions in a region, as well as geographically distributed, carefully selected industrial representatives. Thus, it is important not to submerge legitimate diversity; therefore, the reports from all regions are included as integral parts of this document. The curriculum achieved by inter-regional discussion may be considered a typical or median electro-mechanical technology program arrived at with full understanding of the basic differences in regional approaches. Therefore, the rationale for the technical courses in the inter-regional curriculum will be reviewed at this point.

One theme underlies the entire program – emphasis on inter-disciplinary subject matter, principles, skills, and systems. Technical courses and their prerequisites are to be designed for integrated presentation with other concurrent and sequential courses. Furthermore, individual courses should include cross-disciplinary bridgings, analogies, and explanations wherever feasible without camouflaging the essential subject matter at hand. With this in mind, the electro-mechanical technology curriculum technical subject matter may be classified into three kinds of courses. Courses which are mainly

1. electrical or electronic;
2. mechanical; or
3. inter-disciplinary.

The first category includes the following courses:

1a. Electrical Circuits
1b. Electronics I
1c. Electronics II

1d. Electrical Machinery
1e. Computer Fundamentals

It is considered important to begin the study of electronics in the second semester, so that it will be available for inter-disciplinary second-year courses. Therefore, ac and dc circuits are given in one semester (Electrical Circuits) with certain topics deferred to the third semester in the Electrical Machinery course.

Courses which are mainly mechanical in nature include

2a. Industrial Tools and Materials
2b. Graphics
2c. Mechanical Components and Mechanisms

Although these courses tend to have a strong bias toward mechanical technology, the study of mechanisms will provide many areas of integrated treatment. Furthermore, Graphics will include opportunities for dealing with electronic schematics and diagrams for mechanism analysis which can provide an inter-disciplinary flavor to the course.

Four multi-disciplined advanced courses are designed for the second year:

3a. Electro-Mechanical Devices and Systems I
3b. Electro-Mechanical Devices and Systems II
3c. Industrial Instrumentation
3d. Systems Laboratory

These courses comprise the subject matter and applications reinforcement which a general electro-mechanical technician requires. Where a more specific field orientation is desired (such as numerical control and automated manufacturing, business machinery and data processing, or instrumentation and process control), these second-year courses would be redesigned accordingly, although few changes would be recommended in the first year of the curriculum.

In this curriculum each technical course consists of both classroom activities and laboratory work.[1] Therefore, fundamental principles, basic information, and approaches to practical problem solving developed in the classroom will be exemplified in the laboratory setting by the student while he develops hands-on skills. Laboratory replications of preset, pushbutton conventional experiments will generally be avoided in favor of more individualized problem-oriented tasks which develop the skilled independence that electro-mechanical technicians will need. All laboratories will concentrate on both written and oral technical communication with appropriate criticism, such that graduates will be truly competent in these important areas.

[1]Graphics includes both kinds of activities in the drafting room. The Systems Laboratory is the only exception, although individual student–teacher meetings and independent study will be expected.

Objective 7.
To Suggest the Nature of Liberal Arts
Components in the Curriculum

Maximum flexibility is desirable in this area to permit individual faculties to adjust the curriculum to local offerings, to allow the student a measure of election in an otherwise prescribed program, and to meet minimum state requirements. It is general practice to require at least one course in English Composition in the first semester, although patterns beyond the first semester vary widely. The proposed curriculum also includes an English elective in the second semester, two humanities or social science electives in the second year, and an unspecified elective in the fourth semester.

Objective 8.
To Develop a Viable Curriculum Outline
for the Program

A two-year, four-semester curriculum outline which meets New York State Education Department requirements for the Associate in Applied Science degree, and includes the courses mentioned in the preceding paragraphs, is shown below. This is followed by brief descriptions of the individual courses. While all regional reports were consulted and inter-regional discussions carefully noted, the course descriptions have been taken largely from an earlier form of the Metropolitan–Long Island Regional Report which included very comprehensive course descriptions. These descriptions have, of course, been modified to reflect the judgment of the Regional Directors. See Regional Reports for curriculum outlines developed by each regional study committee.

ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM OUTLINE

Courses	Hours per week Class	Hours per week Lab	Credits
1st Semester			
English Composition	3	0	3
Mathematics I	3	0	3
Applied Physics I	3	2	4
Electrical Circuits	4	3	5
Industrial Tools and Materials	2	3	3
	15	8	18
2nd Semester			
English Elective	3	0	3
Mathematics II	3	0	3
Applied Physics II	3	2	4
Electronics I	3	3	4
Mechanical Components and Mechanisms	2	3	3
Graphics	0	3	1
	14	11	18
3rd Semester			
Humanities or Social Science Elective	3	0	3
Electronics II	3	3	4
Electrical Machinery	2	3	3
Electro-Mechanical Devices and Systems I	3	3	4
Computer Fundamentals	2	3	3
	13	12	17
4th Semester			
Humanities or Social Science Elective	3	0	3
Elective	3	0	3
Electro-Mechanical Devices and Systems II	3	3	4
Industrial Instrumentation	3	3	4
Systems Laboratory	0	6	3
	12	12	17
Totals	54	43	70

COURSE DESCRIPTIONS

English Composition 3 class hrs, 3 credits

A standard freshman English course in written communication, expression, and exposition. Emphasis on grammar, organization, vocabulary, and style developed through extensive writing exercises and criticism.

English Elective 3 class hrs, 3 credits

May consist of a second course in English composition, a course in English literature, a course in speaking, or an integrated course in writing and literature, depending upon the offerings of the individual institution.

Mathematics I and II 3 class hrs, 3 credits each semester

A pre-calculus sequence of selected topics in algebra, trigonometry, and analytic geometry. The objective is to insure satisfactory capability in manipulating algebraic equations as well as operational knowledge of the trigonometry of right and oblique triangles. Topics include: algebraic notation and fundamental operations; operations with polynomials, fractions, ratios, proportions, factoring, exponents, and radicals; logarithms base 10, logarithms base e, scientific notation, and slide rule; linear equations, algebraic solution of equations, simultaneous linear equations, graphing techniques and solutions, and determinants; quadratic equations, algebraic solution of equations, and quadratic formula; introduction to number systems; rectangular coordinates, graphing techniques (omit translation or rotation of axes); definition and concept of slope, limiting cases, relation to equation of function (omit point-slope formula); polar coordinates, relation to "j" operator; straight line, circle, tangents; areas and volumes; areas under curves; trigonometry of the right triangle, functions, use of tables, use of slide rule, solution of right triangles (omit trigonometric identities); trigonometry of oblique triangles, law of sines, law of cosines.

Prerequisite for Mathematics I: 2 years of college preparatory high school mathematics.

Mathematics IA and IIA 3 class hrs, 3 credits each semester

An alternate mathematics sequence to replace Mathematics I and II for students who qualify.

A brief review of selected topics and operations in algebra and trigonometry followed by an integrated sequence in analytic geometry and introductory calculus.

Prerequisite for Mathematics IA: 3 years of college preparatory high school mathematics and demonstrated operational proficiency in algebra and trigonometry.

Applied Physics I and II 3 class hrs, 2 lab hrs, 4 credits each semester

A one-year sequence in principles and applications of physics utilizing foot-pound-second and centimeter-gram-second engineering unit systems.

The first course treats solid mechanics and fluid mechanics, including such topics as: units and measurement, forces and force systems, statics and static equilibrium, centroids and centers of gravity, dynamics and laws of motion, kinematics, motion of particles, motion of rigid bodies, elasticity, work and energy, friction, inertia, incompressible fluids, fluid flow, transmission of energy through fluids, introduction to compressible fluids.

The second course covers heat, sound, light, optics, and an introduction to modern physics. Some of the topics discussed are: change of phase, specific heat, heat transfer, gas laws, first law of thermodynamics, sound propagation and reception, light sources, reflection and refraction, spectra and waves, optical lenses and instruments, polarized light, structure of atoms, molecules and crystals, radioactivity and isotopes.

Laboratory sessions will emphasize experimental methods and observation; use of measuring instruments and tools; recording, analysis, and presentation of experimental data; technical communication through written reporting; graphical techniques, and oral reporting. Students will be required to set up their own apparatus and, with experience, will exercise increasing independence in laboratory problem solving.

Corequisite for Applied Physics I: Mathematics I.

Electrical Circuits 4 class hrs, 3 lab hrs, 5 credits

A course in the theory and practical application of direct and alternating current circuits. No prior knowledge of electricity is required. Emphasis is on understanding of functions and characteristics of circuit components, fundamental laws, and applied problem solving. Topics include: current flow, conductors, and insulators; units; circuit components such as resistors, capacitors, and inductances; dc voltage sources; types and characteristics of dc circuits; Ohm's law; Kirchoff's voltage and current laws; bridge circuits; electrical instruments; magnetic theory and applications; electro-magnetic induction; ac voltage, current, phase, and frequency; inductive and capacitive reactance; sinusoidal response; RLC circuit impedance and power; introduction to field concepts; introduction to rate-of-change and area-under-curve concepts. Mechanical analogies are used wherever possible in preparation for subsequent inter-disciplinary studies.

Laboratory work coordinates with classroom topics emphasizing understanding of principles along with extension into practical areas, such as: component identification, symbols, and color coding; reading schematic diagrams; selection and use of dc and ac meters and instruments; use of the oscilloscope and signal generators; breadboarding.

Corequisite: Mathematics I.

Industrial Tools and Materials 2 class hrs, 3 lab hrs, 3 credits

A course covering three main areas: selection and use of hand tools and certain machine tools; engineering materials and their properties; and manufacturing

processes. Specific topics include: precision measuring tools; layout techniques; hand and power saws; files; hand drill and drill press; tapping; sheet metal fabrication, shearing, bending, notching, hole punching; soldering and brazing; cutting tools; lathe work; milling; grinding; properties and uses of engineering materials, ferrous and nonferrous metals, plastics, ceramics; manufacturing processes, tolerances, machining, casting, forging, extrusion, forming, welding; introduction to quality control; industrial safety.

The laboratory work is organized around a variety of projects drawn from the fields of mechanical and electrical technology, so that the student will have experience applicable to the construction of breadboards, prototypes, and testing rigs. The student is expected to develop proficiency with hand tools and certain power tools, including band saw and drill press. He will become familiar with the shear, brake, lathe, and learn basic techniques of soldering and brazing.

Electronics I and II 3 class hrs, 3 lab hrs, 4 credits each semester

A one-year sequence in fundamentals and applications of electronics. Upon completion of the sequence, the student should understand the functions and principles of operation of a variety of electronic components and units used in electromechanical devices, be able to confirm manufacturer's specifications, breadboard electronic circuits, use standard electronic laboratory equipment and instrumentation, and assist in prototype development.

The first semester emphasizes the theory and operating characteristics of vacuum tube, solid state, and gaseous components, including their applications in elementary circuits. Topics covered are: energy levels, thermionic emission; thermionic diode characteristics, and use of tube manual; semiconductor theory and function characteristics; solid state diodes; gas ionization and gas discharge; multi-element tubes; half- and full-wave rectification; amplification; basic transistor circuits; analytical and graphical analysis; development of equivalent circuits.

The second semester treats more advanced electronic devices and circuits with primary emphasis on semiconductors. Topics included are: amplifier coupling and gain; common base amplifiers; transistor amplifiers; silicon-controlled rectifiers; photoconductive solid state devices, and circuits; sinusoidal and non-sinusoidal oscillation; feedback; wave-shaping networks; filters.

Laboratory sessions in the first course involve investigation and confirmation of principles discussed in class. The student constructs breadboard circuitry from discrete components and makes extensive use of a wide variety of electronic measuring and testing instruments.

Attention shifts to circuits applications and characteristics in the second semester laboratory. Emphasis is placed on application and analysis of solid state circuits in electro-mechanical devices with increased reliance on pre-assembled or commercially produced units.

Prerequisite for Electronics I: Electrical Circuits; Industrial Tools and Materials; Mathematics I. Corequisite for Electronics I: Mathematics II.

Mechanical Components and Mechanisms — 2 class hrs, 3 lab hrs, 3 credits

An introduction to mechanical elements of electro-mechanical systems. Individual components and mechanisms are studied in terms of functions and operating characteristics. Selection of components from manufacturers literature based on design or test data. Mechanical elements are treated in integrated electro-mechanical systems in laboratory work and their effects on input-output characteristics are analyzed. Topics discussed are: torque, inertia, work, power, and efficiency; gears – spur, bevel, helical, worm; gear trains, differentials and integrators; belt drives, chain drives; friction drives, variable speed drives; shafting, keys, pins, and couplings; clutches – mechanical, fluid, and electro-mechanical; brakes; cams – plate, barrel, Geneva, and ratchet; bearings; counters; linkages – slider-crank, yoke, quick return, and intermittent motion; springs – extension, compression, torsion, and negator; switches.

Laboratory sessions make extensive use of breadboard solutions to problems involving mechanisms and electro-mechanical systems. Independent approaches to practical problem solving is stressed. Laboratory tasks include almost all of the topics discussed in class, as well as analysis of integrated electro-mechanical systems and trouble-shooting malfunctions.

Prerequisite: Industrial Tools and Materials. Corequisite: Graphics.

Graphics — 3 lab hrs, 1 credit

This course covers the fundamentals of graphical communication, including electrical and mechanical drawing, sketching, graphs and charts, symbols and schematics. Emphasis is on familiarization with drafting tools and instruments, although extensive development of freehand sketching and pictorial representation is also stressed. Preparation and analysis of graphs and charts is included to facilitate laboratory reporting and provide a basis for graphical solutions of technical problems.

This course makes use of materials and devices studied in Mechanical Components and Mechanisms. Specific topics include: principles of freehand sketching, isometric sketching; orthographic projection; use of drafting instruments; dimensioning; sectioning; standards and symbols; schematics and wiring diagrams; graphs and charts; graphical problem solving; interpretation of complex drawings.

Electrical Machinery — 2 class hrs, 3 lab hrs, 3 credits

This course is designed to give the electro-mechanical technician both theoretical and functional knowledge of power electricity and ac and dc machines. Topics include: series and parallel resonant circuits; polyphase circuits; power measurement; transformer action – turns ratio, losses, impedance matching; dc motors and generators; ac motors and alternators; waveforms; dc and ac machinery control circuits and control equipment. Both electrical and mechanical aspects of electrical machinery and controls are stressed.

The laboratory provides hands-on experience in operation of electrical machinery, quantitative analysis of performance characteristics, electrical measurements on power circuits and equipment, as well as experimental demonstration of principles discussed in class. Safety practices for protection of equipment and personnel are stressed.

Prerequisite: Electrical Circuits.

Electro-Mechanical Devices and Systems I, II — 3 class hrs, 3 lab hrs, 4 credits each semester

A one-year sequence devoted to a detailed study of integrated electro-mechanical devices, controls, and systems. Emphasis is on basic understandings as well as functions in physical systems. These courses lay the foundation for a wide variety of scientific and industrial applications of interdisciplinary systems.

The first course covers: sensing devices and transducers – types, input-output characteristics, properties, applications; actuating devices such as solenoids, relays, synchros, servomotors, hydraulic and pneumatic actuators; variable transformers; magnetic and fluidic amplifiers; and other electro-mechanical devices.

The second course deals with: control devices – types of control principles, timers, controllers; automatic control systems – open loop and closed loop control systems, feedback, stability, components and devices applied to systems; applications of control systems to areas of temperature, flow, pressure, and materials handling.

Laboratory sessions involve testing and calibration of components and devices; circuit analysis and response characteristics; assembling, adjusting, and trouble-shooting of integrated electro-mechanical systems.

Prerequisites for Electro-Mechanical Devices and Systems I: Electronics I; Mechanical Components and Mechanisms.

Prerequisite for Electro-Mechanical Devices and Systems II: Electronics II.

Computer Fundamentals — 2 class hrs, 3 lab hrs, 3 credits

This course is designed to familiarize the student with the fundamentals of digital and analog computer systems. In addition to understanding the concepts of computer systems, the student is expected to develop sufficient programming skill to enable him to solve elementary problems on the computer. Topics include: logic gates and logic circuits; operational amplifiers; input-output devices; memory units; introduction to computer programming; applications of digital and analog systems for control, problem solving, and data processing.

Prerequisite for Computer Fundamentals: Electronics I.

Industrial Instrumentation 3 class hrs, 3 lab hrs, 4 credits

A course in principles of operation, capabilities, limitations, and practical applications of a variety of measuring, recording, and signaling instruments. Topics include: instrument terminology and basic functions; electrical and mechanical parameters and units; fundamental principles and instrument applications in measuring temperature, flow, pressure, level, weight and related variables, psychrometric variables, sound, light, radiation; selection of instrumentation.

Laboratory work emphasizes the electro-mechanical nature of most instrumentation while providing first-hand experience with instruments. Students deal with tasks and problems which may require calibration, direct and indirect measurements, selection and assembly of instrumentation, experimental studies, and comparisons.

Corequisite: Electro-Mechanical Devices and Systems II.

Systems Laboratory 6 lab hrs, 3 credits

An integrating course which ties together all aspects of the curriculum. This laboratory emphasizes analysis and trouble-shooting of operational electromechanical systems and processes in which faults are intentionally introduced. Systems studied are derived from a wide range of multi-discipline industrial applications. The student is required to demonstrate a substantial degree of independence in problem identification, problem solving, and reporting techniques. There is continued emphasis on safety and both written and oral communication.

Prerequisite: Eligibility for graduation if all work in progress is successfully completed.

CONCLUSIONS AND RECOMMENDATIONS

The major inter-regional conclusions drawn from this project are enumerated below and are discussed in greater detail in other sections of this document.

1. The need for trained electro-mechanical technicians exists in all regions of the state. Maintenance and trouble-shooting technicians are in greatest demand (see Results, Objectives 1 and 3; also Regional Reports, Central Region). These findings differ from expectations based on the New York State study of technical occupations, in that the forecast demand for design and development technicians has not been found to exist to any important extent in the industrial organizations sampled and surveyed.

2. Five specialty areas within the broad field of electro-mechanical technology are:

a. maintenance and trouble-shooting
b. field service
c. manufacturing and automated processes
d. research and development
e. drafting

The electro-mechanical draftsman requires an entirely different training approach than all other categories listed above. His training should emphasize engineering drafting with electro-mechanical elements added as specialties. Curriculums developed in this project are not primarily intended to train draftsmen (see Results, Objective 2).

The occupations of electro-mechanical technician – general and the four specialty areas (a-d) listed above, are defined in terms of tasks which these technicians may be expected to perform (see Results, Objective 2).

3. Initially, most colleges will be limited to one electro-mechanical technology curriculum. Therefore, a curriculum to prepare the general electro-mechanical technician is recommended. If one or more additional specialties are desired, these may be accomplished by adjusting the second year of the general curriculum into specialty options while retaining a common first year. This approach will provide a basis for orderly expansion of electro-mechanical programs as demand for specialization evolves in a given region (see Results, Objective 3).

4. No single standard curriculum is proposed, but instead a degree of diversity in meeting local and regional conditions is encouraged. The curriculum outline presented in Results, Objective 8, is a typical electro-mechanical technology program. See also the Regional Reports section for other curriculum outlines developed by each regional committee.

5. Admission requirements for an electro-mechanical technology curriculum should include a high school diploma or its equivalent, and a minimum of two years of college preparatory high school mathematics (see Results, Objective 5).

6. The mathematics sequence in the electro-mechanical technology curriculum should include algebra, trigonometry, and certain topics in analytic geometry. This is the mathematics required elsewhere in the curriculum. Applied calculus should be covered in technical courses as part of such topics as rate of change and area under a curve (see Results, Objective 5).

7. Physics coverage in electro-mechanical technology must be Applied Physics, with meaningful ties to concurrent technical courses and the use of engineering units. The physics laboratory should be organized to prepare students for subsequent technical laboratories and should stress proper reporting techniques (see Results, Objective 5).

8. A primary objective of an electro-mechanical technology program is to produce graduates who have a multi-disciplinary ability and attitude. This can best be accomplished through integrated presentation of subject matter wherein the cross-disciplinary bridgings and analogies are emphasized wherever feasible.

9. Laboratories provide a natural setting for stressing interdisciplinary thinking and should be organized to do so.

10. Technical laboratories should be organized to permit the student to progressively demonstrate his ability to work independently with minimum supervision or without structured formats. Routine replication of standard experiments should generally be avoided, particularly in advanced work.

11. All laboratories should contribute to developing appropriate abilities in oral and written technical communication.

12. This research is incomplete. Several areas which need further study and development are discussed in the section which follows.

Recommendations for Further Study

Completion of the first phase of this curriculum development project has produced some answers to the first eight objectives. More work is needed to make this research useful to faculties who will initiate electro-mechanical technology curriculums. The outline or skeleton is available in this report. The muscle and flesh of the curriculum needs to be developed, particularly for the inter-disciplinary technical courses. Furthermore, existing faculty will need to be retrained. There have been several proposals for achieving the goals of implementing curriculums and training faculty:

1. Form teams selected from participants in the first phase of this project to

    a. write detailed course content outlines for classroom activities,

b. develop lists and costs of instructional laboratory equipment for each laboratory course,
c. suggest texts and other instructional materials,
d. write laboratory experiments, procedures, and activities,
e. prepare a comprehensive annotated list of inter-disciplinary bridgings and analogs which instructors may draw on throughout the electro-mechanical curriculum.

2. Form a consulting team to visit campuses where new electro-mechanical technology curriculums are contemplated. This team would assist the faculty in detailed planning and would interpret the specific approaches necessary to achieve an inter-disciplinary program.

3. Develop "Instructor Guides" which will assist in orienting and updating electrical technology and mechanical technology faculty in preparation for teaching electro-mechanical courses and students. The guides would include information on inter-disciplinary subject matter, suggestions for teaching approaches, emphases, and explanations.

4. Offer faculty institutes to orient them toward inter-disciplinary objectives and concepts, as well as developing up-to-date subject matter information. Specific areas suggested for faculty institute subject matter reinforcement are:

   a. applied solid state electronics for Mechanical Engineers
   b. numerically controlled machines
   c. applied control systems – principles and hardware
   d. transducers and instrumentation – applications and calibration
   e. analog and digital computers
   f. fluidics – fluid power and fluid logic circuits
   g. inter-disciplinary bridgings and analogies

5. Several possibilities for implementing faculty institutes have been suggested:

   a. summer institute at community college with operational electro-mechanical laboratories
   b. use industrial facilities with both industrial and college instructors
   c. use university site where industry would supply the equipment, and dormitories would be available for summer housing of participants
   d. create a traveling faculty institute which would schedule institutes for short periods in various parts of the state, possibly using local industrial facilities.

There are additional areas which need further attention. The Western Region Study Committee has recommended a novel approach to laboratories in their curriculum outline. They have proposed a single integrating laboratory each semester as a means of achieving truly multi-disciplinary attitudes and understandings. The proposal has been adopted in the fifth curriculum to the extent of one such lab in the last semester. Further study is needed to develop the details of such lab courses, to recommend equipment, and to determine the feasibility of having integrating laboratories in each of the semesters.

Another area of concern is the need for trained support personnel to serve as instructional assistants. The special background required of such personnel may necessitate new ways to attract qualified candidates.

Although the need for graduate electro-mechanical technicians is well documented, little is known about sources of students for this curriculum. Several questions which need study are:

1. Will students attracted to this curriculum be drawn away from other technical programs, or will increased total technical applications result?
2. How can we estimate the number of seats which competing electro-mechanical technology curriculums should offer in each region?
3. What new information and recruiting techniques are needed to explain the differences between this program and other technologies?
4. How can a college determine in advance whether there will be a sufficient student demand to warrant initiating an electro-mechanical technology curriculum?

While each regional group developed what they considered to be a general purpose electro-mechanical technology curriculum, there are several specialty areas toward which a curriculum may be slanted. It is recommended that all such curriculums carry the title Electro-Mechanical Technology, and that additional descriptive secondary titles be used to distinguish between specialization areas. It is further recommended that existing Industrial Instrumentation Technology curriculums be considered for a change in title to Electro-Mechanical Technology – Instrumentation.

Career program titles need to be descriptive without undue proliferation, but should provide for legitimate diversity. It is therefore recommended that study groups be formed to review existing and proposed titles of career programs. Strong faculty representation should be the basis of such study groups, and different groups should be used for business, health services, and engineering-related technology programs with an objective of gaining maximum effectiveness from curriculum titles.

Curriculum development of new programs and review of existing curriculums are continual problems for most career area faculties. It is suggested that the State University study ways in which this important work can be facilitated by central services or publications. For example, a pamphlet on How to Form a College and Industry Study Group might be useful.

REGIONAL REPORTS

WESTERN REGION REPORT

By Prof. Roger J. Lehman
Regional Director

General Comments

In forming the Western Region Study Committee, the Director first formed the college committee, taking care to cover all two-year SUNY colleges in the region that have a technology program, to maintain a balance of electrical and mechanical members, and to have as members only those who are currently teaching technical subjects. The college committee members were then asked to recruit industrial members with technical rather than personnel backgrounds. The resulting committee displayed a unique zeal in devoting time and thought to the objectives of the Electro-Mechanical Technology Curriculum Development Project. In addition, they represented a broad spectrum of industry which included diversified areas of electro-mechanical technology. Not only did they devote their own time and thought, but many brought detailed written job descriptions and educational requirements from others, and thus represented a cross section of their respective industries.

The meeting attendance itself speaks for the interest and motivation of the committee. All meetings had 100 per cent attendance, with the following exceptions. 1) One industrial member was unable to attend the second meeting, but sent an alternate from his company; 2) one college member was absent from the final workshop because of a communication breakdown by the Regional Director, but was involved in the workshop discussion via telephone.

In undertaking this study, the committee followed the time phase plan suggested by the Project Director, and held two meetings of the entire committee and a final workshop involving just the college committee. The first meeting was general in nature and presented an opportunity to review the history leading to the study, to survey the objectives, and to become acquainted with fellow committee members. The second meeting was a detailed session – the most significant of the three in that it was here that the industrial members presented job descriptions and representative tasks of the electro-mechanical technician, together with curriculum recommendations. The format of this meeting was a morning session with the group divided into three subcommittees, followed by a joint afternoon session. This insured sufficient time for presentation by all industrial members. The last meeting was a two-day workshop of just the college members, where industrial members' recommendations were converted into an electro-mechanical curriculum outline and corresponding course descriptions.

Representative Electro-Mechanical Technician Tasks

A list of representative tasks taken from job descriptions presented by industrial committee members is given in the Supplement at the end of this regional report. The task list is divided into four categories – development, manufacturing, field service, and maintenance. The job descriptions usually overlap these areas, as do many of the tasks, but all four areas are clearly indicated. Some of the most frequently repeated items are setting up testing systems and performing tests; reduction of data; preparing graphs and charts; writing reports; installation, setup, and trouble-shooting of electro-mechanical-hydraulic-pneumatic systems; monitoring systems through standardized testing; and being able to work from sketches, blueprints, and specifications. Most of the design function is contained in the development area and is restricted to minor components and testing apparatus. The few references to more involved design usually were accompanied by a rather ambitious educational recommendation. Although technical supervision is included, direct supervision is not.

Summary of Educational Requirements from Industrial Committee Members

A. Technical. There was complete agreement that an electro-mechanical technology curriculum should emphasize fundamentals in all phases of technology. Regular courses now offered in the single-discipline programs are the best vehicles to accomplish this. The following areas should be included: electrical circuit theory, including characteristics of components, circuit analysis including sinusoidal response using complex numbers and three-phase circuitry; principles of ac and dc electrical machinery; servo-mechanisms; magnetics and some electric and magnetic field concepts; electronics, including characteristics of components, power supplies, filters, amplifiers and feedback circuits; electrical and electronic instruments and instrumentation; statics of rigid bodies, forces, centroids and centers of gravity; kinematics and dynamics; rectilinear, curvilinear, and relative motion; application of Newton's laws of motion to kinetics of both particles and rigid bodies; principles of mechanisms as applied to mechanical systems such as gear trains, cams, and linkages; vibrations; fluid power, including pneumatics, hydraulics, and fluidics; transducers; instruments and instrumentation.

Although recognition of the need for drawing, sketching, and blueprint reading was general, the recommendations regarding drawing courses were not. They varied from requiring high school drawing and excluding drawing from the curriculum to including three semesters of drawing. The consensus seemed to be one course in drawing emphasizing drawing tools, sketching, blueprint reading, and some exposure to electrical, hydraulic, and pneumatic schematic drawings.

The feeling regarding laboratory content was also diverse. Some members suggested that the available time could be much better spent on classroom exposure to fundamentals, while others felt the laboratory was the only place to tie

the concepts together. The consensus seemed to be that about one-third of the student's in-class time should be spent in laboratory situations.

There was also a difference of opinion regarding the inclusion of electromechanical courses. One group felt that this should be omitted – some because they felt there was insufficient time, the rest because they were afraid of teaching a particular system. A second group felt that such exposure should be included in the final semester to tie the various concepts together. The remaining members felt that such exposure was the heart of the program, and should be initiated at the beginning. The last view was adopted by the college committee. There was general agreement that the primary place for this integration was in the laboratory.

The industrial members felt that time should not be devoted to actual operation of machine tools, that machinists were not a desired product of this curriculum, and that sufficient familiarization could be obtained from films. The college committee disregarded this recommendation, and included limited machine tool experience in their proposed curriculum so as to provide some background for introduction to automated machine tool processes.

B. Related Technical.

1. Mathematics. There were many recommendations for calculus and some for differential equations. Probability and statistics also were mentioned as desirable. Although these recommendations were presented, the committee collectively decided that the requirements within the technical courses should dictate the mathematics content of the proposed curriculum. This would include algebra, trigonometry, and a feeling for the concepts of calculus.

2. Physics. While there was a strong feeling that a complete basic physics course, together with selected advanced topics, was desirable, it was agreed that the economical use of time demanded that only those topics not covered in technical courses be covered in physics. The topics would be heat, light, optics, sound, and an introduction to modern physics.

C. English and Humanities. A regular two-semester freshman English course in composition and literature should be included. Technical writing and public speaking are essential; however, there was considerable feeling that this material should be constantly integrated into the laboratory work rather than attempt to satisfy the requirement by a single course offering.

D. Social Sciences. Interest in this area varied, with many considering it an extravagant use of valuable time. Such topics as psychology, economics, salesmanship, and human relations were mentioned. It was agreed that coverage in this area should be restricted to minimum state requirements.

Curriculum Guidelines by College Committee

After reviewing industrial committee recommendations, the college committee formulated the following guidelines before attempting to develop a curriculum. It was agreed:

A. To use 16-17 semester hours with three 3-hour laboratories per semester as a guideline.
B. To stress fundamentals in the classroom exposure, keeping the several subjects separated.
C. To tailor these courses so as to make maximum use of existing courses from current programs.
D. To separate the laboratory completely from these courses.
E. To use integrated electro-mechanical laboratories throughout the curriculum.
F. To stress safety, trouble-shooting, instrumentation, report writing, and oral presentation in all laboratories.
G. To require only algebra and trigonometry as formal mathematics courses, but to provide an alternate sequence, including applied calculus, for the more advanced students.
H. To include slide rule, introduction to Boolean algebra, and introduction to calculus concepts as integral parts of technology courses.
I. To cover in physics only those topics not covered in technology courses.
J. To require 2 units of high school mathematics for entrance into the curriculum, and to recommend high school physics and mechanical drawing as desirable.

ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM OUTLINE

RECOMMENDED BY COLLEGE COMMITTEE

Courses	Hours per week Class	Hours per week Lab	Credits
1st Semester			
English Composition and Literature I	3	0	3
College Algebra and Trigonometry I	3	0	3
Electrical Fundamentals I	3	0	3
Mechanics	3	0	3
Technical Drawing	1	3	2
Production Processes	1	3	2
Electro-Mechanical Laboratory I	0	3	1
	14	9	17
2nd Semester			
English Composition and Literature II	3	0	3
College Algebra and Trigonometry II	3	0	3
Electronics I	3	0	3
Machine Elements and Mechanisms	3	0	3
Computer Fundamentals	1	3	2
Electro-Mechanical Laboratory II	0	6	2
	13	9	16
3rd Semester			
Social Science Elective	3	0	3
Topics in Physics	3	0	3
Principles of Fluid Power	3	0	3
Electronics II	3	0	3
Electrical Fundamentals II	2	0	2
Systems Laboratory I	0	9	3
	14	9	17
4th Semester			
Social Science Elective	3	0	3
Materials and Manufacturing Processes	2	0	2
Numerical Controlled Machine Tools	1	3	2
Automatic Control	5	0	5
Systems Laboratory II	0	9	3
	11	12	15
Totals	52	39	65

COURSE DESCRIPTIONS

English Composition and Literature I and II — 3 lectures per week, 3 credits each semester

Wide range of reading selections. Attention is given to elimination of common errors in written expression.

College Algebra and Trigonometry I and II — 3 lectures per week, 3 credits each semester

A pre-calculus sequence including polynomials, fractions, exponents, radicals, equations, logarithms, trigonometry, slopes, area under curve, and some topics from analytic geometry.

Topics in Physics — 3 lectures per week, 3 credits

To include heat, sound, light, optics, and an introduction to modern physics.

Electrical Fundamentals I — 3 lectures per week, 3 credits

Electrical circuit theory, including characteristics of components, sinusoidal response using complex numbers, magnetics and some electric and magnetic field concepts. Concepts of rate of change and area under curve introduced using calculus notation.

Electrical Fundamentals II — 2 lectures per week, 2 credits

Resonance, three-phase circuitry, and power measurement, ac and dc electrical machinery, transformers, nonsinusoidal wave forms.

Electronics I and II — 3 lectures per week, 3 credits each semester

Thermionic emission, semiconductor theory, gaseous conduction; vacuum, semiconductor, and gaseous devices; input-output characteristics and simple applications. Amplifiers, feedback, oscillators, wave-shaping networks, filters, special solid state, vacuum, and gaseous devices.

Mechanics — 3 lectures per week, 3 credits

Statics of rigid bodies, forces, centroids and centers of gravity, forces on beams and columns. Kinematics and dynamics, rectilinear, curvilinear, and relative motion of particles. Plane motion of rigid bodies, instantaneous center of rotation. Application of Newton's laws of motion and the inertia force method to kinetics problems involving both particles and rigid bodies.

Machine Elements and Mechanisms — 3 lectures per week, 3 credits

Four bar and slider-crank mechanisms, cams, and gear trains. Fasteners, power screws, springs, couplings, brakes, clutches, chains, gears, power drives and bearings. Vibration control. Selection of materials, use of handbook and manufacturers data.

Principles of Fluid Power — 3 lectures per week, 3 credits

Fluid mechanics, including heat transfer, flow, hydromatics, pneumatics, fluid instrumentation. Fluid systems of pistons, solenoids, switches, and elements of fluid control. Emphasis on selection, specification, and application of fluid power elements. Hydraulic, pneumatic, and fluidic controls.

Technical Drawing — 1 lecture, 1 3-hr laboratory per week, 2 credits

Emphasis on familiarization with drafting tools, sketching, blueprint reading, and template drawing.

Production Processes — 1 lecture, 1 3-hr laboratory per week, 2 credits

Familiarization with machine and hand tools. Welding, brazing, and soldering. Jigs, fixtures, and fasteners. Use of precision measuring instruments.

Computer Fundamentals — 1 lecture, 1 3-hr laboratory per week, 2 credits

Concepts of analog and digital computers, operational amplifiers, and logic gates. Memory, input-output devices. Demonstration of computer solution to previously encountered problems.

Materials and Manufacturing Processes — 2 lectures per week, 2 credits

Properties and selection of ferrous, nonferrous, plastic, and ceramic materials. Production methods and quality control.

Numerical Controlled Machine Tools — 1 lecture, 1 3-hr laboratory per week, 2 credits

Input devices, feedback systems, programming, trouble-shooting. Plant tours included.

Automatic Control — 5 lectures per week, 5 credits

Familiarization with open and closed loop control theory. Control devices. Application of control systems, including temperature, flow, pressure, and materials handling.

Electro-Mechanical Laboratory I — 1 3-hr laboratory per week, 1 credit

Introduce scientific notation, slide rule, problem solving. Basic instrumentation, including force measurement, gages, voltmeters, ammeters. Setup, measurement, and comparison of electrical and mechanical circuits and simple electro-mechanical systems. Safety, report writing, and oral presentation.

Electro-Mechanical Laboratory II — 2 3-hr laboratories per week, 2 credits

Continued emphasis on safety, report writing, and oral presentation. Familiarization with transducers and recording devices. Build and study electro and mechanical devices with emphasis on input-output characteristics, and combine into systems.

Systems Laboratory I — 3 3-hr laboratories per week, 3 credits

Continued emphasis on safety, report writing, and oral presentation. Hydraulic and pneumatic principles and related instrumentation. Fluidics, fluid mechanics, and heat transfer. Servo-mechanisms. Study of electro-mechanical systems, incorporating these concepts and logic circuits.

Systems Laboratory II — 3 3-hr laboratories per week, 3 credits

Trouble-shooting in pre-setup systems or processes having plug-in units for modification and capable of fault insertion.

REVIEW OF OBJECTIVES AND RECOMMENDATIONS FOR FURTHER STUDY

Comparison of the information contained in this report with the objectives of this project, indicates sufficient coverage of Objectives 1 through 8. This leaves three principal areas for further study:

1. Recruitment and training of faculty
2. Orientation of prospective students toward the nature of the curriculum and the job opportunities it opens
3. Development of instructional material and laboratory facilities.

These are general problems characteristic of all technical programs. However, the last problem is of particular significance here.

The heart of the suggested curriculum is a comprehensive integrated laboratory program geared to instrumenting and trouble-shooting increasingly more complicated systems. The content of each laboratory is outlined, but a great deal of development work is required to prepare detailed course outlines for these laboratories and to specify the required laboratory facilities.

SUPPLEMENT

Electro-Mechanical Technician Tasks

The following is a list of typical tasks of the electro-mechanical technician. The tasks were taken directly from job descriptions obtained from industrial members of the study committee. No attempt has been made to eliminate duplication, and this should serve to emphasize the more frequent requirements. The tasks have been divided into four areas.

A. Development

1. Prepares materials and assembles according to prints and specifications for the purpose of development and evaluation.
2. May devise control and recording circuitry as required to accomplish assignment.
3. May monitor engineering tests and recommend revision in procedure based on progressive test results.
4. On the basis of equipment performance, may recommend revision.
5. May perform laboratory wiring and machinery operations and other related assignments as required.
6. Assists engineers in the design, specification, and installation of process control equipment.
7. Conducts evaluation tests of equipment to determine actual performance under adverse environmental conditions.
8. Drafting and limited design following familiarization with equipment types used.
9. Simple design such as mounts for transducers and test fixtures.
10. Laboratory and field testing, including data reduction and report writing.
11. Assist engineers in setting up, operating, and evaluating prototype equipment.
12. Prepare sketches and drawings of assemblies and subassemblies.
13. Maintain a data book in a neat, accurate manner and prepare graphs, charts, and tables.
14. Prepare written reports on results obtained.
15. Design of hydraulic and pneumatic circuits, together with associated electronic control functions.
16. Design of measurement systems that measure and record important process variables.
17. Drafting with limited design.
18. Fabrication of electronic modules.
19. Performs mathematical computations, reduces data, and makes graphs and charts.
20. Conducts routine tests to evaluate new parts, experimental machinery, or a control system or device.

21. Works with engineering personnel in the installation and debugging of new specialized equipment.
22. Record and supply data for technical reports concerning testing and development programs.
23. Obtain data and information on components from sources such as trade and technical publications, sales, service, and shop.
24. Use charts, handbooks, and tables to make the necessary calculations to determine loads, stresses, mechanisms, gear trains, speed, weights, fits, and clearance of parts.
25. Observe test tryout of system, instrument, or control, and make necessary modifications to eliminate any defect revealed by the test.
26. Set up reliability or environmental test equipment and run test using this equipment.
27. Trouble-shooting prototype numerically controlled machines.

B. Manufacturing

1. Follows prescribed procedures in performing tests, evaluating products, equipment, and processes.
2. Coordinates engineering instructions with manufacturing.
3. Performs quality assurance tests and records pertinent quality data.
4. Provides technical supervision in installation, startup, maintenance, and operation of electro-mechanical systems.
5. Handles and manages the operation of departmental data acquisition systems.
6. Inspects specialized or highly complicated types of electrical, electronic, hydraulic, pneumatic, and mechanical equipment.
7. Studies the process, equipment, or conditions under control and all operating problems which occur, and suggests additional tests.

C. Field Service

1. Field work in putting equipment in operation.
2. Trouble-shooting, testing, and modifying equipment.
3. Performing field test.
4. Writing and preparing system and equipment instruction manuals.
5. Assists in solution of problems in manufacturing, customer complaints, and field service which have been referred to engineering.
6. Serves as field service representative.
7. Servicing machines in the field.

D. Maintenance

1. Analyzes cause of malfunctioning in electro-mechanical-hydraulic-pneumatic machine.
2. Assists with the trouble-shooting of control equipment and application problems.

3. Maintains and trouble-shoots laboratory and prototype equipment and makes modifications as required.
4. Maintains a stock of supplies and replacement parts, and orders replacement materials.
5. Performs operational or emergency maintenance to permit continued use of equipment.
6. Diagnoses causes of malfunction in individual components or complete instrument or control systems.
7. Reads and interprets blueprints, sketches, manufacturers data, and wiring diagrams concerning equipment on which work is performed.
8. Installs, adjusts, repairs, and calibrates complex specialized process-type machines.
9. Aligns, calibrates, maintains, and repairs electronic, electrical, and mechanical test equipment.
10. Servicing and trouble-shooting numerically controlled machines.

CENTRAL REGION REPORT

By Prof. Peter Nevaldine
Regional Director

Composition of Central Region Committee

The Central Region study was conducted by representatives of Onondaga Community College, Mohawk Valley Community College, Broome Technical Community College, State University Agricultural and Technical Colleges at Morrisville and at Canton, New York. Industrial consultants represented General Electric Company, Johnson City, Carrier Air Conditioning Corporation, Syracuse, Bendix Corporation, Fluid Power Division, Utica, and Lee Schoeller Paper Company, Pulaski, New York. The New York State Employment Service, Syracuse Office, was also represented on this committee.

It now appears that the inclusion of representatives from two or three other industries in the Central New York area would have been highly desirable in order to obtain additional information and opinions, and to make the study more comprehensive. However, in spite of this, there was great enthusiasm and cooperation on the part of all participants.

A total of four meetings was held, all at Onondaga Community College. The first two were held on May 17 and 24, and included both college and industrial consultants. Prior to these meetings informative material had been prepared and distributed, so that only a minimum of time was used to describe the purposes and nature of the study. The last two meetings were held on June 1 and 2 for the purpose of developing a viable curriculum and brief course descriptions. Only the college consultants attended these last two meetings, although there is some feeling that the industrial representatives should have been present also.

Brief Discussion of Questionnaire Results

In order to determine specific area needs, a questionnaire was developed and sent to 63 companies concentrated mostly in the Central New York area. In all cases, the companies were those which have employed graduates of technician programs, or have made inquiries regarding them.

Since the results of the questionnaire were fully reported in an earlier report, only brief comments will be made here. The results show:

1. There appears to be an area of activity that can be identified as electro-mechanical.

2. Eighty-four per cent of the respondents feel that there is moderate to great need for electro-mechanical technicians.
3. A large majority feels that this need is in addition to the need for electrical and mechanical technicians.
4. Over 90 per cent feel that electro-mechanical technicians are as valuable or more valuable than either electrical or mechanical technicians.
5. A large majority feels that two years is sufficient to train an electro-mechanical technician.
6. Most respondents feel that the course work should be integrated as much as possible.
7. Most respondents feel that the minimum mathematical ability should be at the college algebra–trigonometry level. There is practically no feeling that calculus and analytical geometry need be taught.

Summary of Meetings and Recommendations

1. The committee feels that the following definition of an electro-mechanical technician is adequate:

> An electro-mechanical technician is a graduate of a two-year curriculum with a background in both electrical and mechanical areas of specialization, capable of working on development, design, and trouble-shooting of electro-mechanical systems. This includes fluid and hydraulic systems as well as conventional electrical and mechanical systems.

2. The committee feels that drafting and trouble-shooting areas are perhaps the most productive in job opportunities, and any curriculum should reflect this situation.

3. A survey of enrollments in technical programs (included in an earlier regional report) in four two-year colleges indicated that enrollments in individual technologies are either stable, or are declining somewhat. Therefore, it appears that additional technical curriculums may very well adversely affect enrollments in present programs.

4. There appears to be a need for graduates of such a program. However, the committee wonders whether some employers are thinking of getting "two technicians for the price of one," which, of course, will not be the case.

5. There is some indication that employers may have set their sights too high in the past. This is supported by the following statement made by one of the industrial consultants:

> "Many of us in industry, particularly Personnel Managers, often tend to seek perfection in job applicants. We therefore set our sights somewhat higher than the labor market has to offer.

"This reasoning may be applied to the electro-mechanical project in some respects. For instance, I do not know if it is practical to expect a young man to complete, in two years, all of the subject requirements the industrial idealist may expect."

6. In some cases, union considerations will determine what the graduates of such a program may do in an individual corporation. This does not seem to be a serious problem, however.

7. There is a real need for concerted effort to improve the "image" of technician education. This should be a statewide effort to convince parents and guidance counsellors that there are many very desirable opportunities available for technicians. There needs to be an effort to offset the "second class citizen" impression which seems to prevail in many cases.

8. In order to be really effective, an "integrated" instructional approach will have to be followed as much as possible.

9. The English requirement should stress report writing, communications, and presentation, and should minimize literature.

10. While it appears that the electro-mechanical program might be on a somewhat lower level, from a technical viewpoint, it will be as rigorous as present programs, and the retention rates should not be significantly different from present rates.

11. Instructional staff must be selected on the basis of experience and capability, and formal graduate programs may have to be de-emphasized in many cases. Nevertheless, there must be provided a number of in-service professional improvement programs so that staff can keep abreast of current developments and, at the same time, be eligible for promotion.

12. In-service courses ranging from one to six weeks should be provided during the summer for professional improvement purposes. There should be modest stipends provided to attendees in order to help offset loss of income that might be obtained through consulting services or summer employment.

13. Laboratory equipment must be adequate, up to date, and more varied than in many present programs. Also, equipment must incorporate complete systems if the service and trouble-shooting functions are to be stressed. Therefore, the cost of equipment for such a program will be greater than the cost of establishing either an electrical or mechanical program, and in some cases could approach the cost of both programs combined.

14. The establishment of any new technology is very apt to have an adverse effect on enrollments in existing technologies, although overall total student numbers may increase.

SUGGESTED ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM OUTLINES – SEMESTER BASIS

Courses	Hours per week Class	Hours per week Lab	Credits
1st Semester			
English I	3	0	3
Mathematics I	4	0	4
Electricity I	3	3	4
Physics	3	2	4
Machine Tools	3	3	4
	16	8	19
2nd Semester			
English II	3	0	3
Mathematics II	4	0	4
Electricity II	3	3	4
Engineering Drawing I (Mechanical)	0	6	2
Manufacturing Processes	3	3	4
	13	12	17
3rd Semester			
Electricity III	3	3	4
Engineering Drawing II (Electrical)	0	6	2
Strength and Properties of Engineering Materials	3	3	4
Hydraulics and Pneumatic Principles	3	3	4
General Education Elective	3	0	3
	12	15	17
4th Semester			
Electricity IV	3	3	4
Industrial Instrumentation	3	3	4
Electro-Mechanical Design	3	3	4
Computer Fundamentals and Programming	3	3	4
General Education Elective	3	0	3
	15	12	19
Totals	56	47	72

SUGGESTED ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM OUTLINES – QUARTER BASIS

Courses	Hours per week Class	Hours per week Lab	Quarter Credits
1st Quarter			
English I	3	0	3
Mathematics I	4	0	4
Physics I	3	2	4
Manufacturing Processes I	3	3	4
Engineering Drawing I	1	4	3
	14	9	18
2nd Quarter			
English II	3	0	3
Mathematics II	4	0	4
Physics II	3	2	4
Manufacturing Processes II	3	3	4
Engineering Drawing II	1	4	3
	14	9	18
3rd Quarter			
English III	3	0	3
Mathematics III	4	0	4
Manufacturing Processes III	2	2	3
Computers	2	2	3
Electricity I	4	3	5
	15	7	18
4th Quarter			
Applied Mechanics	4	0	4
Electrical Drawing and Design	1	4	3
Fluid Mechanics	2	3	3
Electricity II	4	3	5
General Education Elective	3	0	3
	14	10	18
5th Quarter			
Electricity III	4	3	5
Statistics	3	0	3
Materials of Engineering I (Metallurgy)	3	3	4
Strength of Materials	2	3	3
General Education Elective	3	0	3
	15	9	18
6th Quarter			
Electricity IV	4	3	5
Materials of Engineering II	3	3	4
Machine Design	1	4	3
Electrical Construction and Maintenance	1	4	3
General Education Elective	3	0	3
	12	14	18
Totals	84	58	108

COURSE DESCRIPTIONS – Semester Basis Curriculum Outline

English I and II 3 class hrs, 3 credits each semester

Emphasis is on report writing, good English usage, communication, and presentation. Should be rigorous and flexible enough to meet any state requirements.

Mathematics I and II 4 class hrs, 4 credits, each semester

Selected topics from college algebra and trigonometry, including some work with logarithms. It is doubtful whether calculus should be introduced. This would depend upon the mathematical preparation of the class.

Electricity I, II, III, and IV 3 class hrs, 3 lab hrs, 4 credits each semester

This is a sequence covering ac and dc circuits and machines in I and II, and electronics, including solid state circuits and applications, in III and IV.

Physics 3 class hrs, 2 lab hrs, 4 credits

Statics and dynamics, heat, hydraulics, fluid flow, light, and sound. Electricity and magnetism could be included only if there was sufficient time left after the recommended topics were thoroughly covered.

Engineering Drawing I (Mechanical) 6 lab hrs, 2 credits

Fundamental mechanical drawing, including sketching, lettering, orthographic projection, sectioning, auxiliary views, some assembly drawings, fits and limits, surface finishes.

Engineering Drawing II (Electrical) 6 lab hrs, 2 credits

Electrical symbols, machines, electronic symbols and circuits.

Machine Tools 3 class hrs, 3 lab hrs, 4 credits

Operation of basic machine tools. Study of capabilities and capacities of machines; precision measurements.

Strength and Properties of Engineering Materials 3 class hrs, 3 lab hrs, 4 credits

A combination of conventional strength of materials course with certain aspects of metallurgy included. Would include information on characteristics and uses of nonferrous metals and plastics.

Hydraulics and Pneumatic Principles 3 class hrs, 3 lab hrs, 4 credits

Basic fluid dynamic principles; hydraulic and pneumatic systems.

Industrial Instrumentation 3 class hrs, 3 lab hrs, 4 credits

Fundamentals of measurement, control, and recording of flow, pressure, temperature, level, rates, etc. Use of electrical, electronic, pneumatic, and mechanical measuring devices.

Electro-Mechanical Design 3 class hrs, 3 lab hrs, 4 credits

Selected design topics in electro-mechanical systems.

Computer Fundamentals and Programming 3 class hrs, 3 lab hrs, 4 credits

Computer organization, block diagrams, number systems, registers, elementary logic circuits, counters, input-output equipment, programming.

EQUIPMENT WITH WHICH ELECTRO-MECHANICAL TECHNICIANS SHOULD BE FAMILIAR

Following is a list of equipment that the consultants feel should be available for student use. This is not a comprehensive list, but merely a suggested sample.

Laboratory equipment for measurement of speed, voltage, current, power, vibration, sound, and environmental factors; slide rule, drafting tools, equipment catalogs, lathe, milling machines, drill press, surface grinder, hand soldering equipment, oscilloscope, signal generators, signal tracers, dynamometers, prony brakes, flowmeters, shut-off and regulating valves, chart recorders, VOM, VTVM, thermometers, accelerometers, rotameters, pressure gages, engines, electric motors and generators, motor controls, torque and force instruments, computers, digital equipment, telemetry, stroboscopes, electrical bridges of various types, high-speed cameras, hardness testers, electronic counters, strain gages,filtering equipment, manometers, air systems, numerical controlled machine tools.

SUPPLEMENT

List of Job Titles

These titles were submitted by the industrial consultants as being in actual use within their organizations. There are, of course, many, many other titles that are used in other companies and industries.

Junior Test Equipment Designer

Test Equipment Calibrator; Trouble-shooter

Junior Test Engineer

Test Engineer

Junior Draftsman

Detailer

Designer

Engineering Aide

Inspector – Production Test

Ultrasonics Inspector

Gage Inspector

Statistical Quality Control Analyst

Vendor Items Inspector

X-Ray Technician

Planning Clerk

Expeditor

Assistant Buyer – Electro-Mechanical Equipment

Junior Process Engineer

Junior Methods Engineer

Machine Operator – Electro-Chemical Lathe
– Electron Beam Welder
– Tape or Pneumatically Controlled Machine Tools

Junior Sales Engineer

Junior Field Service Engineer

Process Technician

Instrument Repairman

Engineering Trainee

Maintenance Supervisor

Preventative Maintenance Supervisor

Plant Services Engineer

Engineering Technician

Planner Technician

Quality Control Planner Technician

Assembler – Bench

Circuit and Assembly Fabrication

Electrician

Inspector – Castings
– Finishes and Processes
– Incoming Material
– Optical
– Mechanical

Repairman – Control Systems
– Control Systems-Peripheral Equipment

Maintain and Repair – Shop Equipment
– Assembly Tools and Equipment

Electronics Technician – Automated Processes

Electronics Mechanic

Component Inspection Technician

Customer Engineering Specialist

Electro-Medical Equipment Repairman

Systems-Testing Laboratory Technician

Instrument Maker

Instrument Builder

Instrument Mechanic

Instrumentation Technician

Engineering Assistant – Mechanical Equipment

Quality Control Technician

Automated Equipment Engineer – Technician

HUDSON REGION REPORT

By Prof. Herman W. Pollack
Regional Director

Background

The Director, after being assured that the respective college presidents in the Hudson Region were notified by Dean John Henderson of our efforts to study the feasibility of an electro-mechanical technology curriculum, proceeded to establish the college committee for the Hudson Region. The two-year colleges with mechanical and electrical technology curricula were contacted to provide faculty representatives for the study.

In addition to the four college representatives, a member of the New York State Department of Commerce and the Director of Vocational Education (BOCES), Orange County, were asked and agreed to serve. Each of the four college representatives were asked to recommend industrial representatives to the committee from their local areas.

The Timetable

The timetable set forth by the Project Director had to be followed rather closely, since the time available was short. The first meeting was held on May 20 and the final report had to be ready for the ad hoc committee meeting on June 28. This tight schedule appears to have worked to our advantage. The plan was to hold two joint college–industrial workshops and two college workshops.

At the May 20 joint meeting of the Regional Study Committee at Dutchess Community College, the scope, purpose, and objectives were outlined for the committee. A general discussion of the duties and responsibilities of the electro-mechanical technician took place. Industry's needs, in terms of numbers of technicians, were discussed. A first look was taken at the kinds of course materials which would be appropriate for this type of technician. The industrial representatives were asked to compile the following data for the second meeting: job qualifications, company needs, recommended course materials, laboratory equipment, recommended laboratory procedures, etc.

The second joint meeting took place at Dutchess Community College on June 3. The industrial representatives reported to the joint committee on company needs, course materials, courses, etc.

The third meeting was held on June 10. Those attending were the college group and Mr. Wozney of General Electric. This meeting was devoted to the writing of an appropriate electro-mechanical curriculum.

The fourth meeting, held on June 20, was devoted entirely to identifying the type of materials to be included in lectures and laboratories, and to the writing of course descriptions. The discussions which took place during the several meetings uncovered additional needs and areas for further study which will be summarized later in this report.

The Electro-Mechanical Technician as Defined by the Industrial Representatives

One industry divided their technician job qualifications into electrical and mechanical. Subtitles for these categories are: theoretical, practical, and technical. Another industry submitted its job descriptions for three types of electro-mechanical technicians. A collection of tasks required by a third company were also submitted. These job descriptions and technician tasks are given in Supplement A at the end of this regional report.

A close examination of the tasks required of the technician would indicate that they lean toward the use of electrical components. The design requirements are reflected in the need for tool and fixture design, and the requirement to "develop and construct test equipment where none is available." However, the emphasis seems to be on setting up, testing, and trouble-shooting electro-mechanical systems. This requires a broad knowledge of electrical components, materials, and the ability to use simple hand and power tools. The need to reduce data, analyze results, make recommendations, and prepare reports are other desirable qualities for the electro-mechanical technician.

Educational Requirements by Industrial Representatives

Typical educational and experience requirements are stated by one of the company representatives as ". . .high school plus two years of technical school or equivalent, including a working knowledge of experimental stress analysis and electronic instrumentation... His formal education should reflect a knowledge of mathematics, physics, other science courses, and English."

Industry recommended the following subject areas: basic sciences and mathematics, metallurgy, strength of materials, fluid mechanics, chemistry, machine design, thermodynamics, and electricity–electronics courses with the emphasis on circuitry. Drawing should not be of the conventional type, which emphasizes techniques of drawing. It should not develop draftsmen. While the drawing course should include some skill development, sketching should be used to stress mechanical design aspects. Cutaways, descriptive geometry, problem solution by graphical methods, nomography, etc., should be included in the drawing course. Technical reporting should be included in the laboratories. There is no

need for a separate technical reporting course. The ability to write a report, or explain a malfunction to a superior, is important to industry. History, psychology, and economics should be offered as electives. These general education courses should not be tailored to the technician's needs.

The industrial group also made the following recommendations:

1. Hydraulics and pneumatics should be included in the physics course.
2. Chemistry should be left to the high schools, but it need not be a prerequisite for admission to the electro-mechanical curriculum. The amount of chemistry required can be taught at the high school level.
3. High school physics need not be a prerequisite for admission to the electro-mechanical program.
4. A new approach to the laboratory must be found. The "button-pushing" type of laboratory is not recommended. Somehow, the student must be taught how to trouble-shoot systems. Professor Pollack submitted an approach to a laboratory procedure which has proved successful in terms of motivation and self-discipline for the student. A copy is included in an earlier regional report.

Curriculum as Developed by the College Committee

1. The following statement of objective was formulated:

The electro-mechanical technology program involves the interrelationship of electrical and mechanical principles, devices, and systems. This program prepares a student to take an analytical approach to problem solving, design, measurement, and trouble-shooting. It gives the student an opportunity for a diversified experience and encouragement to develop his interests and abilities.

The objective of the electro-mechanical curriculum is to provide a broad two-year program of a post-high school nature, combining general education with technical education, and leading to an Associate in Applied Science degree.

2. Minimum prerequisite for entering the proposed electro-mechanical technology curriculum: two years of college preparatory mathematics. Recommended as desirable: high school physics and/or chemistry.

PROPOSED ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM OUTLINE

Courses	Hours per week Class	Hours per week Lab	Credits
1st Semester			
English Composition	3	0	3
Mathematics I	3	0	3
Physics I	3	2	4
Electric Theory I	3	2	4
Industrial Processes and Materials	2	3	3
Physical Education	0	2	1
	14	9	18
2nd Semester			
English Composition and Literature	3	0	3
Mathematics II	3	0	3
Physics II	3	2	4
Electric Theory II	3	2	4
Graphics	1	4	3
Physical Education	0	2	1
	13	10	18
3rd Semester			
Mathematics III	3	0	3
Social Science Elective	3	0	3
Electronics	3	2	4
Statics and Strength of Materials	3	2	4
Computer Programming	2	2	3
	14	6	17
4th Semester			
Electronic Computer Circuits	3	0	3
Social Science Elective	3	0	3
Electro-Mechanical Mechanisms	3	2	4
Electronic Instrumentation and Controls	3	3	4
Electives (Technical)	3	0	3
	15	5	17
Totals	56	30	70

COURSE DESCRIPTIONS

Electric Theory I — 3 class hrs, 2 lab hrs, 4 credits

Basic electrical principles and laws applying to direct current circuits. Concepts of energy, voltage, current, resistance, capacitance, and inductance, together with their measurement and/or determination. Emphasis is placed on analysis of circuits, both dc and magnetic, using fundamental theorems of Thevenin, Norton, Kirchoff's laws, Maxwell mesh equations, nodal analysis, transient analysis of R-L and R-C circuits.

Electric Theory II — 3 class hrs, 2 lab hrs, 4 credits

A study of the passive components, resistance, inductance, and capacitance under transient and sinusoidal voltage conditions. Series and parallel circuits in resonant and nonresonant conditions are studied using vector algebra for problem solution. Other topics include circuit Q, transformers, and filters.

Industrial Processes and Materials — 2 class hrs, 3 lab hrs, 3 credits

An analysis of various chemical, electrical, and mechanical characteristics of materials most commonly used in industry. A study of the basic techniques used in the fabrication and assembly of electrical and mechanical products. Laboratory work includes practice with hand and machine tools of industrial caliber.

Graphics — 1 class hr, 4 lab hrs, 3 credits

Fundamentals of engineering drawing with the emphasis on drafting techniques, consisting of freehand sketching and pictorial representation. The study and analysis of graphs and charts, graphical representation of mathematical functions and nomography. Problem solving of typical engineering problems by graphical mathematics.

Electronics — 3 class hrs, 2 lab hrs, 4 credits

An introductory course in the principles of electron tubes and semiconductors. Components studied are thermionic diodes, semiconductor diodes, photoelectric devices, transistors, and multi-element vacuum tubes. These devices are characterized, graphically analyzed, and their equivalent circuits are studied in a typical application. Each topic is emphasized by laboratory experiments.

Statics and Strength of Materials — 3 class hrs, 2 lab hrs, 4 credits

Basic principles of statics; analytical and graphical analysis of parallel, concurrent, and non-concurrent force systems with applications to simple struc-

tures and friction. Also to be covered are properties of materials and material testing: stress-strain relations; tensile, compressive, shear, and bearing stresses in structures and machine parts.

Computer Programming 2 class hrs, 2 lab hrs, 3 credits

This course introduces the concept and use of the digital computer as a problem-solving tool and includes applications in elementary numerical analysis. It covers basic computer principles, programming theory, and the Fortran language. The applications in numerical analysis include Newton's Method, curve fitting, systems of linear equations, and other topics. The student not only writes his own programs but learns how to make use of existing program libraries to increase his understanding and confidence in the computer as an efficient and useful tool.

Electronic Computer Circuits 3 class hrs, 3 credits

A course introducing the principles of digital and analog computers. Two-valued logic, fundamental logic blocks, solid state switching circuits, and storage and memory circuits as applied to digital computers are studied. The operation of analog computers is studied for problem-solving applications.

Electronic Instrumentation and Controls 3 class hrs, 3 lab hrs, 4 credits

A study of electro-mechanical methods of sensing and controlling physical industrial processes. Topics include transducers, measurement of physical properties, indicators, recorders, and controllers.

Electro-Mechanical Mechanisms 3 class hrs, 2 lab hrs, 4 credits

Principles of mechanisms as applied to the kinematics of electro-mechanical systems. Topics should include common machine elements and mechanical devices, gears, cams, levers, threads, and linkages. Also, hydraulic and pneumatic actuating devices, electrical relays, limit switches, and servo-mechanisms are studied.

Physics I 3 class hrs, 2 lab hrs, 4 credits

Measurement, forces, mechanics, kinematics, dynamics. Forces producing motion,friction, work and power. Fluids, specific gravity, density, properties of materials. Pascal's law, Archimedes' Principle, Bernoulli's Principle, and quantity flow.

Physics II 3 class hrs, 2 lab hrs, 4 credits

Continues with hydraulics through power. Heat, specific heat, expansion, change of phase, transfer, fuels, gas laws. Sound, light, and some modern physics.

Mathematics I 3 class hrs, 3 credits

College algebra.

Mathematics II 3 class hrs, 3 credits

Trigonometry and analytic geometry.

Mathematics III 3 class hrs, 3 credits

Selected topics in higher mathematics; probability, statistics, introduction to calculus.

RECOMMENDATIONS

1. For further study: A 6- to 8-week summer institute to upgrade faculty who may be teaching in the electro-mechanical curriculum should be started. This type of institute should receive recognition at the State University campuses in their criteria for promotion, salary increases, etc.

2. For further study: A joint industrial—educational study should be instituted to determine how work-study programs can be developed leading to advanced degrees, so that industrially oriented faculty may be trained as teachers in the technologies.

3. Pre-tech programs should be instituted at the high school level and/or at the college campus to insure easier articulation between the high school and the college. It is especially important that the proper motivating forces be brought to bear early on the student. It is also important that a technology oriented chemistry and physics be instituted at the high school level.

4. The team-teaching technique should be used in the multi-discipline courses when a cross-discipline faculty member is not available.

5. For further study: The development and identification of instructional materials, texts, reference aids, laboratory equipment and instrumentation, and sources of instructional materials.

SUPPLEMENT A

Job Qualifications, Descriptions, and Responsibilities for Electro-Mechanical Technicians

I. A. Electrical Qualifications

1. Theoretical

Ohm's law; Kirchoff's law; energy relationships; simple ac theory involving an understanding of sine waves, root-mean-square and average values, phase relationships, and vectors; resonance; exponential response to step functions; simple electromagnetics involving an understanding of magnetomotive force, rate of change of magnetic flux, and hysteresis.

2. Practical

Laboratory equipment: oscilloscope, VOM, impedance bridge, signal sources, circuit breakers, discrete circuit components.

Transistors: hybrid transfers, common emitter switching circuits.

Solid state devices other than transistors: silicon controlled rectifiers, diodes, Zener diodes, photoelectric cells.

Trouble-shooting: ability to isolate shorts with a minimum of disconnects; both shorts to ground and shorts between points other than ground. Awareness of the nature of high-voltage breakdowns, and how to find them. Ability to trouble-shoot both hot and cold circuits, with a good appreciation of the approach to use in a given case. A recognition of the sounds emitted by malfunctioning components, such as crackling of a bad high-voltage capacitor.

Transformers: ability to hook up transformers and variacs in various configurations, with a knowledge of currents, voltages, and frequencies.

Relays: ability to recognize the basic functions of relays, such as amplification, circuit multiplication, remote control, time delay. Synthesis of simple relay circuits (synthesis of more complex relay logic is an art which should be left to the engineers).

Wattmeters, ammeters, and voltmeters: understanding their limitations, how to hook them up, and how to calibrate them.

3. Technical

Ability to solder both small and large joints; draw and read circuit diagrams; perform wiring tasks with a minimum of error; and ability to check for errors before applying power. Ability to disassemble components such as circuit breakers and transformers for modification or repair.

B. Mechanical Qualifications

1. Theoretical

Simple mechanisms involving concepts of mass, acceleration, and force; moments; energy relationships involving heat and work; vibration and damping; strength of materials (qualitative except for an acquaintance with the relationship of stress and strain); simple optics; the piezoelectric effect; magnetostriction; hydrostatics; pneumatics.

2. Practical

Familiarity with machine screw sizes; bushings and bearings; gears, sprockets, and chains; familiarity with materials such as tempered aluminum and phenolics (which are most commonly used materials for jigs and fixtures at this company); solenoids; centrifugal and positive displacement pumps; familiarity with copper tubing and fittings; electro-mechanical, hydraulic, and pneumatic valves.

3. Technical

Ability to operate hand tools; drill press (less important is an ability to operate lathes, milling machines, jig borers, etc.).

Facility with slide rule.

Ability to draw and read blueprints and layouts (for jigs and fixtures).

Ability to design as well as build simple jigs and fixtures.

II. Job Description

A. Electro-Mechanical Laboratory Technician would be responsible to a test supervisor to perform basic assignments in the following areas.

1. Instrument a test setup consisting of a diesel engine and generator set.
2. Run specific tests and record all data.
3. Plot data and write up test report.

B. Electro-Mechanical Service Engineer would be responsible to a senior service engineer to perform basic assignments in the following areas.

1. On customer's property, put a new diesel-electric locomotive into service.
2. On customer's property, investigate complaints of product malfunctioning.
3. Instruct customer personnel in routine electrical and mechanical maintenance procedures.

C. Electro-Mechanical Draftsman would be responsible to an electrical drafting supervisor to perform basic assignments in the following areas.

1. Make working drawings of apparatus applications to diesel-electric locomotives.
2. Design support structures for electrical apparatus.
3. Package electrical components.
4. Make wiring diagrams from schematics.

III. Responsibilities of Electro-Mechanical Technicians

A. Electro-Mechanical Technician, Grade 8-9

1. Assistant to Laboratory Engineer: minor planning and scheduling, testing, application of instruments, data recording.
2. Install and use strain gages, transducers, recording equipment.
3. Conduct tests, reduce data, plot results, write letter reports.
4. Repair and maintain electronic and mechanical equipment such as amplifiers.

B. Electro-Mechanical Technician, Instrumentation

1. Prepare sketches of mechanical components and electrical circuitry. Select and order components and materials needed, such as instruments, strain gages, precision and specialty tools, etc.
2. Apply meticulous toolmaker skills and critical judgment to the manufacturing and assembly of transducers such as are used to direct measurement of main steam line pressure fluctuations.
3. Assemble developmental components and correct electrical and mechanical design errors as they become evident.
4. Install transducers to measure transient motion, pressure, speed, etc., and recording equipment.
5. Operate instrumentation and record pertinent phenomena.
6. Analyze data and equipment performance. Present observations, conclusions, and recommendations in letter reports and data folders.

C. Electro-Mechanical Technician, Testing

1. Conduct fatigue development projects, which involve setting dynamic stresses, temperatures, and loads so that fatigue data may be obtained.
2. Operate all types of dynamic testing apparatus, which includes electromagnetic, pneumatic, Sonntag, Krouse, and Schenck fatigue machines.
3. Operate all types of measurement equipment and apply measurement techniques related to dynamic testing and experimental stress analysis.

4. Conduct vibration tests on all types of structures, which involve measuring amplitudes, frequencies, phases, and mode shapes.

5. Analyze results, make recommendations, and prepare reports.

6. Develop and construct testing apparatus where none is commercially available.

7. Repair and maintain electronic and mechanical test equipment.

METROPOLITAN - LONG ISLAND REGIONAL REPORT

By Prof. Louis Wertman
Regional Director

This report summarizes the results of the Regional Study Committee's work, including a proposed two-year electro-mechanical technology curriculum. This curriculum is designed to meet the specific needs of this particular region. The results of our work represent the combined effort of local industry and two-year technical colleges. The curriculum is presented with the approval of the members of the entire committee.

Formation of the Regional Study Committee

The following procedure was used in forming the committee. A list was compiled consisting of more than 25 local industries who are familiar with the needs of electro-mechanical technicians. Each company was contacted. A lengthy conversation was held with a responsible official of each company to determine how each could contribute to this study. From this initial group, ten companies were selected as being most representative of a cross section of electro-mechanical technology needs. Discussions were then held with potential industrial committee members to determine how each, through training and position within the company, could contribute to this study. It was considered important to get a good representation of needs plus a balance in the areas of education and experience. A final group of seven industrial representatives were selected to join the committee. In addition, a representative of the Board of Education, Bureau of Educational and Vocational Guidance, and a representative of the New York State Department of Labor, Division of Employment, were added to the committee.

In order to obtain a college faculty consulting group, all of the two-year colleges in the region with technical programs were contacted. Committee members were not only recommended, but were selected on the basis of education, industrial experience, and teaching experience. A balance of disciplines was the deciding factor in forming this group.

Proceedings and Recommendations

The first meeting consisting of the entire committee was held on May 25. In order to insure a maximum of accomplishment, each member was thoroughly briefed in advance by letter outlining the objectives of the project, method of operation, project timetable, and several items of background information. The meeting was highly successful and resulted in the development of guidelines for curriculum development.

The initial topic of discussion centered about the role of the electro-mechanical technician in industry. Some descriptive terms offered to characterize that role were junior engineer, super maintenance man, design planning, partially creative. It was concluded that it is difficult to describe the role of the electro-mechanical technician in industry, because it varies greatly in different industries. It is easier to define the areas of responsibility of the engineer. Therefore, if the job is not that of the engineer, it will be assumed to be assigned to the technician.

The industrial members were called upon to explain the role of the electro-mechanical technician within each of the companies. Each representative discussed the technician's role in great detail. Each member was well prepared for this discussion. The following groupings of tasks summarize the main points of this discussion.

1. Engineering Aide or Extension of the Engineer

Takes concepts in the form of schematics or verbal instructions and follows through to the construction of the breadboard, the prototype, or the final product. Writes reports throughout the project. Acts as liaison between engineering and instrument-making or manufacturing.

2. Electro-Mechanical Draftsman

Performs function of design-draftsman in the area of packaging and documentation, as required for procurement and/or manufacturing.

3. Instrumentation or Test Technician

Tests components, subassemblies, and complete assemblies through the use of a large variety of measuring instruments. Has working knowledge of the capabilities and limitations of these instruments. The tests may be well documented or the procedure may be developed by the technician. Reports results of tests but does not analyze these results. Although not required to make judgments, should be capable of making recommendations. May be required to diagnose the cause of troubles.

4. Field Service Technician

Ability to test, debug, and modify equipment in the field. Ability to communicate with people at all levels of responsibility. Has good manual dexterity and extensive practical knowledge.

5. General Abilities Required of All Electro-Mechanical Technicians

Ability to communicate. Broad electro-mechanical knowledge, including electricity, electronics, mechanics, optics, blueprint reading and sketching, knowledge of basic manufacturing techniques, working knowledge of metrology (instrumentation). Dexterity with hand tools and basic shop tools. Testing, data-taking, and report-writing abilities. Knowledge of field terminology.

Based on the previous discussion, the group was asked to decide upon the various types of curricula needed to meet the needs of the field. It was concluded that

1. a special program in Electro-Mechanical Design-Drafting is not required. Instead, related areas of electro-mechanical technology should be made part of existing drafting programs;
2. one general electro-mechanical technology curriculum could be developed to meet the remaining needs, as previously discussed. However, it was agreed that there could be a specialty such as data processing, which would require a major part of the curriculum devoted to it. The group did not feel qualified to discuss this area;
3. a two-year program can meet the needs of industry.

The group proceeded to discuss the basic general education and technical courses which should be included in the curriculum. The following recommendations resulted.

1. Mathematics. A good working knowledge of algebra and trigonometry is essential. Elementary analytical geometry and an introduction to calculus is useful but not in any way essential. It is recommended that this could be given in an applied technical mathematics course along with some computer mathematics (number systems, not Boolean algebra).

2. Science. It was recommended that a traditional qualitative physics program with strong emphasis on basic concepts and only a minor use of mathematics would meet the needs. It was suggested that the areas to be covered should include optics, sound, statics, dynamics, physical chemistry, mechanics, heat transfer, etc. The training in the use of units is considered very important.

3. Mechanical Drawing or Technical Graphics. It is essential that the technician be able to read blueprints and to make working sketches and schematics in both the mechanical and electrical areas. Standard symbols should be emphasized. The course should stress the development of visualization ability rather than drafting skills. It should be integrated with a manufacturing techniques and tool skills course.

4. Tool Skills and Manufacturing Techniques. A class and laboratory course in the proper selection and use of hand tools and basic manufacturing tools (lathe, drill press, miller, and grinder) is essential. Electrical and mechanical tools must be covered.

5. Mechanisms. A basic lecture and laboratory course in basic mechanical and electro-mechanical mechanisms such as gears, cams, clutches, brakes, counters, linkages, relays, switches, etc., is essential. The course should also include a basic understanding of the kinematics of the various devices.

An additional long list of specific advanced subject matter knowledge required in the curriculum was developed by the industrial members in a free-wheeling session. This list is included in the minutes of the May 25 meeting.

The college group met separately to discuss the industrial needs. A tentative curriculum was developed, and each member working in his specialized area was assigned courses for detailed development.

At the next meeting of the college consultants, the detailed course content was presented. Each course was studied with respect to its value to the program; its meeting of the industrial needs; its relevance to electro-mechanical technology; its requirements as to prerequisites and corequisites; its relationship to other courses and the feasibility of realistically teaching the course. Each member contributed information outside of his specialty. The curriculum was revised based on the new information and discussion. Careful consideration was given to the number of hours and credits in each semester.

The curriculum was now put together for presentation to the entire study group. Each college consultant was assigned the task of detailing his course. The curriculum and detailed course descriptions were distributed prior to the next meeting. The final meeting of the entire committee was organized with the industrial consultants charged with thoroughly questioning each course in the program according to their requirements, and the college consultants charged to defend their decisions. After many hours of discussion, some changes were made and the committee agreed that the proposed curriculum would meet the needs of local industry and was a realistic proposal.

Each member contributed a maximum effort to this study. After the final meeting, each member expressed his feeling that a meaningful and worthwhile task had been successfully accomplished. Each person is to be congratulated for the sincere effort put forth. It was truly a professional undertaking.

There was a final discussion with respect to staffing for this curriculum. It was agreed that education plus industrial experience were essential. However, in the specialized areas where a laboratory and knowledge of highly specialized equipment was required, it was recommended that a laboratory assistant with an Equipment Specialist title should assist the instructor. This position should have a starting salary of not less than $9,000 (in the New York City area) and a technical education plus experience should be the requirements for the position.

Summary

The committee expressed the opinion that there are many industrial areas which require specialized electro-mechanical technician training; for example, data processing, production, automation. However, the curriculum developed is general in nature and meets the needs of this region. With the possibility of developing other programs in the specialty areas, it is felt that the first year of this curriculum would be common to all other needs.

In setting up this program, all courses were designed to specifically meet regional needs. These courses are unique. When teaching a course, the instructor must impress upon the student that this is an inter-disciplinary program and wherever possible electrical-to-mechanical and mechanical-to-electrical analogies must be made.

With respect to the mathematics sequence, the courses listed meet program requirements. It is intended that, in the advanced electro-mechanical courses, the student will be introduced to calculus as part of his technical training. Should a student enter with a higher level mathematics background, a second math track should be available.

This program is designed to be terminal in nature. However, it was continually mentioned that the student should be encouraged to continue his education after graduation. It should be noted that although this was a common desire among the members of the study group, no courses were especially designed or changed to make the courses transferable. The curriculum meets a general electro-mechanical technician industrial need.

PROPOSED ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM OUTLINE

	Courses	Hours per week Class	Hours per week Lab	Credits
	1st Semester			
MA 11	Mathematics I	3	0	3
SC 11	Physics I	3	2	4
EM 11	Tool Skills and Engineering Materials	2	3	3
EM 12	DC and AC Theory, Components, and Circuits	4	3	5
	English Composition	3	0	3
		15	8	18
	2nd Semester			
MA 21	Mathematics II	3	0	3
SC 21	Physics II	3	2	4
EM 21	Theory and Application of Mechanical Components and Mechanisms	2	3	3
EM 22	Electronics I	3	3	4
EM 23	Technical Graphics	0	3	1
	General Education Elective	3	0	3
		14	11	18
	3rd Semester			
EM 32	Electronics II	4	3	5
EM 31	Electro-Mechanical Devices and Controls I	3	3	4
EM 34	Metrology I	3	3	4
	General Education Elective	3	0	3
		13	9	16
	4th Semester			
EM 45	Motors and Controls	2	3	3
EM 41	Electro-Mechanical Devices and Controls II	4	3	5
EM 44	Metrology II	3	3	4
	General Education Elective	3	0	3
	Elective	3	0	3
		15	9	18
	Totals	57	37	70

COURSE DESCRIPTIONS

General Outline for Electro-Mechanical Courses Containing Laboratories and Report Writing

All electro-mechanical courses containing a laboratory will require the submitting of technical reports as a normal part of the program. The purpose of these reports is to aid the student in the proper preparation of the results of the technical analysis of problems and situations. It is expected that each student will use the knowledge gained in English courses, in his mathematics and physics courses, and in his technical graphics course in the preparation of these reports. He must learn to appreciate the fact that this is a means of technical communication. In addition, the skills learned in the Tool Skills course will be applied in the laboratory. Each report will be graded for technical and communicative content; proper use of the English language and correct spelling will be stressed.

As part of his laboratory work, the student will demonstrate his understanding of basic principles, demonstrate his ability to conduct an experiment, learn to observe, use measuring tools, take and record data, analyze his data, make preparations prior to the laboratory, change preparations as conditions change, breadboard his solutions, sketch his solutions, discover malfunctions, draw conclusions, make recommendations, make graphs where necessary, submit a well-organized technical report.

MA 11, 21 — 3 class hrs, 3 credits each semester
Mathematics I and II

The purpose of the mathematics sequence is to give the student a working knowledge of the tools of algebra and trigonometry. Wherever practical, engineering and technical problems are used as exercises in working with these tools. The use of proper units is stressed in the problems.

Upon completion of this mathematics sequence, the student should be capable of mathematically solving problems in the areas of technical physics, basic mechanics, and basic electricity where the use of units, algebraic formulas, and their manipulation; right triangles; exponents and radicals; quadratic and simultaneous equations; and the slide rule are required. The student should be familiar with methods of making and reading graphical plots.

Topics covered are:

Trigonometry: trigonometric functions, tables, solution of right triangles, solution of oblique triangles, "j" operator; use of the slide rule and introduction to logarithms. (Note: Trigonometry placed here for use in EM 12.)

Algebra: notations, addition, subtraction, multiplication, fractions, ratios, proportions, factoring, exponents and radicals. Logarithms base 10 and base e. Linear and quadratic equations, solutions of equations, simultaneous equations, determinants. Number systems, binary, quinary, biquinary, octal, hexidecimal. Scientific notation of numbers and the use of the slide rule.

Analytical Geometry: rectangular coordinates, graphing techniques, slopes, polar coordinates, straight line, circle, tangents. Areas and volumes.

Prerequisite: 1 year of high school algebra.

SC 11, 21
Physics I and II — 3 class hrs, 2 lab hrs, 4 credits each semester

The purpose of this physics sequence is to give the student a quantitative knowledge of the general principles of physics. These courses lay the groundwork for more detailed study and application of these principles in the following courses: DC and AC Theory, Components, and Circuits; Theory and Application of Mechanical Components and Mechanisms; Electronics; Metrology; and Electro-Mechanical Devices and Controls.

The course concentrates on the clear understanding of the principles of physics. Problem solving is mainly concerned with the direct application of principles and units rather than mathematical analysis.

The physics program makes use of classroom demonstrations. The laboratory part of the program reinforces the classroom activity. The laboratory stresses the following areas: understanding of basic principles, methods of experimentation, observation, use of measuring tools, data taking, data analysis, data presentation including graphical techniques and proper organization of technical reports. The area of technical communication is stressed.

The following topical areas are covered: units of measurement; engineering units; electricity – electric charge, current, resistance, inductance, capacitance, direct currents, and alternating currents; magnetism and electromagnetism; mechanics – vectors, uniform motion, acceleration, rotation, harmonic motion, force, statics, elasticity, work and energy, inertia; optics – light sources, light measurement, reflection, refraction, dispersion, spectra and color, lenses and optical instruments, polarized light; heat – effects of heat, transfer of heat, thermal behavior of gases; atomic structure, crystal structure, sound production, sound reception.

EM 11 Tool Skills
and Engineering Materials — 2 class hrs, 3 lab hrs, 3 credits

This course is designed to instruct the student in the proper selection and use of the basic hand tools and machine tools that are required of an electro-mechanical technician. In addition, the student studies the properties of various commonly used materials of construction and basic fabricating techniques. The laboratory reinforces this knowledge through the practical application of these tools. Mechanical and electrical projects are worked on in the laboratory. The proper use of tools is stressed.

Topics covered in this course are: measuring tools – steel rule, caliper, micrometer; layout techniques – scribe, square, height gage, surface plate; sawing – hacksaw, bandsaw, power saw; filing; drilling – hand drill, drill press; fasteners; tapping; screwdrivers; pliers; sheetmetal work – shearing, bending, notching, hole punching; soldering and wiring; cutting tools; lathe work; milling; grinding; engineering properties of materials – metals, plastics, ceramics; manufacturing processes – tolerances, machining, welding, casting, forging, extruding, forming.

(See earlier Metropolitan – Long Island regional report for suggested laboratory equipment. Suggested text: Metal Work Technology and Practice, by Otto Ludwig.)

EM 23 Technical Graphics 3 lab hrs, 1 credit

This course is designed to assist the student in developing the ability to read various types of electrical and mechanical drawings, to be able to produce simple mechanical and electrical sketches for the purposes of communication, to understand the symbols used in mechanical and electrical drawings, and to develop visualization. This course will be integrated with the course in mechanisms.

The following topics are covered: isometric sketching, standard mechanical drawing symbols, 3-view orthographic projection, uses of tools, dimensioning, sectioning, standard electrical symbols, wiring diagrams and schematics, assembly drawings.

Visual aids from the mechanical components and mechanisms laboratory are used in this course.

EM 21 Theory and Application of Mechanical Components and Mechanisms 2 class hrs, 3 lab hrs, 3 credits

The purpose of this course is to introduce the student to basic mechanical components and mechanisms that are an integral part of electro-mechanical systems. These components and mechanisms are studied in terms of their functions, specifications, and operating characteristics. In the laboratory, through the technique of breadboarding solutions to problems, these components and mechanisms are studied as to their use in integrated electro-mechanical systems. These systems are analyzed with respect to the input and output characteristics (static, dynamic, and kinematic) and with respect to common malfunctions.

In the laboratory, the student will be required to submit reports on his work. In reporting, he is required to formulate procedures prior to the experiment, change the procedure as conditions change, use the knowledge gained in the tool skills course to breadboard his solution, take data, make observations, draw conclusions, discover malfunctions, sketch his solutions, plot graphs, and write technical reports.

The following topics are covered: concepts of work, torque, inertia, horsepower, efficiency; gears – rack, spur, bevel, helical, worm and worm wheel, spiroid; speed reducers – gear train analysis, epicyclic gear train, differential, integrator; belt drives – flat belt, V-belt, timing belt; chain drives, friction drives, variable speed drives; shafting; keys, set screws, pins, flexible shafts, couplings; clutches – mechanical, electro-mechanical, spring, overrunning, fluid; brakes – mechanical, electro-mechanical; cams – plate, barrel, Geneva, ratchet; bearings – ball bearings, solid bearings; counters – mechanical, electro-mechanical; levers; linkages – slider-crank, Scotch yoke, quick return, intermittent motion; hydraulics; pneumatics; springs – entension, compression, torsion, negator; switches.

(See earlier Metropolitan–Long Island regional report for suggested laboratory experiments, laboratory equipment, and reference material.)

Corequisite: Technical Graphics.

EM 12 AC and DC Theory, Components, and Circuits — 4 class hrs, 3 lab hrs, 5 credits

The study of electricity provides the foundation for the later courses in Electronics, Electro-Mechanical Devices and Controls, and Metrology. The aim of the course is not only to convey the knowledge of facts and fundamental theories of alternating and direct currents, but to provide training in the ability to apply such knowledge to the solution of problems. Emphasis is placed on the practical aspects of the application of electricity to circuits containing resistors, capacitors, and inductors. The characteristics of these circuit elements are presented so that the student may understand their operation in electrical circuits. Mechanical analogies will be used wherever possible.

Laboratory projects enable the student to gain experience in the use of fundamental measuring instruments, and in verifying electrical theory through experimentation.

The following topics are covered: structure of the atom; conductors, insulators, current flow; definition and basic characteristics of components – resistors, inductors, capacitors; sources of voltage, direct current; basic units – volt, ampere, ohm, watt; closed circuits, series, parallel; Ohm's law with applications; Kirchoff's voltage and current laws with applications; solutions of series parallel circuits and bridge circuits; applied magnetism – theory and characteristics; dc meters and applications; electro-magnetic induction; inductance, R-L circuits and time constants, graphically; capacitance, R-C circuits with time constants; ac voltage and current, phase, frequency, period, magnitude; inductive reactance, power dissipation; capacitive reactance, power dissipation; R-L-C circuits, impedance, "j" operator, apparent and true power; series and parallel resonance; transformer action, turns ratio, losses, impedance matching; polyphase ac, delta, and wye connections; network theories, Norton, Thevenin.

(See earlier Metropolitan–Long Island regional report for suggested laboratory experiments and equipment, and list of possible texts.)

EM 22 Electronics I 3 class hrs, 3 lab hrs, 4 credits

The purpose of this course is to introduce the fundamental operating characteristics of vacuum tubes and solid state components. Vacuum-tube characteristics for diodes, triodes, tetrodes, and pentodes are studied, as are applications to rectifier and amplifier circuits, including filters. Semiconductor fundamentals are studied, including properties of semiconductor materials, effects of thermal, emf, and current on unions of dissimilar and semiconductor materials.

Upon completion of this course, the student should have acquired the knowledge and ability to use manufacturers characteristic curves of tubes and solid state units in elementary circuitry and to be able to make breadboard electronic circuits and prototype layouts.

Topics covered are: development of thermionic tube; thermionic emission; use of tube manual; diode characteristics; triode tube; tetrode characteristics (optional); pentode characteristics; half-wave and full-wave rectification; amplification, amplifier coupling and gain; semiconductor physics (qualitative), semiconductors, solid state diodes; transistor basic circuits; common base amplifiers; development of equivalent circuit.

Laboratory experiments are used to investigate and confirm the theory work. Extensive use is made of ac and dc meters, as well as signal generators, VTVM, and oscilloscopes. Most of the circuitry is breadboard-constructed by the student using discrete components. At least one metal chassis layout is required to provide practice in punching operations, installation of sockets, terminal boards, and meter connection terminals. Approved wiring and soldering practice is adhered to. Laboratory reports are required on all work performed.

Prerequisites: DC and AC Theory, Components, and Circuits; Tool Skills and Engineering Materials.

EM 32 Electronics II 3 class hrs, 3 lab hrs, 4 credits

A continuation of Electronics I with emphasis on application of solid state rectifiers and transistors. These studies include characteristics and use of silicon-controlled rectifiers, flip-flop switching circuits, gates, AND-OR logic, sinusoidal and nonsinusoidal oscillators, qualitative pulse circuit analysis, including photon circuits and applications, feedback and operational amplifiers.

Upon completion of this course, the student should be able to understand many of the electronic units used in electro-mechanical devices; be able to confirm specifications given by manufacturers; use standard electronic laboratory meters, generators, power supplies, oscilloscopes; and assist in prototype development work.

This second semester of electronics emphasizes direct application of solid state electronic circuits useful in electro-mechanical devices. Wherever possible, pre-assembled circuits or commercially produced units are used in labora-

tory experiments to conserve student and instructional time. Uses and characteristics of circuits being investigated are emphasized. Circuit analysis by graphical methods is included. Laboratory reports are required.

Prerequisite: Electronics I.

EM 31 Electro-Mechanical Devices and Controls I	3 class hrs, 3 lab hrs, 4 credits
EM 41 Electro-Mechanical Devices and Controls II	4 class hrs, 3 lab hrs, 5 credits

These courses are designed to give the student an understanding of the basic nature of commonly used electro-mechanical devices, and their functions in physical systems. In addition, practical experience is gained with these devices and systems in the laboratory. This course lays the foundation for the application of these devices in Metrology, and makes use of the knowledge from earlier courses in electricity, electronics, and mechanisms.

Topics covered are:

Sensing Devices: transducer principles; types – resistive (potentiometers), capacitive, magnetic, piezoelectric, photoelectric, thermoelectric, electronic, pressure, radioactive, gyros, fluidic devices, resolvers; selection – range, sensitivity, error, noise and drift, electrical output, physical properties, energy source; applications to measurements and controls. Laboratory work may consist of determining calibration data and response time of various commercial transducers, as well as their other variables.

Actuating Devices: linear and rotary positioning; solenoids – ac, dc, pull type, push type, rotary type; solenoid characteristics, ratings, mountings; relays – principles and functions of electro-mechanical relays, electronic relays, contact relays, latching relays, steping relays, meter relays, time-delay relays, thermal relays, photoelectric relays; relay characteristics, ratings, contact arrangements; motors; synchros – transmitter and receiver, differential synchro, control transformers, synchro circuits, amplidyne; servomotors – ratings, damping, characteristics, rate generators; hydraulic actuators – electrohydraulic valves, piston units, cylinder units, hydraulic motors; pneumatic actuators – electropneumatic actuators, diaphragm actuators, piston actuators, air motors. Laboratory work may include sequence switching circuits, relay coincidence circuits, fail-safe concept, and trouble-shooting problems; synchro arrangements for testing accuracy, response speed, and other characteristics; zeroing synchros; determining servomotor characteristics; application of servomotor in conjunction with various mechanical components; fluid actuating devices, servovalves, and direction-control valves in simple hookups to familiarize students with pipe, hose, tubing, couplings, and fittings; performance tests of fluid motors, fluid actuator response.

Other Devices: rheostats, variable transformers, saturable reactors, magnetic amplifiers, fluidic amplifiers. Laboratory work to determine characteristics of piston-type, nozzle-type, jet-type fluid amplifiers; and magnetic amplifiers.

Control Devices: on-off, step control, continuous monitoring, mechanical timers, electro-mechanical timers, electronic timers, thermal timers, sequence timers, interval timers, selection of timer automatic controllers with indicators or recorders, electric controllers, electronic controllers, pneumatic controllers, hydraulic controllers. Laboratory practice with various commercial timers; testing performance of control devices.

Automatic Control: analysis of servomechanisms; employment of sensing devices, control devices, amplifiers, and actuating devices in system operation of open-loop and closed-loop types. Principles of feedback, dynamic and steady state requirements, error detection and correction, damping, stability, and other characteristics. Use of mechanical components such as limit stops, differentials, clutches, gears, couplings, other components used in hydraulic servo system. Pumps – gear, vane, piston; ratings; accumulators; boosters; reservoirs; filters. Compressors – ratings, filters, dehydrators, regulators, and lubricators. Applications of servo systems and analog computers. Laboratory practice in assembling, adjusting, testing, and troubleshooting of servo systems.

(See earlier Metropolitan–Long Island regional report for test and equipment sources.)

Prerequisites: Electronics I, Theory and Application of Mechanical Components and Mechanisms.

Corequisite: Electronics II.

EM 34, 44 3 class hrs, 3 lab hrs, 4 credits each semester
Metrology I and II

Metrology is the science of measurement. To measure a quantity is to compare it to some accepted standard. Therefore, the student should have a working knowledge of units, standards, and instrument characteristics. He must be aware of the relationships that exist between the many electro-mechanical quantities and their interaction and usage in measuring instruments. The course is not a theoretical but a practical approach to measuring instrumentation. The stress is on the use and capabilities of the instrument rather than the theory of operation. The theory or principle of operation is discussed, but is not the main theme of the course. The laboratory work is a very important part of this course. The student gets first-hand experience in the use of instruments, so that he may become proficient in the selection of instruments or the method of measurement when the situation arises. He is therefore exposed to as many electrical, electronic, and mechanical instruments as is physically and economically feasible.

The following areas are covered: metrology; units; instrumental factors – range, sensitivity, response, accuracy; basic functions – signaling, indicating, recording, transmitting for remote indication; electrical and mechanical parameters – resistance, current, voltage, inductance, capacitance, magnetic coupling, frequency, phase, active elements; temperature – temperature scales, thermodynamics, thermal properties of materials, temperature measurements; pressure – pressure related to temperature and volume, osmotic pressure, pressure measurements, hydrostatics; flow – fluid flow, Bernoulli's equation, flow related to pressure, temperature, and volume, flow measurements; level – liquid and solid level, level measurements; weight, density, viscosity, specific gravity, weight measurements and scales, density measurements, viscosity measurements, specific gravity measurements; humidity, pH, dew point, measurements; sound, light, radiation, measurements.

(See earlier Metropolitan–Long Island regional report for suggested laboratory work and recommended texts.)

Prerequisite: Electronics I

Corequisite: Electro-Mechanical Devices and Controls I.

EM 45 Motors and Controls 2 class hrs, 3 lab hrs, 3 credits

The electric motors and controls course emphasizes the electrical and mechanical aspects of ac and dc machines and controls. The student combines the theory and hands-on experience in the laboratory to develop a detailed understanding of the operation of electrical machines and controls. Electrical measurements and quantitative analysis of machine operation and control are a necessary segment of the course. Safety to machines and personnel is a part of the course outline.

The object of this course is to give the electro-mechanical technician a functional knowledge of power electricity and machines. During the laboratory sessions it is planned to use motor controls along with the motor experiments, and to use the motors as part of the load for generator experiments. In this way the student can gain a maximum of experience in a minimum of time.

The topics covered in this course are: dc machinery – motors, generation, motor operation; ac machinery – motors, alternators, generation of ac waveform, transformer operation, ac motor operation; control circuits and mechanism – dc control equipment, dc control, ac control equipment, ac controls.

(See earlier Metropolitan–Long Island regional report for list of laboratory experiments and a list of major laboratory equipment items.)

Note. More detailed course outlines are given in an earlier report for EM 22, 32, 34, 44, and 45.

APPENDIX A

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APPENDIX B

Objectives of the Electro-Mechanical Technology Curriculum Development Project

Regional Objectives

1. To superficially verify the immediate and long-range need for electro-mechanical technicians.

2. To identify the occupational titles, functions, and levels of responsibility that are characteristic of electro-mechanical technicians.

3. To identify the unique needs, special skills, and orientations required of electro-mechanical technicians in the region.

4. To suggest the elements which should be included in a working definition of electro-mechanical technology and electro-mechanical technician. This should include identification of areas of specialization within the broad field of electro-mechanical technology.

5. To identify the level and sophistication of an assumed two-year AAS electro-mechanical technology curriculum by recommending:

   a. the admission requirements as specifically as possible;
   b. the nature of the mathematics content in the curriculum;
   c. the nature of the science content in the curriculum.

6. To identify technical subject areas (essential, desirable, or optional) to be considered for the assumed curriculum; could indicate this in terms of behavioral outcomes, topical descriptions, and/or courses and sequences.

7. To suggest the nature of liberal arts components in the curriculum, such as English, humanities, and social sciences.

8. To develop a viable curriculum outline for the assumed program, including course titles, brief course descriptions, proposed class and lab hours, prerequisites, and corequisites.

9. To recommend instructional resources required; reference materials and texts; laboratory facilities and equipment.

10. To specify the nature of background for faculty to teach this program. To estimate the availability and salary requirements of appropriate faculty candidates in the region. To suggest the nature of in-service or pre-service faculty training programs that might be needed.

11. To estimate the student demand for such a curriculum if available in the region. To suggest approaches to special recruiting techniques for this and/or related curriculums. To estimate student retention rates in such a curriculum, assuming a reasonable distribution of ability and motivation based on experience with existing programs.

12. To estimate the effect of introducing an electro-mechanical technology curriculum on other technical curriculums in the same institution or nearby institutions; enrollment changes expected, ability level changes expected, immediate and long-range effects.

13. To provide the Project Director with a summary of these data, suggestions, estimates, recommendations, and conclusions, which best reflect the regional uniqueness or diversity regarding electro-mechanical technicians and curriculums to train them.

14. To suggest related areas for further development beyond June 30, 1967.

VT 011 756
Community Resources Workshops; A First Step Toward Better Industry-Education Cooperation.

National Association of Manufacturers, New York, N.Y. Education Dept.
MF AVAILABLE IN VT-ERIC SET.
National Association of Manufacturers, 277 Park Avenue, New York, New York 10017 ($.25).
PUB DATE - ND 20p.

DESCRIPTORS - *VOCATIONAL EDUCATION; *GUIDES; *TEACHER WORKSHOPS; *COMMUNITY RESOURCES; *RELEVANCE (EDUCATION); INSERVICE EDUCATION; SCHOOL INDUSTRY RELATIONSHIP; EDUCATIONAL RESOURCES

ABSTRACT - In an attempt to make education relevant to a changing world, this workshop guide was prepared to promote the community as a learning laboratory. Aimed at the elementary and secondary levels this pamphlet presents information on topics such as (1) the characteristics of a good workshop, (2) workshop committees, (3) development of materials, (4) planning a workshop, and (5) the evaluation of a workshop. It is hoped that a community resource workshop will help teachers, counselors, and administrators become better acquainted with the socioeconomic environment in which they work and help them develop techniques for using available resources. Additional materials are available from this same source. (JS)

VT 011 756

ED 054390

COMMUNITY RESOURCES WORKSHOPS

A First Step Toward Better Industry-Education Cooperation

SCHOOL UNIVERSITY
RELEVANT EDUCATION FOR THE '70s
INDUSTRY

VT011756

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COMMUNITY RESOURCES WORKSHOPS

A First Step Toward Better Industry-Education Cooperation

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EDUCATION DEPARTMENT

National Association of Manufacturers

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Introduction

What is the quality of education in your community? Do the schools utilize nearby resources to improve education? Are teachers aware of the information and ideas available to them outside their classrooms?

Your community is more than just a place to live. It is a vital dynamic force affecting every resident. Its social, economic; political and cultural activities encompass the lives of all citizens regardless of age. It influences not only the present but also the future of its citizens. Regardless of how large or small your community, it is a vast storehouse of resource activities, places and people.

Education in the schools of your community can be greatly enriched by utilizing these community resources. These *cultural, social, political* and *economic resources* can become a part of the educational process. Utilization of these resources in the classroom also can help bring the schools closer to the community and the community closer to the schools.

Is there a program that encourages school teachers to use community resources in the classroom? Yes, the Community Resources Workshop. As with any other single effort, it cannot be termed a cure-all for every classroom problem. However, the proved success of this program over the past several years suggests that it is deserving of consideration. All those concerned with enriching the school curricula should welcome this opportunity to give students and teachers a better understanding of their community.

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The Problem: Relevant Education

Our schools are in crisis. To meet the challenges of the 1970s, our schools need help to make education more relevant to the needs of society and more responsive to a changing environment.

Over 750,000 high school students "drop out" every year. This is a needless waste of precious human resources.

In fact, the waste may be far greater than suggested by the number of dropouts because many of the 2½ million who do graduate each year seem ill-equipped to assume their places in our modern society—a society that is changing at an increasingly fast rate.

In colonial days, American students went to the schoolhouse with the express purpose of learning from textbooks. More often than not, they were examined solely on the basis of the content of these texts. Even in recent years, much of the learning in the school has not been related to the community life which existed outside the walls of the school. Often the basic reading, writing and arithmetic taught in a school has had little relationship to the actual work duties to be performed by many of the graduating students.

Today, students need more knowledge and different kinds of knowledge than traditionally contained in books alone. Fortunately, many professionals and laymen are now advocating a mixture of theory with real life situations. Progressive educators and modern business leaders of the 1970s understand that in our complex socio-economic system, students and employees learn primarily through personal experience rather than through concentration on textbooks alone. Relevant school programs should seek to prepare students to learn through real life experience.

The word "relevant" in relation to education recently has gained great popular usage. Increasingly, we hear from both students and professional educators that our present educational programs are not relevant to the needs of many of the students. Most of these comments tend to focus on college curricula, but clearly the three-quarters to one million high school students

who drop out each year must also indicate that the educational program offered them did not, at least in their view, meet their needs.

Currently, a multitude of problems confronts elementary and secondary school teachers and administrators. Many of these problems have been lumped together and characterized as the "generation gap." However, these problems seem to come more from a "communication gap"—the result of too little understanding among members of the business community, teachers and students.

The rapid changes in technology, and the effects of these changes on society, suggest that students must become more familiar with the world outside the walls of the classroom to bridge this "communication gap." Although our school system is the principal training ground for the development of skills, attitudes and educational abilities, the responsibility for relevant education is not the responsibility of the schools only. Business and community leaders, if they expect to help bridge the communication gap, must first help make local education more relevant to real world problems.

The Community Is a Learning Lab

This growing interest in creating relevant learning experiences for students has resulted in an increased emphasis on using the entire community as a teaching resource. Local leaders, especially from business and industry, cooperate by taking a more active role and interest in community education. More and more, educators and businessmen agree that the community welfare and the welfare of business and industry are linked together.

Good quality, relevant education is essential to the growth of every community and of the country at large. When the schools and the total community combine their efforts to this end, students receive training adequate for our time, and the life of the entire community is enriched and enhanced in value.

Educators and businessmen, therefore, are increasingly turning to local community resources to enrich the curriculum and make it more relevant. Specifically, what does the term "community resources" include? It can be defined as those locally available materials, persons, organizations or experiences that are useful and valuable for educational purposes. For example, a "resource person" is one capable of teaching students as a result of personal experience on the job or in community life. He is a person who can help students learn things they need and want to know.

Citizens of a community such as engineers, doctors, nurses, carpenters, policemen, retailers—all have vasts amount of information, knowledge, skill and experience. These resources should be used to enrich traditional classroom learning experiences. Business and industrial firms, volunteer and public agencies, local governmental units as well as museums and art galleries also have vital contributions to make to the educational program of the community's schools.

Benefits of using all kinds of community resources in schools are numerous. Community resources provide the classroom with a more realistic picture of actual life situations, needs and problems. The use of community resources develops interesting school work that impels children to come to school. The use of concrete, firsthand illustrations and demonstrations clarifies and makes more relevant the teaching-learning process. The experience of using community resources develops the power of observation and the ability to see complex personal and business relationships. Utilizing community resources in the classroom exposes and clarifies the interdependent relationships that exist in a community. In short, community resources can be used to merge the classroom with the real world.

Community Resources Workshops

What is a Community Resources Workshop? It is an intensive, university-sponsored, summer course, usually four to six weeks in length, that offers elementary and secondary level teachers the opportunity to become familiar with the economic, social, cultural and political resources of their community.

The basic purpose of a Community Resources Workshop is to offer elementary and secondary teachers an opportunity to learn more about the socio-economic environment in which they live and work. A Workshop encourages teachers, counselors and administrators to identify and acquaint themselves with teaching resources in their community, and to determine how these resources can be utilized effectively in their school work.

Workshop participants study their communities intensively and extensively. They visit industries and all kinds of business concerns, governmental units, cultural centers and other resources in the community that are useful in the classroom. They study field trip procedures—how to plan a field trip and how to evaluate its results.

Workshops are not limited to any single segment of the community. All segments can be analyzed by Workshop teachers for resources with classroom applicability. Participants include teachers representing all grade levels and subjects and frequently include school administrators.

Just knowing what the community resources are is not enough, however. In a Workshop, techniques are developed to organize and arrange these resources for proper understanding and utilization in the classroom. Immediately in the fall, students begin to receive the direct benefit of the teacher's experiences during their summer Workshop.

A Community Resources Workshop includes two specific objectives: resource analysis, and resource utilization. Within this framework multiple objectives can be set, and usually specific objectives and goals are established for a given Workshop. Some of these objectives can be summarized as follows:

- To provide a forum for the exchange of information and ideas on utilizing of community resources to enrich and strengthen instruction in schools.
- To aid in the development of an understanding of basic economic principles, and show how these principles function and are applied in real life situations.
- To encourage communication and cooperation among all segments of the community and the schools in order to assist in the continuing development of sound educational programs.
- To assist teachers in understanding changing occupational and educational requirements.
- To encourage industry, business and other community organizations to offer their unique resources for the enrichment of education and the benefit of the community's students.
- To motivate teachers and, through them, their students to strive for educational excellence.
- To provide a forum for representatives of industry and civic organizations to discuss subject areas of mutual concern with teachers and education administrators.
- To serve as a clearinghouse for representatives of education, industry and other groups in the development of cooperative programs.

Characteristics of Good Workshops

The actual operation of a Workshop varies considerably, but certain characteristics distinguish good Workshops:

(1) The objectives should be clearly defined, and should be based specifically upon the expressed needs of the participating teachers. For example, one Workshop sought:

- To learn something of the nature of the local business and industrial community by visiting carefully selected firms.
- To become acquainted with the major problems which face local business and industry by independent study and by contact with local executives.
- To learn of the occupational opportunities available and the basic educational abilities needed by students in order to qualify for these opportunities.
- To acquire an increased understanding of their pupils by becoming better acquainted with the conditions surrounding the work of the student's parent.
- To become better informed about the growth, development and management of the community.
- To discuss mutual areas of interest and concern with business and industry in order to promote a growing, progressive community.

(2) There should be freedom to work on a project of one's own choosing.

(3) The voluntary development of solutions to real problems should be encouraged in Workshops.

(4) There must be adequate physical facilities to take care of the classroom working sessions.

(5) Participants interested in a similar problem may form into small groups or work individually under the guidance of the Workshop staff. But, in any case, Workshop projects should focus upon some aspect of a community resource which has implications for enriching the teaching procedure in local school programs.

(6) Evaluation and follow-up should be done by the teacher participants, the advisory committee, and the university that is granting credit. The process of evaluation should begin during the Workshop and extend throughout the follow-up activities which result from the Workshop. A teacher's participation beyond the evaluation of a particular program would in all likelihood include encouraging other teachers to attend a Workshop and giving demonstrations on the uses of community resources for the benefit of other teachers.

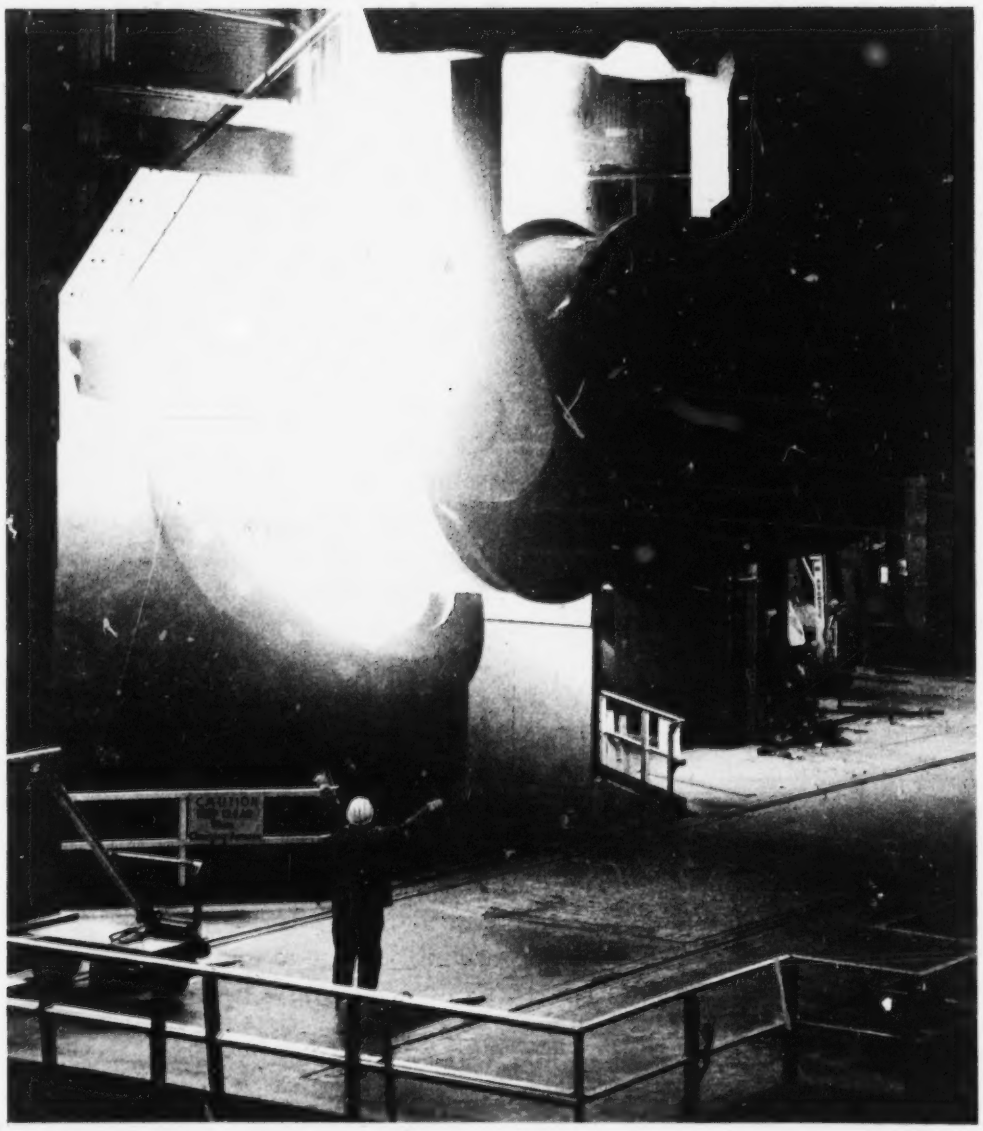
Workshop Committees

Committees are used to gain full participation. These usually can be divided into two broad categories: administrative committees and working committees.

Under the Working Committee category a Field Trip Committee should be organized to develop appropriate background material on all organizations to be visited and to prepare specific questions to make the visit of greater value. Typical areas of concern might include organizational history, the reason for the plant's location, description of its corporate and administrative structure, its financial structure, the technical process and operational methods used, raw materials and supplies utilized, the final products produced, the marketing practices utilized, the broad nature and scope of its research program, its management and advertising policies, the nature and extent of its training programs, specific programs for its employees, customers, stockholders or clients, and the employment requirements and practices.

Several administrative committees, composed of members of the Workshop, should be formed to enable a smooth operation of the daily sessions. The exact titles, nature and duties of the committees may vary according to local requirements and desires. The following are examples:

- The Bulletin Board Committee is responsible for keeping participants informed as to the future activities of the Workshop. The members of this Committee might display current newspaper articles about the Workshop, plan field trips, secure transportation information and other similar information pertinent to the Workshop.
- The Hospitality Committee arranges for refreshments for the class each day, and greets guests who may attend the class. They frequently plan a picnic or other type of get-together to be held at the close of the Workshop.



- The Instructional Materials Committee is responsible for the collection, distribution, and filing of teaching aids and literature donated by participating industries and other community groups for the use of Workshop participants.
- The Diary and Evaluation Committee should keep a summary of each day's activity and may be charged with the responsibility of reviewing and evaluating the benefits of each field trip.
- The Closing Banquet Committee plans and organizes a dinner to be held at the end of the Workshop session. This dinner is attended by Workshop participants including the community resource people involved in the program. Research studies and instructional materials developed by members of the class often are distributed to the sponsors at this occasion.
- Other committees frequently organized are Transportation and Publicity.

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Development of Materials

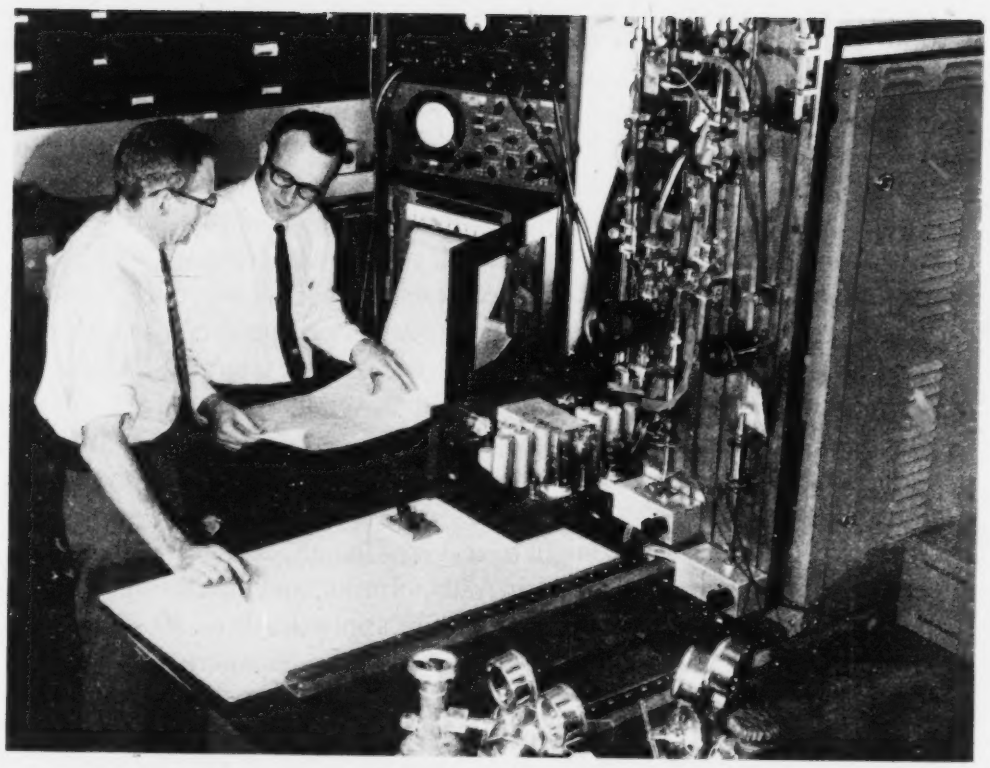
The participant's major purpose is to analyze how a particular resource may be used in a specific subject area of a particular grade level. Frequently, this results in the development of a teaching unit for use in the classroom. The teaching unit or research paper may include such items as scripts for filmstrips, slide demonstrations, or units on history, economics, transportation and local government. Often new teaching techniques are developed as a result of this type of activity, and they are made available to teachers in all schools of the community.

Frequently, one of the early results of a Community Resources Workshop is a *Catalog of Community Resources.* In addition to the physical resources of the community, it will include a list of human resources i.e., people in the community who possess special skills, hobbies, and knowledge.

A sample of the titles of the projects compiled in previous Workshops includes the following: "Automation and its Demands on Education"; "Buffalo's Grain Industry—Ghost or Goliath?"; "Data Processing in the High Schools"; "Educational Television: Its Utilization in Western New York"; "Job Opportunities for High School Graduates"; "Middletown's Hospitals"; "A Mini-Culture Study Utilizing the Local Community as the Laboratory"; "Selected Community Resources of Value to Guidance Counselors and Related Pupil Personnel Staff"; and "Water Pollution and Control on the Niagara Frontier."

Other projects have included the development of slides on the city and county government, instructional materials on economics for primary grades, and a series of slides and recorded narrations to demonstrate the dignity of work.

These projects clearly show that Workshops help to close the communications gap between schools and the community by providing an opportunity for teachers and school administrators to learn what help is available from business, industry and other segments of the community, and how to organize these resources for classroom use. At the same time, industry learns how it can best participate in school programs to the benefit of administrators, teachers, students and the community at large.



Planning a Workshop

Three critical elements are essential to the operation of a successful Community Resources Workshop.

- Local teachers and school administrators must desire a Community Resources Workshop.
- A local or nearby university must be willing to grant graduate credit for this program.
- The business community must indicate considerable initiative and willingness to spearhead efforts to bring schools and a university together with other civic leaders to discuss the Community Resources Workshop concept.

The actual Workshop usually begins in June after the close of the regular school year. However, preparations are begun several months in advance. Planning is strictly a local affair to meet local needs and conditions. For this reason, no two Workshops are organized along exactly the same lines. However, there are common key elements in the planning and creation of any Community Resources Workshop:

After gaining assurance of the support and cooperation of the local school, a university, and key business leaders, a Planning or Advisory Committee must be organized. Often, the core of this Planning Committee is an existing organization such as a local business group or manufacturer's association. Planning Committee members should include representatives of the schools, the sponsoring college or university, representatives from the business and industrial community, and other interested community groups.

All Community Resources Workshops are financed locally, and one of the early tasks to be handled by the Planning Committee is to establish a budget. The major item in the budget will be university tuition charges. The salaries of the Workshop director, his assistants, and university overhead are covered by this item. The number of credit hours offered by the university is based upon the length and intensity of the Workshop, but three or four credit hours is typical.

Other expense items which might be incurred include secretarial assistance, paper and supplies, printing, field trip transportation and the closing banquet. Estimated average cost per participant might approximate $150. Costs vary from community to community, but based upon these assumptions a typical budget might look like this:

Estimated Expenses

	Number of Participants:		
	30	*40*	*50*
Tuition (3 credit hours)	$2700	$3600	$4500
Secretary	350	350	350
Paper, supplies, etc.	300	400	500
Printing	300	350	400
Transportation	200	200	200
Closing Banquet	300	400	500
Contingencies	100	150	200
Total	$4250	$5450	$6650

After acceptance of the budget, the exact method of financing must be decided upon, and considerable differences exist among Workshops in this respect. In some Workshops, participating teachers pay all of the tuition costs charged by the university. Extra expenses over and above university tuition charges are usually covered by local business and industry.

In other instances, local business and industry establish a scholarship program for participating teachers. The size of scholarships ranges from full coverage to only a percentage of the total cost. Experience has shown that a

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sharing of costs is an acceptable and even desirable method of financing. In such cases, teachers may be required to pay from ten to fifty percent of the tuition cost with the balance being covered by scholarships. All funds are raised in the community and the broadest participation possible is encouraged. The local schools share in the financing either directly or indirectly by providing a meeting place and supplies.

With a budget and a decision on how much participants will be required to pay, the amount of funds that must be raised by the business and industrial community can be determined. At this point, a plan for raising the necessary funds from the local community should be developed and initiated.

It is now time for the Planning Committee to develop and adopt a recruiting plan. Enrollment and participation of teachers is largely dependent upon the enthusiasm transmitted to teachers by the educators on the Planning Committee. Teachers will enroll more readily if they understand that their needs have been considered in the planning process. Therefore, local school officials should take the leadership role in promoting the Workshop among teachers. Several of the more effective methods utilize school newsletters, announcements by local principals to their teachers of the nature and purpose of a Community Resources Workshop, and descriptive brochures and application forms as display material on bulletin boards in teacher lounges and work areas. Brochures should include pertinent data such as the dates, locations, costs to the teacher if any, the nature and purpose of the Workshop, and the fact that graduate credit is offered.

The point has now been reached where the Workshop staff must be selected. Obviously, the Workshop director must be acceptable to the local university, although in many cases he is not a regular member of the local university's staff. The Community Resources Workshop Association and the Education Department of the National Association of Manufacturers can provide assistance in identifying those experienced in the conduct of Community Resources Workshops.

Once the Workshop director has been selected and engaged, one or more pre-Workshop planning sessions should be conducted between the Workshop director and the resource people who will be participating in the Workshop. The next step is the opening of the Workshop.

A typical Workshop day may begin with coffee and pastry served by the Hospitality Committee. Usually the opening business is a general session that includes discussion of field trips, committee reports, and the determination of future activities. The remainder of the morning is usually devoted to either a field trip, individual research studies, or project group meetings. In the afternoon, the program may include guest speakers, continued research study, or group preparation of teaching material.

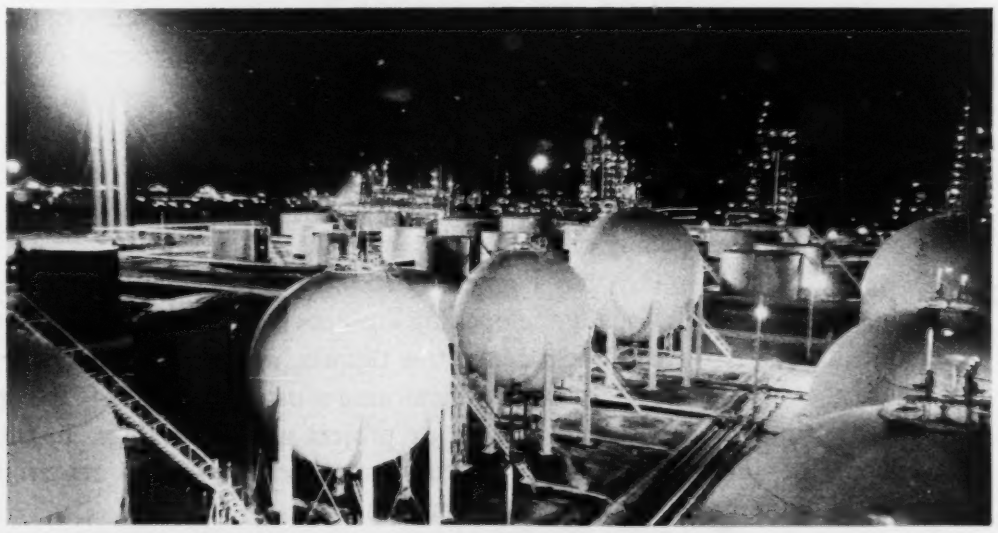
Evaluation

The end results and accomplishments of a Community Resources Workshop will not become totally evident until there has been enough time to observe the type of citizenship exemplified by graduates of the community's schools. However, there has been general agreement where Community Resources Workshops have been held that:

(1) An improvement in teaching has resulted.
(2) The schools have developed a better relationship with industry.
(3) Schools, teachers and students have become more aware of resources in industry and the total community.
(4) Both the schools and the community have become more aware of curriculum changes needed to make the school program relevant to the community.
(5) Pupils have an increased interest in school and participate to a greater degree in the day to day classroom activities.
(6) The community develops a better appreciation of how the school is trying to develop its programs to meet the needs of the community.
(7) The value of using real experiences to supplement classroom learning becomes readily apparent.

A Community Resources Workshop *does not* provide all the answers to problems of educators. It *does* furnish a means through which teachers can be assisted in the performance of their important jobs.

Does the program help close the communications gap between educators,



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their students and the community? The evidence suggests that it does. Here are a few typical comments of teachers who have participated in a Community Resources Workshop:

- Having met with the personnel of business and industry, I feel that I can do a better job, even though it is on the elementary level, of helping my students to know what they have to look forward to in the future and how they can prepare themselves.
- This course has afforded me an excellent background of the working, researching and developing of consumer products. It has given me a knowledge of the vast resources available to a teacher.
- I was greatly impressed by the willingness of industry to cooperate in every way with us and in giving us so many man-hours of service during our field trips.
- This was my first opportunity to see the picture from the executive's viewpoint. I acquired new awareness of the dignity of every worker.
- Industry is a vast resource for education and can be utilized in almost every subject and every grade. Industries want to cooperate and I think we as teachers must help industry to help us by giving them an idea of what we want. The resources are endless, and we have learned that we must provide much of the incentive.
- I was made aware of the fact that leaders in industry are willing, and in many cases anxious, to meet with teachers and administrative personnel of the schools. They are not aloof nor are they disinterested in our problems. I believe that leaders in industry are aware of the tremendous potential for manpower and consumer power in our student bodies.

The appeal of this program to teachers over the past seventeen years clearly indicates that it has greater potential than most any other industry-education cooperation program yet developed. If enough communities will initiate Community Resources Workshops, and stimulate responses like these, the communications gap can be narrowed.

Benefits do not flow to educators only. Many benefits are contained for the business community and the community at large. For many years, industry has developed a variety of programs and supplemental educational aids for teachers and their students. Often these aids are not as readily received as businessmen would hope. Frequently, this results from the fact that teachers did not participate in the preparation of these materials. Under the banner of a Community Resources Workshop, teachers develop their own material by using business speakers as resource people, participating in field trips, and by conducting other forms of research. This procedure virtually insures its use in the classroom.

Business endorsement of the Community Resources Workshop concept can be demonstrated quite readily. The following examples are typical.

Armco Steel:

> Armco's policy of being a good corporate citizen is based on understanding. People of a community must understand the problems and goals of industry. Industry must understand the problems and aims of the community. Our Community Resources Workshop is a two-way street to a better understand-

ing. Standing in the middle, directing the flow of information, are the teachers who promote the kind of understanding that is needed to make a better community.

Nationwide Insurance Company:

The Community Resources Workshop annually makes a solid contribution to Butler County's educational system, industry and the entire community. The teachers participating in the Workshop are a dedicated group, and the end product speaks for itself. Nationwide is proud to be a sponsoring organization of this worthwhile community project.

Mellon National Bank:

This will be the 14th consecutive annual Workshop with well over 350 graduates who have received valuable knowledge and experience concerning the operations of business and industry throughout Butler County. The teachers who take this newly found knowledge and impart it to their students will have received values which may never be measured in dollars and cents.

Republic Steel Corporation:

We have had a dozen years of direct experience with Community Resources Workshops in Cleveland, Canton and Youngstown, Ohio, as well as in Buffalo, New York. The business reaction to them has ranged from good to excellent. . . . Perhaps the greatest proof of the value of Community Resources Workshops is the fact that teachers and business and industry come back for more. The programs are continued, year after year.

Participating firms number over one hundred. A partial list includes:

Air Reduction Company	General Motors
American Plywood	Hooker Chemical
American Smelting & Refining	Jones & Laughlin Steel
Bell Telephone	Mueller Brass
Boeing	National Gypsum
Chrysler Corporation	Pittsburgh Plate Glass
Corning Glass	Pullman Standard
Cuneo Press	Republic Steel
Detroit Edison	St. Regis Paper
Diamond National	Twin Disc
General Electric	Union Carbide
General Mills	Udylite
Gorton Machine	Weyerhaeuser

Industrialists and educators interested in this program should recognize that cooperation usually gets off to a slow start. The final success of the program depends in large measure on the continuity and sincerity of leadership from schools, the university, business and industry. An effective program of industry-education cooperation involves administrators, teachers, school boards, superintendents and a citizen planning committee.

There are many ways in which Community Resources Workshops can help the schools and their students. Start today to organize a Workshop in your Community!

Order Form

TO: Education Department
National Association of Manufacturers
277 Park Avenue
New York, New York 10017

Gentlemen: Please send me the following additional materials on Community Resources Workshops.

_____ Additional copies of this handbook "A First Step" at 25¢ per copy.

I enclose $_____

_____ Copies of the summary brochure "Community Resources Workshops." (No charge)

_____ Copies of the brochure describing the 16mm film about Community Resources Workshops "Your Community Is a Classroom." (No charge)

Name: _____

Position: _____

Organization: _____

Address: _____

City: _____ State: _____ Zip: _____

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VT 011 776
Understanding Industrial Arts: Questions and Answers for Administrators.

Florida State Dept. of Education, Tallahassee.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - ND 14p.

DESCRIPTORS - *ADMINISTRATOR GUIDES; ADMINISTRATOR ATTITUDES; STATE DEPARTMENTS OF EDUCATION; *INDUSTRIAL ARTS; *QUESTION ANSWER INTERVIEWS

ABSTRACT - This question and answer booklet, designed by the State Consultants for Industrial Arts, was prepared to help administrators understand the industrial arts program. Such questions as "What Is Industrial Arts?" are asked and a short response from the state consultant is given. A program sequence for the new industrial arts includes a grade levels breakdown, program characteristics, and course titles. (GR)

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What is Industrial Arts?

Industrial Arts Education is a study of industry and its technology for purposes of general education. Through instructional and laboratory experiences, students learn about the industrial and technical aspects of life. The instructional content deals with the origins and development of industry, and the tools, materials, processes, products, energies, opportunities, requirements, organization, and problems involved in converting the earth's resources into man's material goods. The student is involved in designing, creating, experimenting, inventing, constructing, and operating with tools, materials, processes, and products.

How do you justify Industrial Arts as General Education?

The primary purpose of the school is to acquaint the young with the nature of the culture in which they live. The American culture is distinctly and uniquely technological. Therefore, the school must acquaint the young with the nature of the technological culture. Industrial arts, in its growth and evolution from the old "manual training" has accepted the responsibility for this phase of general education. Industrial arts, because of its primacy, becomes FUNDAMENTAL EDUCATION in the American school.

What are the Major Goals or Purposes of Industrial Arts?

1. To develop INSIGHTS AND UNDERSTANDINGS of industry and its technology in our culture.
2. To help students discover and develop their INTERESTS AND CAPABILITIES in technical and industrial fields.
3. To develop the ability to use tools, materials, energies, and processes in the SOLUTION OF PROBLEMS involving mathematics, and mechanics.
4. To develop basic skills in the proper use of common tools, machines, and processes; and transferable skills--measurable, concrete competencies with perpetually marketable values.

Is this the "new" Industrial Arts I've been hearing about?

The goals stated above reflect the new thinking and direction for industrial arts. There has been a "new curriculum" movement in industrial arts for 25 years or more, but only in the last two years has the movement produced ideas and practices which are something more than refined forms of the old curriculum. In addition to state, university, and local innovations occurring across the country, there are two large federally-funded projects underway. All this activity may suggest confusion, but it is indicative of the vitality of the subject. In Florida the new emphasis is on "Industrial Arts--A Study of Industrial Technology."

I have good Vocational Programs in my schools. Why do we need Industrial Arts?

The goals and purposes of industrial arts and vocational education are different. Industrial arts courses provide all students with a broad, COMPREHENSIVE STUDY OF INDUSTRIAL TECHNOLOGY to identify and develop interests and abilities for a wiser choice of further education, whether it be vocational, technical or professional. Vocational education courses are designed to prepare students for entry into a specific occupation--and are, therefore, concentrated and specialized. A comprehensive high school needs both industrial arts AND vocational programs.

Shop programs I've seen are too concerned with manipulative processes. Where does the sophistication of modern Industry enter in?

There are at least two answers to this. First, not all industrial arts programs reflect the philosophy discussed above. Some are still essentially "manual training"--a valid concept in its day. Due to lack of financial support, lack of teacher growth, or lack of supervisory guidance, some programs have remained unchanged for 20 or 30 years. This is also true of some math, science, and language programs. Second, before we can call a program "too manipulative," we have to examine the TOTAL program. That we have to learn to walk before we can run pertains to technological processes too. Simple, basic operations and skills with tools and machinery may not seem industrially sophisticated, but they may be the most exciting things the student has ever encountered.

Granted, but how do these activities relate to my Academic Programs?

Good industrial arts programs complement the "academics" and make them more meaningful. Since industrial arts content is based on industrial technology, all of man's knowledges and skills are involved. Industrial arts courses may be the only opportunity a student has to try out his newly acquired math, science, and language abilities in "real" situations.

How can you justify Industrial Arts in the Elementary School?

Industrial arts should be an integral part of the elementary instructional program to help the school do better those things which it has always attempted to do. It is an activity experience to reinforce and enrich learning, and also provides strong motivation to learn. Industrial arts helps to make school FUN and MEANINGFUL for children while starting their orientation to their complex industrial-technological society and the world of work.

Why do Industrial Arts facilities cost so much?

The cost is high because the tools, machines, and equipment are similar to the items found in industry, and, also, because these things must be available in quantities sufficient for "hands on" activity. But the equipment cost of other programs is also high--such as language labs and science labs. Quality equipment in the care of a competent instructor will, however, last for many years. The point to consider is not how much the program will COST, but how much the program is NEEDED by students.

Why can't I get financial aid for Industrial Arts?

Because industrial arts is general education, federal vocational funds are not available. NDEA Title III is available, however, for new equipment purchases and ESEA Title I may be used for equipping facilities for the educationally deprived. Special federal programs, such as migrant education, have funds which may provide industrial arts to students with special needs.

I hear that many districts cannot get teachers. How can I cope with this shortage?

Institutions preparing industrial arts teachers turn out a unique product. Since most graduates are men, the military obligation has to be met. Many go directly into industry, attracted by higher pay. Many returning service men are similarly diverted. Districts which combine good industrial arts programs, well equipped laboratories, AND good pay, generally have many applicants. Modern programs and facilities seem to be as important as pay in attracting teachers. Universities and state departments of education are working toward alleviation of the teacher shortage. The shortage is one evidence of the vitality of industrial arts--about 75 percent of the nation's secondary schools offer industrial arts, and some 4,500,000 students are enrolled (most of them by FREE CHOICE in elective courses) under the tutelage of over 40,000 teachers. Until supply can meet demand, attraction and recruitment are the answers.

OK then, how do I get started?

Dr. Ralph V. Steeb
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Mr. John J. Geil
Associate Consultant, Industrial Arts
State Department of Education
Tallahassee, Florida 32304

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Elementary			
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ABSTRACT - A cooperative project of the College of Agriculture and the department of rural sociology, this bulletin studies changes in vocational interests, values, occupational choices, and majors that occurred in the 1964 freshman class in the Missouri College of Agriculture as they progressed through 4 years of college. Utilizing data from questionnaires administered in the fall of 1964 and spring of 1968, results show that the original 255 freshmen entering the college in 1964 had declined to 145 by the winter semester of 1968. Four of this student group had graduated in January, 1968, while 110 had left the university without a college degree. Conclusions are: (1) Country and town-city youth came to the university with different degrees of occupational maturation, values, and backgrounds and participated differently in the college experience and with different results, (2) Those who left the university without a college degree were, on the whole, initially much poorer prospects academically for success in college, and (3) The college experiences had different effects on students concerning occupational choices. (GB)

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Occupational Views and Decisions of Missouri College of Agriculture Students: A Panel Study of 1964 Freshmen—1968 Seniors

Herbert F. Lionberger and Betty S. Heifner

(Publication authorized August 29, 1969)

COLUMBIA, MISSOURI

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Occupational Views and Decisions of Missouri College of Agriculture Students: A Panel Study of 1964 Freshmen—1968 Seniors

Herbert F. Lionberger and Betty S. Heifner

INTRODUCTION

What changes are made in students' occupational plans and attitudes during college in a midwestern agricultural college? These are the central concerns of this study. Answers are sought in the backgrounds of students which figured in choice of the college and of an occupation in the first place and in the college experience itself.

The study is unique in that it began with students when they first entered college and followed them through four years of college life, thus permitting a more accurate assessment of the changes made and of the conditions and socializing influences associated therewith than would be possible from samples at two points in time. Socialization is used to refer to the general process by which a person learns new roles in society or more generally the process by which one learns what he needs to know in order to get along as a functioning member of society. Aside from the quite distinctly sociological considerations more completely set forth elsewhere by the junior author (Heifner, 1969), there were the more practical considerations of how the educational experience: (1) operated to broaden or restrict the thinking and perspective of the students, and what these changes were; (2) influenced the strong occupational orientation and life values of the students.

In regard to the college experience itself questions raised were:

(1) Did it provide a sustaining experience which motivated students to finish their college education?

(2) What were the differential background experiences and inclinations of those who stayed and those who left?

(3) Was life in a big university one in which the student was cut off from association with advisers and faculty, as well as one in which participation in organized student activities would enhance his education?

THE STUDENT SAMPLE, 1964 and 1968

Number and Distribution

The students involved in the study were 255 freshmen who entered the College of Agriculture in 1964, a number which had declined to 145 by the fall of 1967. Of this group, four graduated in January, 1968. In the meantime 110 had left the university without a college degree. Of the 255 students, 79.6 percent were from the country and 20.4 from what we refer to in this study as town-city.

The combination of the small town resident (under 2,500) with the conventional census classification of urban was used because prior exploratory work with the high school students indicated that the small town students were more like city students and those living in the open country more like those who lived on a farm even though their families were not necessarily engaged in farming (Gregory and Lionberger, 1968). Only boys were included in the study because the College of Agriculture enrollment is predominantly male.

The College of Agriculture, reflecting the complexity of the agricultural enterprise in the United States today, is actually comprised of a multitude of specialties including the basic and applied sciences, food processing and nutrition, marketing, management and agri-business, indeed approaching the breadth of specialization and concern coincident with the complex larger society itself. Thus, it is understandable that a considerable number of city students were also attracted to the agricultural college. Just as in the rural-urban distinction, students came from a wide diversity of occupational backgrounds but in the aggregate at an estimated status level a little above those of university students entering the other colleges of the university in 1964 as indicated by the North-Hatt method of measuring the prestige level of an occupation (North and Hatt, 1947). This provides an assessment of the prestige level of occupations as seen by the U. S. population generally.

Comparative Characteristics of Those Who Stayed and Those Who Left

Comparisons were made between the 145 students who were still enrolled in one of the Columbia campus colleges during the fall of 1967 and the 110 students who left without a college degree. Drop-outs not being a central concern of this study, no attempt was made to determine what happened to them after they left the University or even when they actually dropped out of school. Yet some information was available from the initial participation in the study in 1964. It is from this knowledge base that comparisons were made and inferences drawn. Similarities are briefly noted and differences described in light of what findings from previous studies of a similar nature might lead us to expect from the population of students studied.

Prior residence. First on the basis of research findings of the depressing effect of intent to farm or even farm residence on college attendance, and thus presumably also on persistence in college, (Burchinal, 1962; Cowhig, 1960; Haller, 1957; Lindstrom 1965) it might be expected that the farm boys would be less inclined to persist in college through the four years than the town-city students. Yet this was found not to be the case. Some 58 percent of the country boys remained in the university up to the fall of 1968 compared to 51.9 percent of the town-city (Fig. 1). Perhaps this should come as no surprise since agricultural colleges would be expected (despite their diversity of offerings) to be more attractive to country boys once enrolled than to the town-city; this despite the fact that many of the latter, as we shall see, were enrolled in the College of Agriculture as a means of achieving ends only peripheral to the agricultural world itself.

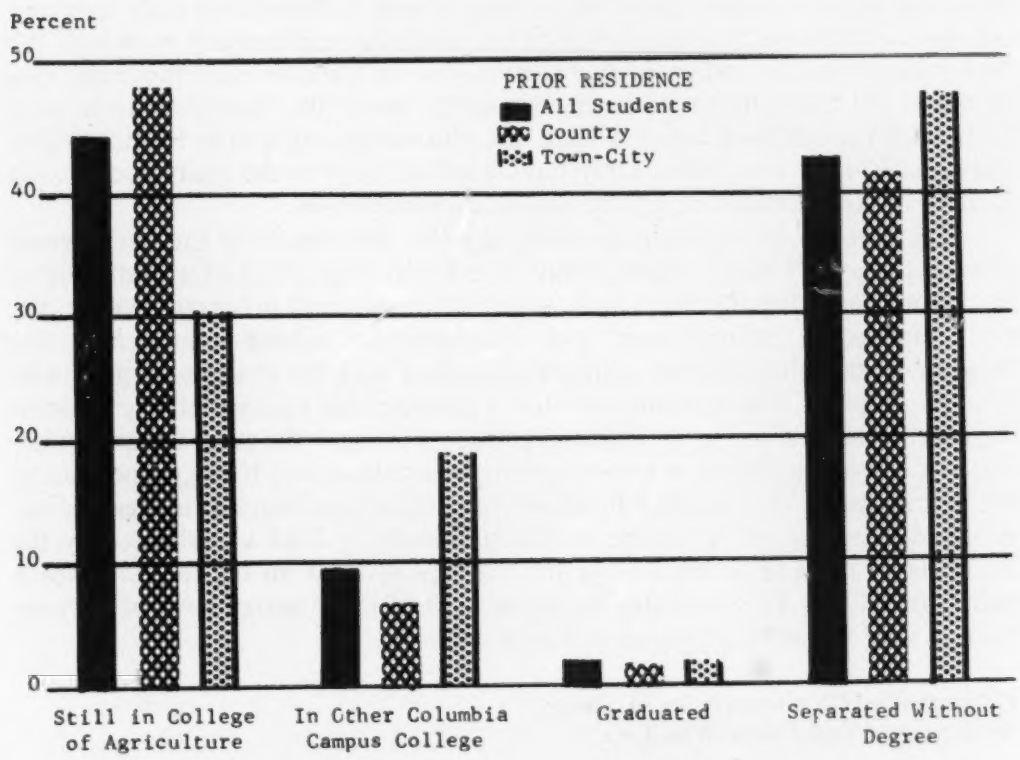

FIG . 1 - Present College status of 1964 College of Agriculture Freshmen by prior residence.

The Influence of Peers and Parents. The family operates in many ways to dispose the student toward decisions to enter college and to make this financially possible. Aside from the socio-economic status considerations and ability to support this expensive business of educating a son or daughter, parents may operate as agents for progressively enhancing conditions which predispose a child toward going to college while at the same time either cutting off or minimizing other alternatives to the point where a college prospect actually is in almost no position to choose at all. Thus, when it comes time to enter college he is so disposed to this type of thinking that alternatives to going to college are not even considered. Responses to questions about a decision may be typically glossed over by such an answer as "I knew I was going all the time." For others, choice may indeed be a requirement and thus there is presumably a degree of rationality in weighing alternatives, situational circumstances, and projected consequences. Subjective support, implied influence of the educational background of the parent, involvement in "stage setting" activities impelling the prospect in the direction of college, and the economic support accorded were considered to the extent that our data would permit.

Looking first at the subjective atmosphere of support as seen by the students themselves or more specifically the importance that they thought their

parents attached to a college education, drop-outs were essentially no better or no worse off than those who stayed. This was also true in perceived encouragement by parents to enter college. Well over 90 percent of both categories perceived this type of encouragement and 80 percent or more of the parents of both groups were perceived as regarding a college education as a most important course of action for youth after high school. Actually such small differences as did occur were in favor of those who were separated from college without a degree. This suggests the possibility that parents of drop-outs might have been a little more committed to a college education than their sons.

Quite in accord with studies of several researchers (e.g., Altus, 1966), the oldest child in the family appeared more often in the persistent group than in the drop-outs, percentages being 40.6, and 28.2, respectively. Prospects of the youngest child staying in were slightly but not significantly better than average. Perhaps who fares best in regard to sibling position varies considerably with family and other circumstances. However, it would appear that the oldest child having had more opportunity to develop a mature realism might in so doing also develop qualities that would be conducive to entry into college and successful adjustment to college life.

In accord with expectations from previous studies which quite consistently show a positive relationship between college attendance and socio-economic status (Lipset and Bendix, 1959; Burchinal, 1962), there was little difference in this regard between parents of students who stayed in school and those who left. In fact, fewer of the latter than the former (17.3 percent and 31.7 percent) had less than a high school education. The percentage of fathers with some college education was almost identical. However, in regard to the mothers' schooling the situation was somewhat reversed. The educational level of mothers of sons who stayed in college was slightly higher than that of the mothers of sons who left. Also the occupational prestige level of fathers as measured by the North-Hatt scale was at least as high for those who left as those who stayed. In both cases the great majority (two-thirds or more) saw their parents' income as farmers as being average or above in their respective residential localities. Of course, this represents only rough estimates of parental income or socio-economic status and indicates virtually nothing about willingness to pay or assistance in paying the college expenses of their sons. In the latter, parents were generally perceived as being highly supportive of college attendance for the respondents with nearly 90 percent of those who stayed and almost 85 percent of those who left indicating that they expected their parents to pay all of their college expenses. Thus, assuming that the support was forthcoming it could hardly be said that students who left were relatively more deprived of parental financial support for attending college than those who stayed.

A previous Missouri study has shown that overt involvement of parents in activities which predispose their children to college attendance is an important variable associated with decisions to enter college (Gregory and Lionberger, 1968). Thus, a parent may insist that his son take college preparatory courses, avoid occupationally oriented ones, develop good study habits, and make sufficiently good grades to enter and succeed in college.

Several measures of parental involvement were available, namely parental urging of students to take college preparatory courses in high school, parents' discussing with high school counselors the courses students should take, attending college night or visiting a college campus, discussing college plans with a counselor, writing a letter to a college, and discussing college plans with the students themselves. On all of these measures, without exception, it was found that a greater proportion of those who stayed in college reported such parental intervention compared to those who left.

Encouragement on a more positive note was observed for those who remained in college than for those who dropped out, when students were asked about parental urging to make good grades with rewards and or reprisals. Slightly more parents urged with rewards for the former group than for the latter. Urging with reprisals was more frequent for the drop-outs. Urging good grades, but without rewards or reprisals, was more often felt by the students who persisted in college. All of this is indicative of early active intercession of some parents to encourage if not to insure later college attendance.

One might suspect that students who failed to finish college may be more influenced by peers and parents than those who stayed and that the latter by comparison might elect to go to college by inner-directed conviction of the importance of a college education and the sacrifices necessary to obtain it. While approximately 75 percent of both groups reported encouragement from friends to go to college, slightly more of those who dropped out reported encouragement from brothers and sisters, a few more from friends at the university as being most influential in deciding to enroll and considerably more (20.0 percent compared to 9.7 percent) reported friends as the most important reason for first becoming interested in the University. These differences plus a slightly greater inclination to parental influence suggests the possibility of an "other" rather than "inner" directed reasoning for coming to college on the part of dropouts. However, in the absence of more definitive evidence than is available in this study, such an inference had best be regarded as an hypothesis in need of further testing.

Time of Decision. Students who come to college with a prior long-term commitment as opposed to a relatively late clear-cut decision may be expected to have first considered college attendance earlier in their educational careers. This indeed was one of the biggest differences between those who remained in college and those who left. About 29 percent of the former and 17.3 percent of the latter said they had considered college attendance as far back as they could remember; 66.2 percent and 50.9 percent, respectively, before the junior year in high school (See Fig. 2). In contrast, 20.0 percent of those who left did not seriously think about attending college until the last part of their senior year or even after high school graduation; this in comparison to 8.3 percent of those who remained in college. Again early internalization of the importance of college attendance is indicated in those who persisted in college.

Financial Support. Although lack of finances did not appear to be an important factor in dropping out of college, surely it must have been important in some cases. Almost 90 percent of both groups expected their parents to pay all

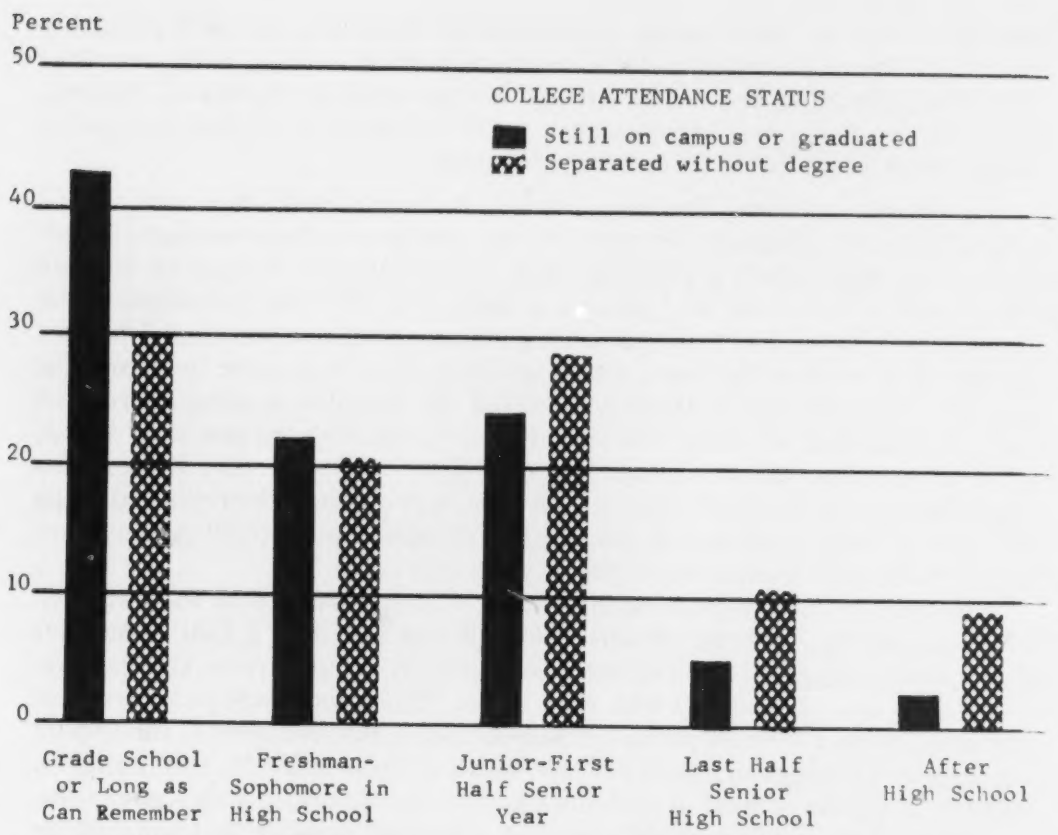

FIG. 2 - Present college attendance status of 1964 College of Agriculture freshmen by time of first serious consideration of college attendance by prior residence.

of their college expenses. No more of those who left than stayed reported work in support of college attendance. However, due to the lower academic standing of those who left, work in support of a college education and maintenance of an adequate grade level would have made survival more difficult for them than for the better academically equipped students who remained in college. Also by virtue of their better academic standing in high school, about 38.6 percent of those who remained, compared to only 13.6 percent of those who left, had the benefit of scholarships while in school. At the same time, comparatively more who remained (84.1 percent and 66.4 percent, respectively) were drawing on their own personal savings. This again indicated a more mature realism and perhaps also willingness to plan and sacrifice for a college education on the part of those who stayed in comparison to those who left, also again suggesting earlier foresight and planning to this end.

Occupational Orientation. An initial expectation that a relatively firm occupational commitment would serve as a force in keeping students in college was not substantiated in this study. Reasoning was that parents often are inclined to insist that boys know what they want to do occupationally before going to college. The proportion who made at least a tentative occupational choice varied no more than one percent from the 54.5 percent 1964 student freshmen

average. However, there was an inclination for those who stayed in college to emphasize the relationship of their college education to their work objectives somewhat more than those who left and for the latter to emphasize relatively more the extrinsic reward (pay, security, and retirement considerations) of an occupation and education for status achievement.

Academic standing. The most distinct and undoubtedly the most significant explanatory difference between the two groups was their academic standing in their high school graduating class. Approximately 79 percent of those who stayed in school and 46.3 percent of those who left rated themselves in the upper academic third of their graduating classes. Although less than 5 percent thought they were in the lower third, the proportion was more than twice as high for those who left as those who stayed. By actual high school percentile rank, 81.9 percent of those who stayed were in the 60th percentile or above, while for dropouts the percentage was only 45.4. The proportion of drop-outs below the 50th percentile was more than twice that of those who remained in the University. Thus, it seems that the majority of those who left college may have been initially poor prospects for success when they came.

In terms of college grade point average, 17.9 percent of those who persisted in school and 82.7 percent of those who left had less than a 2.00 cumulative grade point average for the semesters they spent at the university. On the other hand, 23 of the 145 students who were still in school had grade point averages between 1.50 and 1.99; 28 of the 110 who left fell in this category. If the 19 with a grade point average of above 2.00 are added to these latter 28, then it may be seen that a sizable number of students who left were reasonably very good prospects for college graduation. However, it is entirely possible that some of the better students who left the Columbia campus entered college elsewhere and eventually graduated.

BACKGROUND OF THE STUDENTS WHO STAYED

Any assessment of changes occuring in students during their college experience should be viewed against a background of experiences and conditions from which they came and insofar as possible the state of their thinking and views held at the time they enrolled in college. Some of these have been recognized and described already. Some will be briefly reviewed, others discussed more in detail in the section which follows. However, the focus of attention is on the 145 students who were still enrolled in the Columbia campus colleges during the Winter 1968 semester, and who by normal progression through college would be expected to graduate at the end of that semester.

Prior Residence and Experience

Twenty-seven of the 145 students still enrolled in a Columbia campus college on the restudy date were from small towns or cities and 118 from the open country. The last were mostly from farms rated average and above in income by comparison to others in their own localities by the students' own ratings. Less than 10 percent regarded their farm incomes as being somewhat below their respective area averages. Those who came from small towns and cities were

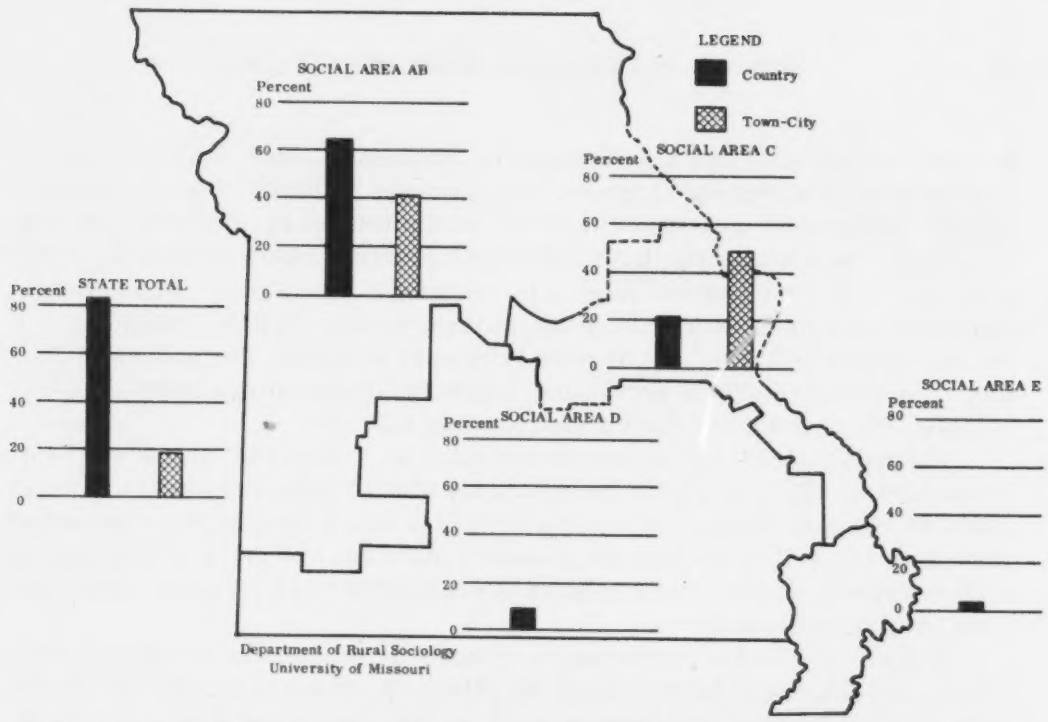

FIG. 3 - Prior residence of students entering the College of Agriculture as 1964 freshmen.

from a variety of occupational backgrounds but in the aggregate of slightly lower prestige than the country students, as indicated by the North-Hatt occupational prestige scale scores. Area-wise, the largest proportion came from the rural-social area near St. Louis, nearly one-half of the town-city boys being from this area (Gregory, 1958). Over one-third came from northeast and west central Missouri (rural social areas AB 3 and AB 4). The Ozarks and southeast Missouri were least represented in this group (See Fig. 3).

Approximately one-fourth had been enrolled in college preparatory courses, in high school, another one-fourth in vocational agriculture, and 29.6 percent in general education. The remainder were quite scattered among other curricula.

Also as noted, they were from the middle and upper academic levels of their high school graduating classes with 80 percent saying they were from the upper third, 82.2 percent for the country and 70.4 percent for the town-city. Their high school records showed that 89.5 percent rated at or above the 50 percentile of their classes. Thus, from the standpoint of high school class performance, the group would be generally rated as good college prospects. Only about six percent of those below the 40 percentile rating of their high school class had survived the college experience.

Views and Occupational Preferences

Approximately 54 per cent of the 1964 Freshmen had chosen a specific occupation at the time they were first interviewed; 75.9 per cent had chosen a major. At least 77 per cent of the town-city youth had selected a specific occupation, which was a proportion much larger than for the country boys, only 48 percent of whom expressed an occupational choice. Aside from the great majority who selected professions, 28 percent of the country boys expected to farm,

but only 8.5 per cent had a preference for business or sales. Within the highly predominant professional category, the town-city students chose occupations labeled professional-non-agricultural of which veterinary medicine was predominant. The country youth also chose the generally non-agricultural professions over the strictly agricultural, e.g., vocational agriculture teacher, county extension agent, etc. at a ratio of about three to two. Typical occupations in the non-agricultural professions were veterinary medicine, journalism, and research; in the agricultural professions landscape design or engineering, soil or wildlife conservation, and dairy manufacturing and sales.

Students' reasons for coming to college were assessed by means of Q-sort methodology. This provided a rating scheme which required students to rate an initial 64 possible reasons for coming to college into a most unimportant-most important 11 point range with progressively more allowed in the middle than at each extreme. This provided a relative rating scheme in which every reason was rated in relation to all others.[1]

A major reason for enrollment in virtually all groups was a strong occupational orientation. Of the 64 reasons for attending college in the original Q-sort from which to choose, both groups rated the following occupational item highest of all: "I want my university work to relate closely to my vocational goal, i.e., to help me with my future career." The town-city boys placed an even higher rating on this item than those from the country, 9.6 and 9.1 respectively, on an 11 point scale. Next in order for both was the view: "It takes a college education to get a good job these days." There was a strong secondary interest in both learning for learning's sake and in becoming a more complete and well-rounded person (Lionberger, Gregory, and Chang, 1967).

There was considerable variation in the importance attached to the qualities of an occupation which they would stress as most important to themselves, but the inclination was to emphasize an occupation from an idealized standpoint both as a means of extending one's own personality or of using one's skills to best advantage on the one hand, and the extrinsic rewards derived from such things as income, security, and a good retirement plan on the other.[2] These two were emphasized over the management-creativity view and what we will subsequently refer to as a materialistic-doer view. The latter stressed work outside, close to nature, and with things in preference to people. The country and town-city groups differed most on the materialistic-doer view with the former stressing this more than the latter; also the country youth were least concerned with matters such as creativity and management possibilities.

Occupational interests tended to be quite narrow in scope and generally not particularly strong. Strong Vocational Interest Inventory scores available for 114 of the 145 students indicated most frequent interests similar to those engaged in farming and veterinary medicine.[3] Farming was the predominant in-

1 For more information about how Q-sort was used in this study and references as to its strengths and limitations see pages 30-31 and 57-58 of this bulletin.

2 The different ways of viewing an occupation from an idealized point of view and the method used to determine these views are discussed on page 49 to 50 of this bulletin.

3 See pages 45-48 of this bulletin for a more detailed discussion of the use of Strong's Vocational Interest Inventory.

terest for 46.4 percent of the country and 10 percent of the town-city youth while veterinary medicine scored first for 25 percent of the latter and 9.6 percent of the former. This was a comparative rating out of 55 occupations for which interest scores were computed. Also, a considerable number expressed an interest in the physical therapist-biological science combination, actually accounting for first order interests in 20 percent of the town-city and 4.3 percent of the country youth. First order interests in other occupations were scattered over a great diversity of areas, none accounting for any more than one student in the town-city group or more than five of those from the country.

Academic Majors Selected by Freshmen

A student may or may not declare an academic major when he enters the College of Agriculture as a freshman. The fact that this is not required of a student until his fourth semester permits some latitude and flexibility for those not definitely decided about a course of study. Almost one-fourth of the entire group did not declare a major as first semester freshmen. A noticeable difference was observed in that only 3.7 percent of the town-city group did not do so, while for the country students this was 28 percent.

Over half had chosen a major in the agricultural production fields or in preveterinary medicine, 24.8 percent and 26.9 percent, respectively. Vocational agriculture was selected by 8.3 percent, the remainder being scattered among the agricultural sciences, social sciences, and "other practicing professions." More country students selected majors in agricultural production, more town-city students in veterinary medicine.

THEIR COLLEGE EXPERIENCE

An agricultural college student on the Columbia campus may participate in the student sub-culture by taking college courses, joining social or fraternal organizations, working on the campus, and participating in a wide variety of academic, honorary, professional, and organized campus activities as well as those that relate to the religious and civic life of the community.

During the first two years a student is required to take a variety of prescribed courses in the basic sciences (biological, chemical, and physical), English composition, mathematics, the humanities, and the social sciences, in order to build a broad science and humanities base upon which to base a major course of study. After the initial two years, he is permitted to specialize in earnest. Upon entry into the college as a freshman he is assigned an academic adviser with whom he may consult on any matter which he wishes to bring to the adviser's attention. He may also consult with other members of the teaching, extension, and research staff.

Interaction With Adviser and College Staff

One may immediately ask what chance a student in a large university has to consult with an adviser and the college staff, and also "with what effect." In order to answer the first question, a series of questions about relations with the

student's own adviser and the college staff were asked in the 1968 interview. Perhaps the "what effect" question will remain essentially unanswered except for inferential observations which are presented later in the bulletin. The series of response relationships included a variety of academic, personal, and social matters ranging from the very intimate to those that were quite impersonal in nature. Each student was then asked to indicate whether he thought the kind of relationship was "not possible," "possible," or "maybe possible." These were arranged on the basis of the frequency with which students said each was possible. These responses are graphically represented by black solid lines in Fig. 4. The proportion who thought that such relationships might be possible were added and designated by cross-hatched additions to the black bars. The reader is invited to observe the results. The students were then further asked to indicate the number of faculty members with whom they thought the designated relationships would be possible. These responses are reported in Table 1.

A valid conclusion from the responses reported in Fig. 4 would seem to be that a very high proportion of the students felt they could discuss study programs, grades, decisions that would affect their future, or obtaining a recommendation with their advisers. Most felt that friendly relations were possible, this being indicated by the very high percentage who felt they could walk into the adviser's office either to talk about school problems or for a friendly chat, and the relatively high proportion who thought that the adviser knew them by name. The greatest reticence, self-imposed or otherwise, was a feeling of reluctance to talk about problems which might make dropping out of school necessary and understandably also a reluctance to stop by the teacher's home for a short chat. Another indication of closeness was manifested by 66 percent who felt that their advisers had a real interest in their own problems.

There were some quite consistent differences between the country and town-city students. The latter seemed to feel less free than country boys to enter into the designated relationships with their advisers; however, the negative and "maybe so" responses need to be interpreted in light of the possibility that a considerable number of students had known their advisers for only relatively limited periods of time. It is a common practice to change advisers when an election is made to change majors; almost 58 percent of the students still in school in 1968 had changed majors at least once during the four year period.

Although the number of faculty with whom students thought the designated relationships were possible was indeed often small in number, there were relatively few students who knew no faculty member with whom they could enter into the designated relationships. Two exceptions to this general observation are the 39.3 percent who did not feel that they could stop by a faculty member's home for a short visit and 37.2 percent who felt reticent to talk to any faculty member about problems that might cause them to drop out of school.

However, for those matters most central to the student's academic life there were on the average at least three faculty members and sometimes eight or 10 with whom he felt he could probably speak. Thus, it does not seem that the College of Agriculture students in this study at the end of four years in college would have any reason to feel alienated by being cut off from meaningful contacts with the faculty.

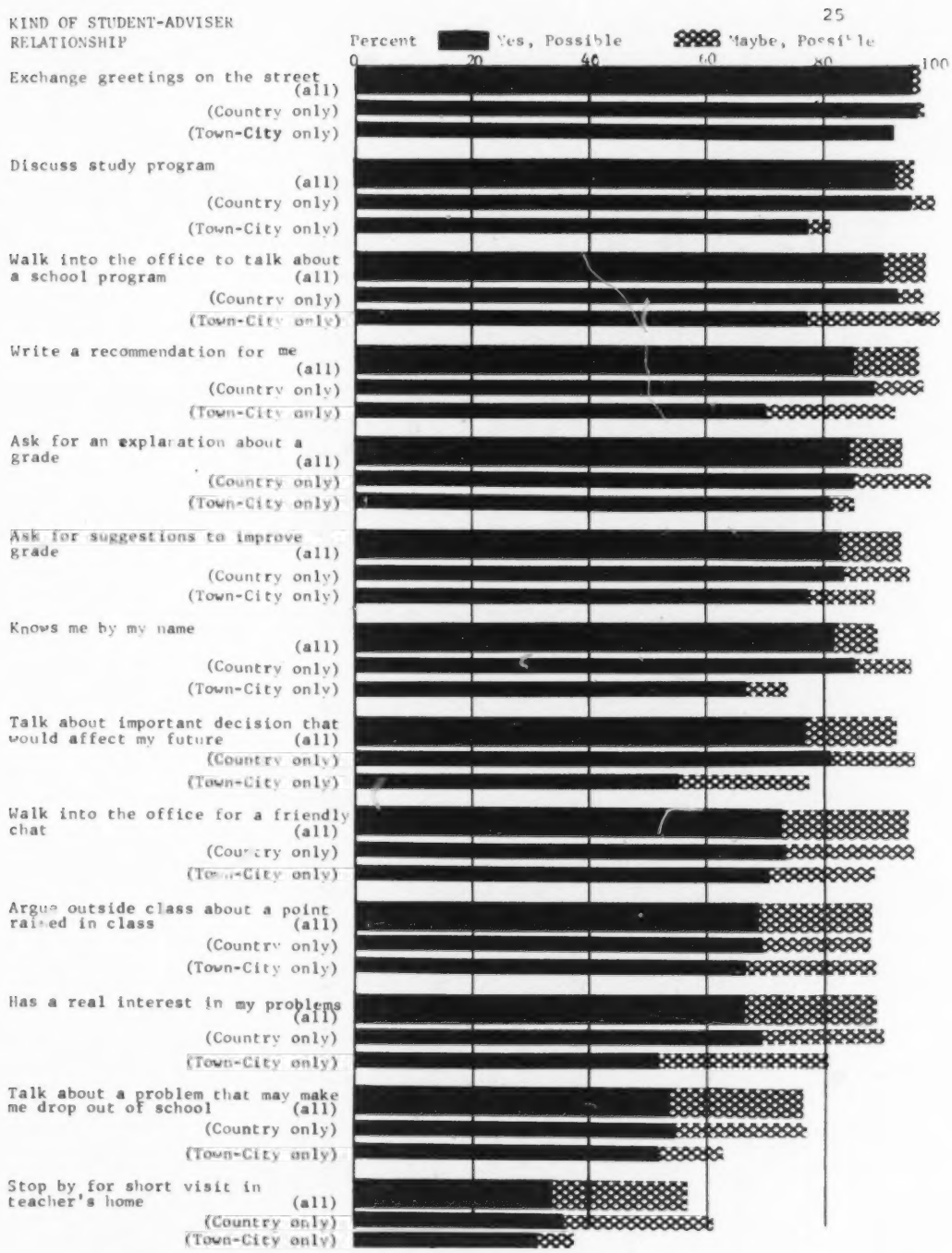

FIG. 4 - Percentages of college students from county and town-city areas who designated various relationships they deemed possible with their student advisor. (College of Agriculture student panel.)

TABLE 1--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY NUMBER OF UNIVERSITY FACULTY MEMBERS WITH WHOM THEY THOUGHT DESIGNATED RELATIONSHIPS WERE POSSIBLE (1968) AND PRIOR RESIDENCE

PRIOR RESIDENCE	Estimated Number With Whom Relationship Was Thought Possible					Median Number
Kind of Student-Faculty Relationship	*None	1-2	3-4	5-9	10 or more	
ALL STUDENTS (N = 145)						
Exchange greetings on the street	1.4	9.7	22.8	24.1	41.3	8.1
Discuss study program	7.6	35.1	31.7	15.9	9.7	3.5
Walk into office to talk about a school problem	3.4	28.3	32.4	15.2	20.0	4.1
Write recommendation for me	3.4	32.4	43.5	13.8	6.9	3.7
Ask for an explanation about a grade	1.4	5.5	27.6	17.2	47.6	9.5
Ask for suggestions to improve grades	2.8	17.9	28.3	13.1	37.2	5.0
Knows me by my name	5.5	22.1	34.4	22.8	15.2	4.3
Talk about important decision that would affect my future	11.7	40.7	33.8	6.9	6.9	2.9
Walk into the office for a friendly chat	2.8	25.5	40.7	18.6	12.4	4.1
Argue outside of class about a point raised in class	6.2	31.7	33.2	11.7	17.2	4.7
Has a real interest in my problems	13.1	44.9	26.2	10.3	4.8	2.6
Talk about a family problem that might make me drop out of school	37.2	46.3	12.4	3.4	0.7	1.6
Stop by for a short visit in teacher's home	39.3	41.4	12.4	2.1	3.4	1.5
COUNTRY STUDENTS (N = 118)						
Exchange greetings on the street	0.9	10.2	22.9	22.9	42.2	8.5
Discuss study program	6.8	35.6	33.8	15.3	8.5	3.5
Walk into office to talk about a school problem	4.2	28.8	30.5	15.3	20.3	4.1
Write recommendation for me	3.4	31.4	44.0	13.6	7.6	3.7
Ask for an explanation about a grade	1.7	5.1	28.0	17.8	46.5	9.3
Ask for suggestions to improve grades	2.5	17.8	29.7	12.7	36.4	10.0
Knows me by my name	5.9	22.9	33.9	22.9	14.4	4.3

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TABLE 1--(Continued)
PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY NUMBER OF UNIVERSITY FACULTY MEMBERS WITH WHOM THEY THOUGHT DESIGNATED RELATIONSHIPS WERE POSSIBLE (1968) AND PRIOR RESIDENCE

PRIOR RESIDENCE Kind of Student-Faculty Relationship	*None	1-2	3-4	5-9	10 or more	
Talk about important decision that would affect my future	10.2	42.3	33.1	5.9	8.5	2.9
Walk into the office for a friendly chat	2.5	26.3	39.0	18.6	13.6	4.1
Argue outside of class about a point raised in class	7.6	30.5	34.8	11.0	16.1	3.7
Has a real interest in my problems	12.7	44.0	28.0	9.3	5.1	2.2
Talk about a family problem that might make me drop out of school	33.9	49.1	11.9	4.2	0.9	1.7
Stop by for a short visit in teacher's home	37.3	42.4	11.9	2.5	4.2	1.6
TOWN-CITY STUDENTS (N = 27)						
Exchange greetings on the street	3.7	7.4	22.2	29.6	37.1	7.3
Discuss study program	11.1	33.4	22.2	18.5	14.8	3.5
Walk into office to talk about a school problem	0.0	25.9	40.8	14.8	18.5	4.2
Write recommendation for me	3.7	37.0	40.8	14.8	3.7	3.5
Ask for an explanation about a grade	0.0	7.4	25.9	14.8	51.9	10.1**
Ask for suggestions to improve grades	3.7	18.5	22.2	14.8	40.8	6.9
Knows my by my name	3.7	18.5	37.1	22.2	18.5	4.5
Talk about important decision that would affect my future	18.5	33.3	37.1	11.1	0.0	2.9
Walk into the office for a friendly chat	3.7	22.2	48.2	18.5	7.4	4.0
Argue outside of class about a point raised in class	0.0	37.1	25.9	14.8	22.2	4.0
Has a real interest in my problems	14.8	48.2	18.5	14.8	3.7	2.5
Talk about a family problem that might make me drop out of school	51.9	33.3	14.8	0.0	0.0	0.0
Stop by for a short visit in teacher's home	48.2	37.0	14.8	0.0	0.0	1.1

* Percents do not add to 100 in every case because unknowns are excluded.
** Median computed with 10 and over category closed at 20.

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Work Experiences

A second way that students can participate in the college sub-culture is through work experiences which vary considerably in their contribution to the educational objectives of the student. The influence may be quite direct when the job is actually or potentially career oriented. Even though not directly relevant, work experiences within the university provide an opportunity for acquaintances and interaction with faculty and students that otherwise would not be possible. There surely are some latent consequences of having to or electing to work as a means of paying part of one's college expenses; some positive as helping to create a mature realism, and some negative like making it more difficult to maintain a high grade point average.

It will be seen from Fig. 5 that the proportion employed, which initially was about 40 percent for the country boys, increased to approximately 65 per-

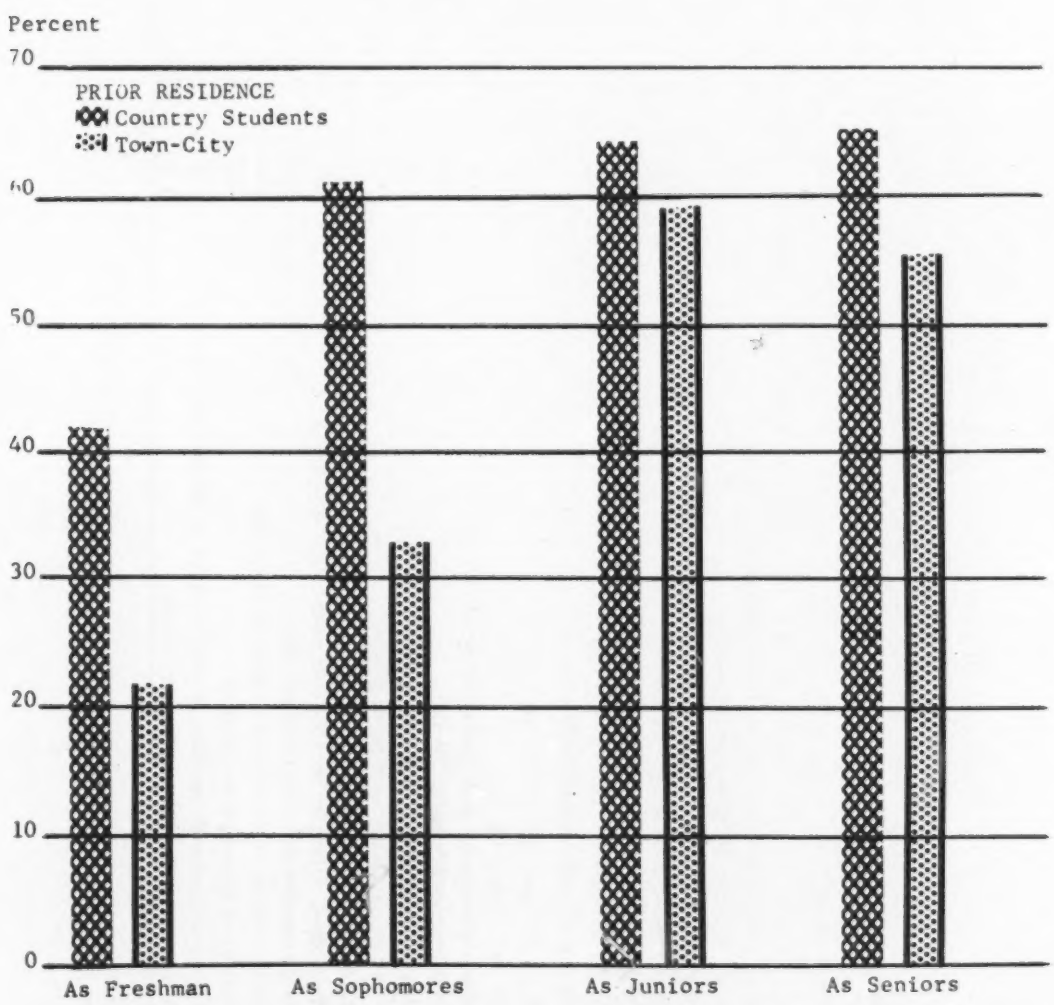

FIG. 5 - Proportions of county and town-city students working during different years in college. (College of Agriculture student panel.)

cent by the senior year. Throughout the time span from the freshman to the senior year fewer town-city than open country youth were employed. Median hours per week by those who were employed were in the range of 16 as freshmen, a figure that had increased slightly by the senior year, as will be seen in Fig. 6. Except for the freshman year, when town-city youth worked somewhat more hours than the country youth, medians did not vary materially between the two groups.

Approximately 85 percent of the country and 81.5 percent of the town-city youth indicated employment at some time during their college careers. Some 41.5 percent of the country and 37.0 percent of the town-city were in work related to their current college major. About one-fourth of the former and 37.1 percent of the latter had been engaged in non-university employment not related to their majors. With a third of the students employed outside of the university, it can be seen that the local community was serving an important employment role for students in the college. In fact almost one-half of the town-city youth had been so employed.

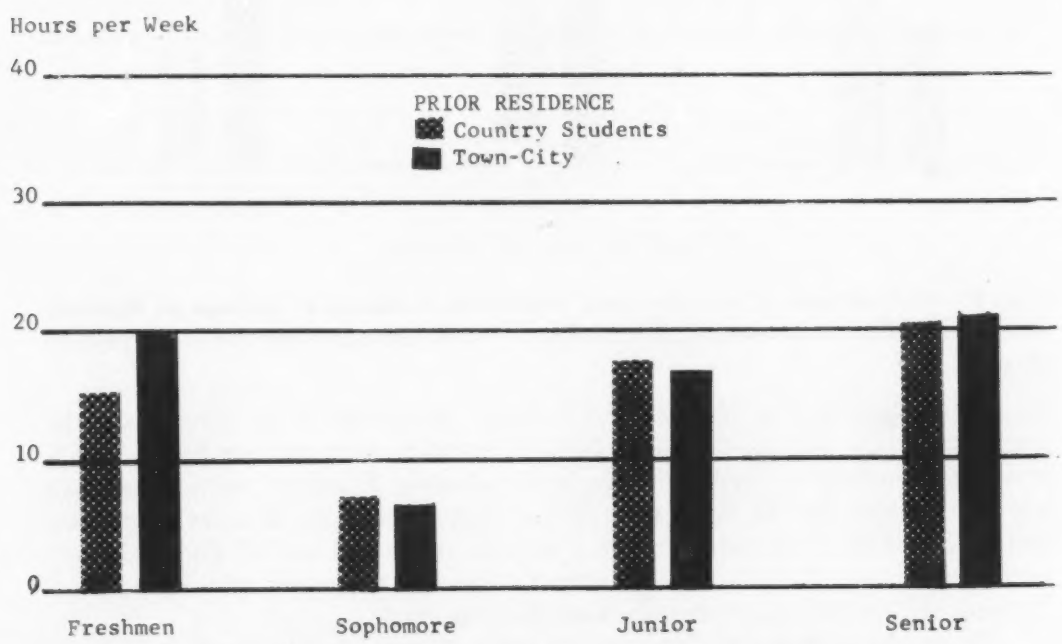

FIG. 6 - Median hours worked per week by country and town-city members of College of Agriculture student panel. (Median for those who worked.)

Financial Support

Even though working to pay college expenses may not be regarded as direct participation in the college sub-culture, it is often a very important conditioning influence on the extent and manner in which the student does participate. Support for a college education for the students in this sample came primarily from parents, earnings of self or spouse, savings, scholarships, and loans.

The most typical parental support situation for country youth at the senior level was for parents to pay less than one-fourth of their college expenses (44.1 percent) and for town-city parents to pay more than one-half (48.2 percent) (See Fig. 7). About 70 percent of the former were paying half or more of their expen-

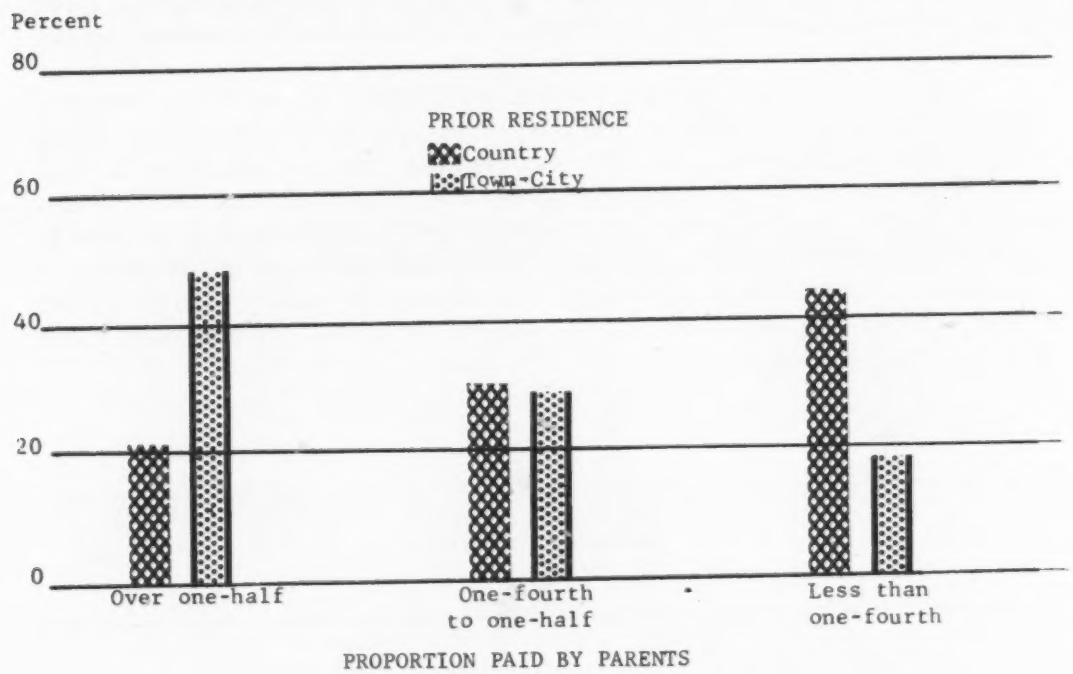

FIG. 7 - Percentages of country and town-city students in College of Agriculture Panel indicating various proportions of their college expense were paid by parents.

ses out of their own or their wives' earnings compared to 33 percent for the town-city youth. Although 37.1 percent of the latter were earning between one-fourth and one-half of their expenses, approximately 30 percent earned less than one-fourth (See Fig. 8). Even though the country boys much more frequently had scholarships than town-city (48.3 percent compared to 14.8 percent), they were much more likely to have acquired loans, (28.0 percent and 7.4 percent, respectively), to help pay their expenses (See Fig. 9).

All things considered, the country boys were generally much more self-reliant in paying their college expenses than the town-city. Also for both groups it was quite apparent that more than parental resources was needed to finance their schooling; this despite considerable reliance of students on their own resources.

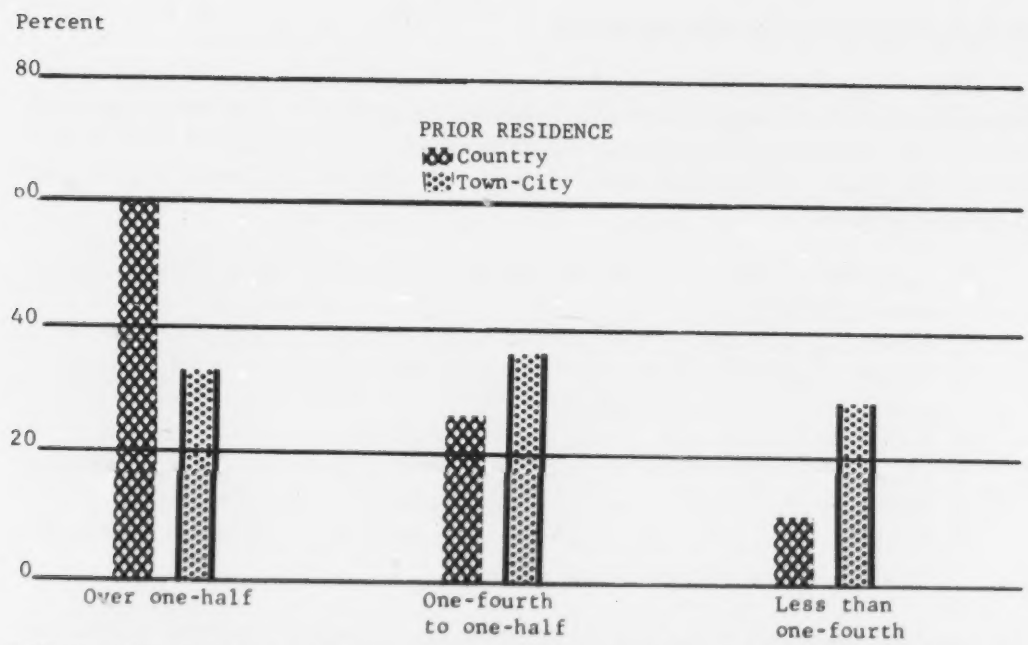

FIG. 8 - Percentages of country and town-city students in College of Agriculture panel indicating different proportions of college expenses were paid from own earnings or savings.

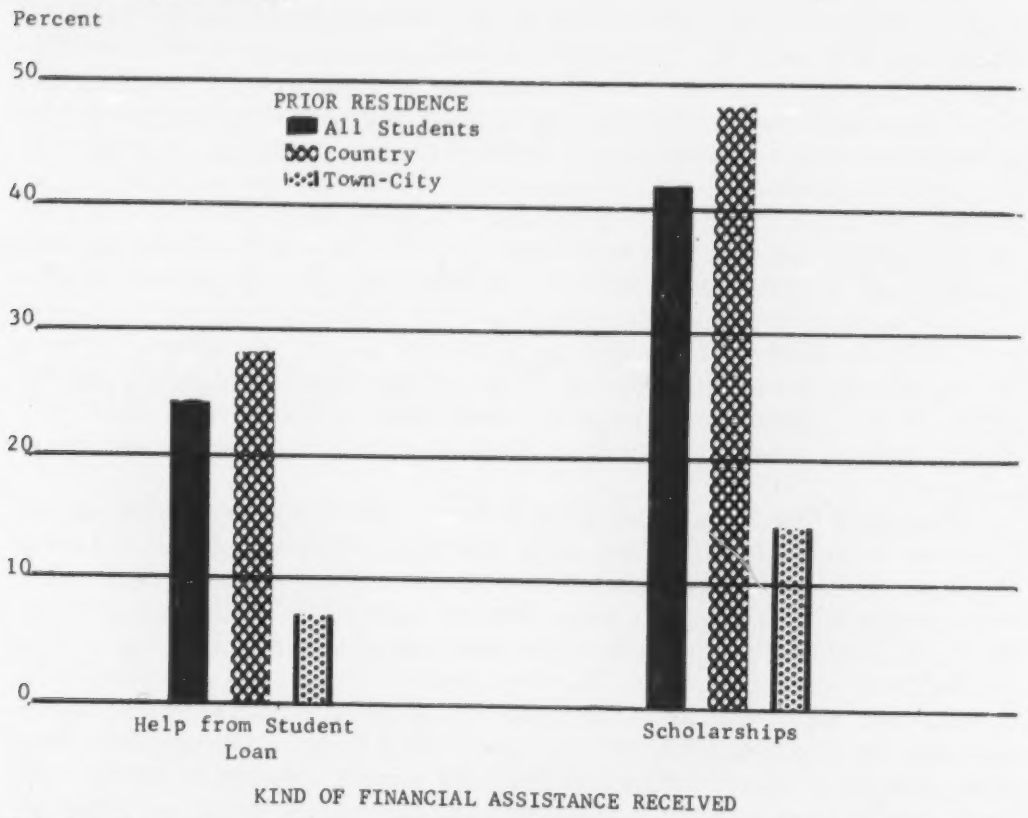

FIG. 9 - Percentages of country and town-city students in College of Agriculture panel who obtained assistance from loans and grants.

Participation in Campus Organizations

The university campus provided many opportunities to participate in organized activities related to specific interests as well as to matters of general concern on the campus and even to the local community. Organizational activities of the formal group type were classified as follows for observational and analysis purposes:

1. Academic—various departmental and divisional clubs mainly of academic concern.
2. Honorary scholastic—including both agricultural and general.
3. Social fraternal—comprised mainly of social fraternities and organizational activities related thereto.
4. Religious—mainly those of a general orientation, e.g., the YMCA.
5. University-wide organizations—including a diversity of activities and interests which cut across department and divisional lines and in which students participate on a cross campus basis, e.g., student government, Savitar frolics, interfraternity council.

An attempt was made to include all organizations in which students might participate, but the others were generally so infrequently mentioned that further classification was not warranted.

Although participation in organizational groups on the campus most likely occurred as an outlet for self expression and personal satisfaction derived from interaction with peers who had similar interests and concerns, it also contributed to the fulfillment of the students' educational objectives. For students who expressed a high concern for learning to get along with other people and for becoming a more complete and well-rounded person, participation in these activities surely provided an educational increment; also depending on the activity selected; for those who expressed the desire to make one's life count for other people participation may have been something of a personality fulfillment. In a student's own academic area, there was an opportunity to engage in activities of common concern to the particular profession or academic interests. The honorary scholastic contingent provided an additional reward mechanism for those who strived for academic excellence. There was also something for the activist. Many of the organizations provided a democratic frame-work in which concerned students could act on matters about which they had deep convictions or concerns.

In turning first to an examination of the amount and kind of social participation of the students at the time of the 1968 resurvey, a need for some kind of aggregate measure of participation became immediately apparent. An instrument similar to that used by Chapin seemed appropriate in this case (Chapin, 1935). He recognized that a person can participate by being a member, attending meetings, paying one's dues, serving on committees, or as an officer in the organization. He further found that judges rated participation in formal organizations in an ascending order of importance in this approximate sequence. With modifications to allow a differential credit for varying amounts of participation in the organizational activities and deletion of dues-paying which is of little con-

sequence in some of the organizations considered here, a scoring scheme with points assigned as follows was used:

membership, one point;
limited attendance, one point;
regular attendance, two points;
committee member, three points;
and officer, four points.

The total participation for each students was computed by scoring them on participation in each of the organizations to which they belonged and adding the credits assigned to arrive at a total score. With 84 percent of the students participating in one or more such groups, a median score of 9.48 occurred or roughly the equivalent of being an officer and an active participant in one group or being a member and regularly attending meetings in two. Even though far more country than town-city boys participated in no such organization, the median participation score for the country boys was somewhat higher than for the town-city, thus something of a bi-modal participation situation (See Fig. 10). It will be fur-

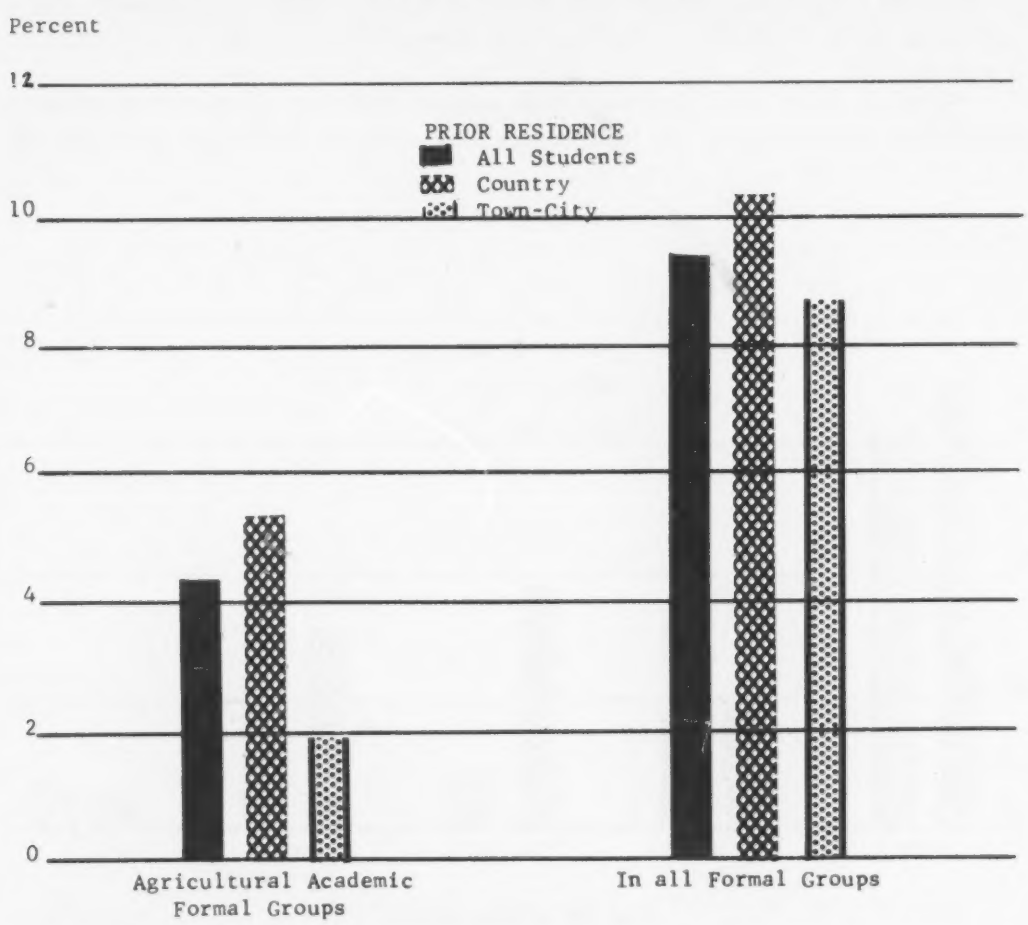

FIG. 10 - Median formal group participation scores of country and town-city students in College of Agriculture panel.

ther seen that this difference was particularly large for participation in academic clubs and organizations.

From the standpoint of the categories mentioned, participation in the academic sector was the greatest. This accounted for over half for country boys and a somewhat lower relative proportion for the town-city boys. Although academically labeled, these organizations had social activities which were also a part of the normal routine. Although likely quite conducive to intellectual enrichment in the respective academic specialties, participation in such organizations to the relative exclusion of others could result in a kind of academic provincialism.

Perhaps participation in university-wide organizations provided the best opportunity for broad interest contacts and thus a diversity of exposure to new ideas and views. The percent of students participating at various levels is indicated in Figure 11. From this it can be quickly seen that participation in university-wide organizations by College of Agriculture students was by no means universal with 33.3 percent of the town-city and only 20.4 percent of the country boys participating in any degree. However, there was a small group of country boys who were indeed very active in campus-wide organizations. Participation of the town-city youth was more general but generally at a considerably lower level.

Next to those of a university-wide nature probably social organizations provided an opportunity for interaction with students holding a diversity of

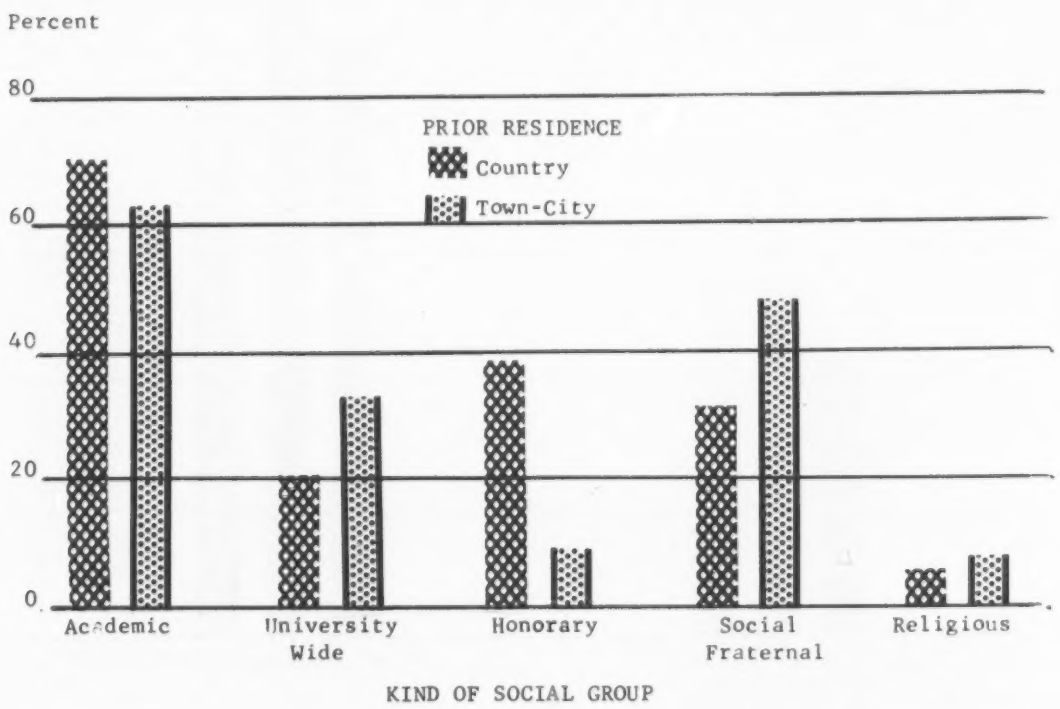

FIG. 11 - Proportions of country and town-city students in College of Agriculture student panel who participated in various kinds of formal groups.

views and interests. This was found somewhat restricted by the fact that agricultural students tended to be found proportionately more in some fraternal organizations than in others. By being somewhat restrictive in terms of rules for inclusion and circumstances which operated in the direction of exclusion, only 31.4 percent of the country and 44.4 percent of the town-city boys were associated with such groups. The necessity to work and earn one's way through college may have served to exclude more country than town-city youth; also it is quite possible that the country boys thought participation in other types of organizations was more important.

In any case with university-wide groups the inclination was either not to participate at all or to participate extensively, i.e., at least as a top leader in one organization as well as active participation short of being an officer in at least one additional. This tendency to bi-modal participation tended to be greater for the country than for the town-city boys. Thus, somewhat like viewing television (Coleman, 1961), participation above some critical minimum level impels the participant to even higher involvement.

Participation in religious groups on the campus could likewise be an essentially cosmopolitan experience if predominately in cross-denominational organizations such as the YMCA in contrast to those restricted to a particular religious denomination or sect. However, further pursuit of this point would be quite academic here since 94.1 percent of the country and 92.6 percent of the town-city students participated in no formal religious group. However, this does not necessarily mean that they were also disassociated from religious activities in the local churches of their choice.

Finally, most students did not participate in selective academic and honorary organizations. Admission to such organizations is by invitation for which a measure of academic excellence and leadership is generally required. In this category country boys were far ahead of the city youth with 38.1 percent and 14.8 percent, respectively, participating at some levels. But differences did not end here. Again the participation level was distinctly bi-modal, i.e., with most not participating at all and very few at a very high level. Again a critical level of participation contingent upon a measure of academic excellence seems to have generated even higher levels of participation. But for a very few exceptions this critical level of participation seems not to have materialized in the town-city student contingent.

It could be that the basis upon which honors in this area were awarded were such that they disproportionately favored the country boys, who were probably more agriculturally oriented in comparison to the town-city who had an inclination to occupational interests peripheral to the agricultural enterprises. An alternative hypothesis would be that the country boys attracted to the college were disproportionately high academic achievers. This hypothesis would seem to be supported by the fact that a much higher proportion of country than town-city youth came to the college with scholarships. This further suggests that a different kind of selectivity may have been working to attract students to the college in each case, with greater selectivity in terms of academic competence operating for the country boys.

Some light may be thrown on the reasons for differential participation rates by examining the student's own estimate of importance attached to the different organizations on the campus. Thus, after looking at the long list of on-campus organizations to inventory membership and participation, each student was asked to indicate (1) which organization he thought was most important, (2) the one he felt the closest to, and (3) the one in which most of his friends were. We are concerned here primarily with responses to the first question.

In assigning meaning to the frequency of mentions of importance within categories, it is necessary to recognize that each category is composed of a number of organizations in which only a few students participated. The aggregate percentages are thus the sum of most importance ratings assigned within each. This fragmentation was particularly large in the academic category where at least 16 organizations were involved, no one of which received as many as 5 percent of the total "most important" mentions. Thus, the 26.9 percent who rated academic organizations as most important is this kind of an aggregate (See Fig. 12). Collectively 27.6 percent of the students mentioned social organizations, thus placing their group at the top of the list. However, if the 11.0 percent who mentioned honorary organizations are added to the 26.9 percent who mentioned academic as they logically may be, organizations most central to the academic function of the college take a substantial lead in importance ratings assigned. About 16.0 percent gave no response to this question and mentions of other groups were so diverse that no further classification seemed warranted.

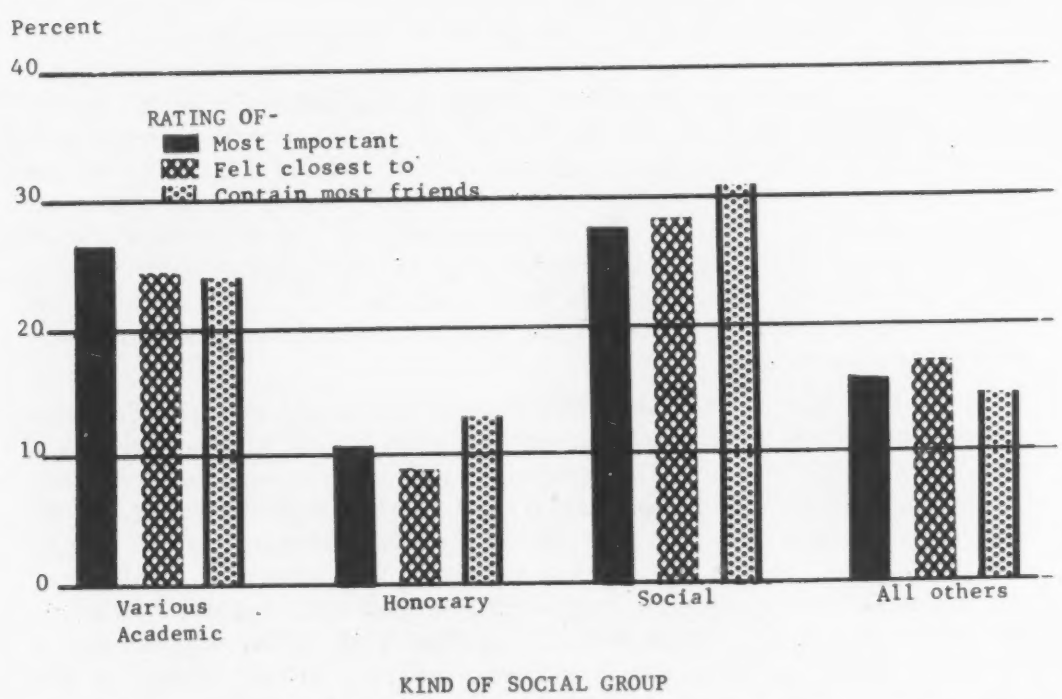

FIG. 12 - Proportions of country and town-city students in College of Agriculture student panel who rated different types of organizations highest for three specified reasons.

Responses to the question asking students to indicate the group to which they felt closest very closely paralleled their "most important" ratings except for a somewhat smaller percent indicating that they felt close to the honorary formal groups.

A final question in regard to participation in formal social groups relates to the manner in which such participation varied from the freshman to the senior years. Students were asked to indicate the number of organizations to which they belonged in each of the intervening years. The results are graphically presented in Fig. 13. The white bars indicate the percent not involved in any formal group participation in each of the years. It can accordingly be seen that the percent of country youth not participating in any formal group decreased up to the senior year after which the proportion increased slightly. For the town-city boys there was a tendency for no participation to plateau for the first three years and then to increase sharply in the fourth year.

Looking further at the other extreme, namely the percent of students who participated in four or more formal groups, there was a sharp increase from the freshman through the junior year and then a decline for country youth. For the town-city youth, the tendency was for membership in that number of organizations to start and end at a relatively low level with highest participation occuring in the intervening years. It seems that there was in inclination in both groups to withdraw somewhat from participation in formal social groups during the senior year, no doubt in deference to other things considered more important and necessary.

This observation was borne out by the students' own views, the town-city boys in particular, 66.7 percent of whom indicated that they thought they were less active in the formal organizations during their senior than their freshman year. Slightly over half of the country boys thought they were less active as seniors. The others felt that the reverse was true.

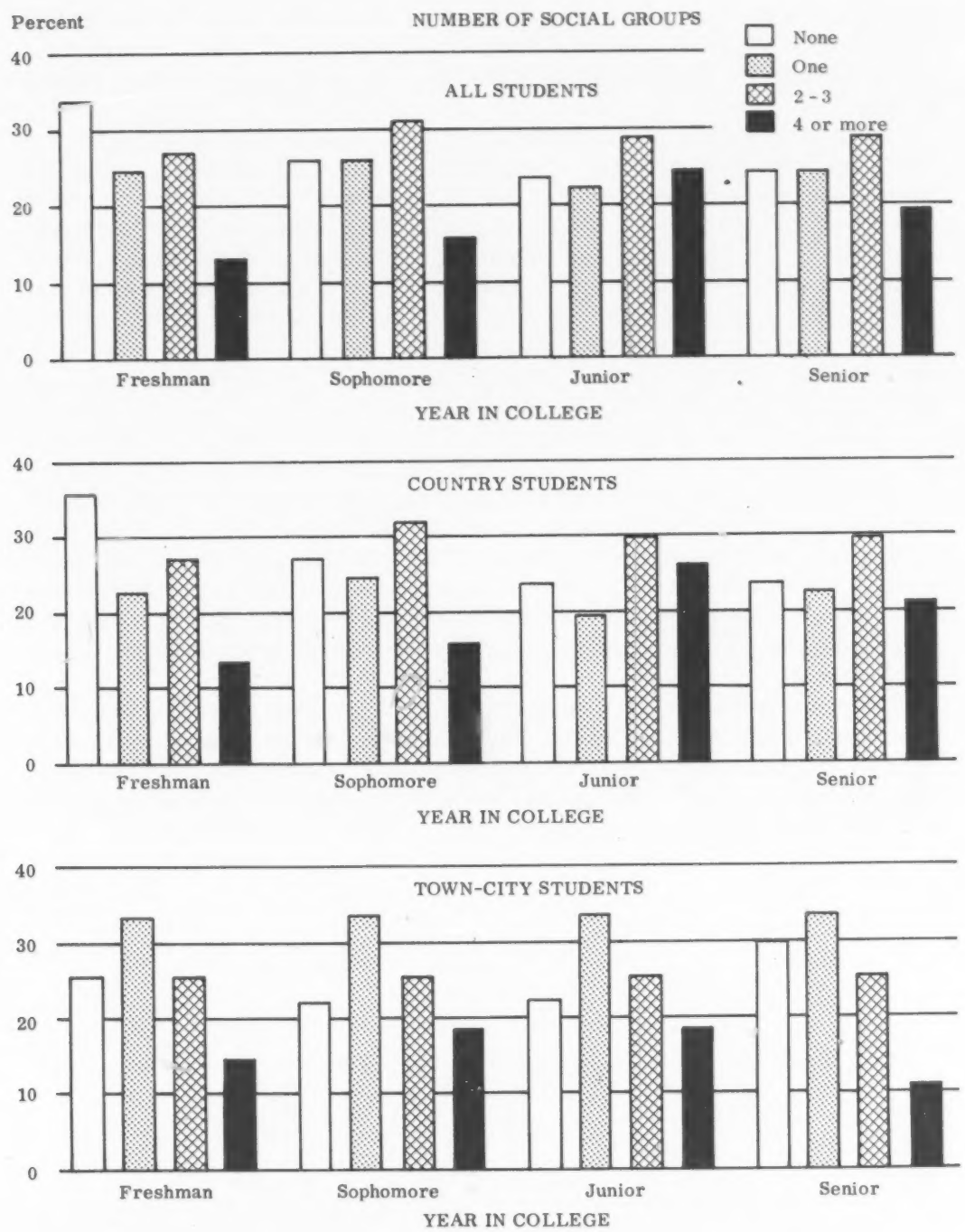

FIG. 13 - Percentages of country and town-city students in College of Agriculture student panel who took part in various numbers of groups during each year they attended college.

SOCIALIZING EFFECTS OF THE COLLEGE EXPERIENCE

Surely there must be many effects of a college campus experience on students. It would be presumptuous to think that such a study as this could make an assessment of their extent and nature; nor in the absence of adequate controls can it be said with certainty that the changes during the interim period were truly the result of the college experience. However, for the changes considered a casual or conditioning influence may be a fair assumption. There were (1) changes in perceived reasons for coming to college, (2) changes in majors, and (3) changes in occupational orientation including interests, idealized views of an occupation, and the vocational choices made. These are examined and discussed in order in the pages which follow.

Changes in Reasons for Coming to College

The reasons why 1964 Freshmen entered various colleges in the University was the subject of another publication (Lionberger, Gregory and Chang, 1967). This study, which included an original random sample of 100 College of Agriculture students who were also a part of the present study, showed a very heavy orientation to occupational considerations both as a means of self expression and for security, money, and retirement considerations as reasons for coming to college. These students also expressed a strong secondary interest in the broader aspects of a college education. It was expected that this orientation which was characteristic of the 1964 freshmen students generally would recede and that other reasons would emerge as more important.

Two approaches were used to test this general hypothesis; one was to ask the 85 students from the 1964 freshman class who did not originally do a Q-sort of 64 reasons for coming to college to estimate whether they regarded each of 10 reasons as being much less or much more, a little less or a little more important now than when they came to the University in 1964 (a neutral "about the same" category was also allowed). The response items selected closely paralleled those that were originally rated high in 1964 by the Q-sort sample of students.

Sixty of the 100 who originally did the Q-sort of reasons for coming to the University were still in school on the Columbia campus in 1968. The 1964 Q-sort required the arrangement of 64 reasons on an importance-unimportance category range with a few items permitted at each extreme and progressively more in the direction of the middle neutral range. The 60 students were asked to do a partial Q-sort of 19 items originally rated highest in 1964. The one exception was "the social aspects of college are really more important than the grade I receive" which was originally rated much lower than the other 18 items. It was included to get some ideas of a possible tendency to become more favorable to the social associational reasons for attending college.

The 1968 procedure was to ask students to rate two of the 19 as most important reasons for getting a college education, three in the next most important position, four in the next and finally to indicate which four of the 10 remaining reasons they would regard as least important as they saw the situation now. The scores assigned by the raters were aligned with the original Q-sort scaling and

averaged to provide comparable scores for the two years. To be sure, this presented only an approximation of changes in views held about a college education but it did require rating of the reasons in the context of other considerations, and thus a basis for rating each in importance in relation to others as in the original Q-sort; this procedure, we shall see, demonstrated its special utility in assessing relative changes in views.

Looking first at the estimate of changes in views over the four years by the 85 students, it will be seen in Table 2 that there was a strong inclination to attach increased importance to all reasons for coming to college, all of which were originally rated high also. However, assessment of changes was with reference to each reason, one at a time, a now and then comparison as seen now (1968). The reader will readily detect from Table 2 that it was the occupational and status achievement related reasons that experienced the greatest and most prevalent increase in estimates of importance. The reason clearly in the lead was "providing a secure future for myself and family" with "being able to get a good job" next. "Satisfaction that I can get from actually doing my work" followed in rank order. The importance attached to getting a well-rounded education and life adjustment items "making contacts with important people" and "learning about world affairs" were also upgraded quite consistently but mostly in the "little more now" category.

The town-city boys were quite distinctly more prone to upgrade the occupational reasons for coming to college than the country boys and except for getting a well-rounded education were not much inclined to attach increased importance to other reasons for getting a college education.

On the basis of these findings one could be inclined to conclude that among those considered, the occupationally related ones were upgraded much more than the others, a finding distinctly contrary to expectations. As a student is exposed to a diversity of ideas and views on the college campus as required in the first two years in the College of Agriculture, none of the occupational reasons would be expected to escalate. By comparison the occupational reasons might be expected to recede. Important reasons why this did not occur surely are (1) the impending necessity of finding employment after college and (2) some justification for self-denial in anticipation of the deferred benefits of a college education. Thus, the importance of both surely must have increased the salience of occupational considerations.

On the other hand, results from the Q-sort sample of statements given to students provided reason to question any assumption of increase in importance of occupational over reasons of a more general or social nature. At the same time the results suggested a limitation of Q-methodology for such an evaluation (Cronbach, 1953; Whiting, 1955).

Although procedural conditions in the partial Q-sort administered in 1968 might have resulted in a slight over-estimate of indicated increases in importance attached to reasons for coming to college, decreases in importance assigned to reasons would by the same rated token be an under-estimate. Thus, indicated downgrading of the originally highest occupational reasons would, if anything represent an under-estimate of change while upgrading of other reasons could be partly a function of the method. Subsequent observations will

TABLE 2--PERCENT OF STUDENTS NOT DOING Q-SORT CLASSIFIED BY PRIOR RESIDENCE AND INDICATED CHANGES IN IMPORTANCE ASSIGNED TO REASONS FOR COMING TO COLLEGE

PRIOR RESIDENCE Reasons for Coming to College	TOTAL %	Change in Importance Now Compared to Freshman Year: Much less %	A little less %	Couldn't say %	A little more %	Much more %	Not ascertained %
ALL STUDENTS (N=85)							
Occupational-Status Achievement							
Being able to get a good job	100.0	2.4	14.1	8.2	35.3	34.1	5.9
Providing a secure future for myself and family	100.0	0.0	9.4	8.2	29.4	48.3	4.7
Satisfaction I can get in actually doing my work	100.0	0.0	5.9	22.4	41.2	25.8	4.7
Making money	100.0	5.9	17.6	17.6	37.7	16.5	4.7
Moving up in the world	100.0	1.2	14.1	18.8	43.5	16.5	5.9
Humanitarian-Intellectual							
Getting a well-rounded education	100.0	1.2	4.7	11.8	48.2	29.4	4.7
Benefits others may receive from my college education	100.0	0.0	5.9	40.0	36.5	12.9	4.7
Learning for learning's sake	100.0	4.7	12.9	27.1	28.2	22.4	4.7
Life Adjustment							
Making contacts and friends with important people	100.0	1.2	7.1	24.6	40.0	22.4	4.7
Learning about world affairs (economic and social)	100.0	1.2	5.9	23.5	42.3	22.4	4.7
COUNTRY STUDENTS (N=73)							
Occupational-Status Achievement							
Being able to get a good job	100.0	2.7	15.1	6.8	37.1	31.5	6.8
Providing a secure future for myself and family	100.0	0.0	9.6	5.5	32.9	46.5	5.5
Satisfaction I can get in actually doing my work:	100.0	0.0	5.5	21.9	42.4	24.7	5.5
Making money	100.0	6.8	16.4	19.2	35.7	16.4	5.5

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TABLE 2--(Continued)
PERCENT OF STUDENTS NOT DOING Q-SORT CLASSIFIED BY PRIOR RESIDENCE AND INDICATED CHANGES IN IMPORTANCE ASSIGNED TO REASONS FOR COMING TO COLLEGE

PRIOR RESIDENCE	TOTAL	Change in Importance Now Compared to Freshman Year					
Reasons for Coming to College	%	Much less %	A little less %	Couldn't say %	A little more %	Much more %	Not ascer-tained %
ALL STUDENTS (N=85)							
Moving up in the world	100.0	1.4	16.4	17.8	42.5	15.1	6.8
Humanitarian-Intellectual							
Getting a well-rounded education	100.0	1.4	2.7	12.3	47.9	30.2	5.5
Benefits others may receive from my college education	100.0	0.0	5.5	39.7	35.6	13.7	5.5
Learning for learning's sake	100.0	2.7	13.7	26.0	28.8	23.3	5.5
Life Adjustment							
Making contacts and friends with important people	100.0	1.4	8.2	21.9	38.3	24.7	5.5
Learning about world affairs (economic and social)	100.0	0.0	5.5	23.3	43.8	21.9	5.5
TOWN-CITY STUDENTS (N=12)							
Occupational-Status Achievement							
Being able to get a good job	100.0	0.0	8.3	16.7	25.0	500.0	0.0
Providing a secure future for myself and family	100.0	0.0	8.3	25.0	8.3	58.4	0.0
Satisfaction I can get in actually doing my work	100.0	0.0	8.3	25.0	33.3	33.4	0.0
Making money	100.0	0.0	25.0	8.3	50.0	16.7	0.0
Moving up in the world	100.0	0.0	0.0	25.0	50.0	25.0	0.0
Humanitarian-Intellectual							
Getting a well-rounded education	100.0	0.0	16.7	8.3	50.0	25.0	0.0
Benefits others may receive from my college education	100.0	0.0	8.3	41.7	41.7	8.3	0.0
Learning for learning's sake	100.0	16.7	8.3	33.3	25.0	16.7	0.0
Life Adjustment							
Making contacts and friends with important people	100.0	0.0	0.0	41.7	50.0	8.3	0.0
Learning about world affairs (economic and social)	100.0	8.3	8.3	25.0	33.4	25.0	0.0

1302

recognize these limitations. Thus, it was clearly evident from Table 3 that several of the key occupational reasons did recede in importance in relation to others. These were:

I want my University work to relate closely to my vocational goal, i.e., to help me for my future career, and

It takes a college education to get a good job these days.

Actually these were the only reasons out of the total of 19 that showed appreciable decreases. The only other reason to show any decrease at all was the "knowledge is its own reward" idea for coming to college.

Somewhat more cautiously it is noted that reasons which increased most were first an upgrading of the job security reason, particularly by the town-city boys. This was consistent with the previously noted inclination for town-city boys to upgrade occupational reasons relatively more than those from the country over the four year period. However, on the average the two reasons showing distinctly the greatest increase were:

I feel I want to have a purpose in society and that the University will help me gain it, and

I felt that being here will make me a more complete and well-rounded person.

Relative increases for both were greater for country than for town-city boys and in both cases the 1968 ratings were higher for the former than the latter.

There was also a distinct inclination to favor the social aspects of a college education more in 1968 than in 1964 as indicated by an increased emphasis placed on the following:

The social aspects of college are really more important than the grades I receive, and

It is an important part of my objective in coming to the University to learn to get along with other people.

Distinct increases were registered in these reasons by both residential groups.

Changes in Major

Students generally come to a university with limited knowledge about the availability of possible areas of academic specialization and with little appreciation of what many of them may offer. Thus, choice and change of a major is a type of change that would normally be expected as a part of the college experience, although in this case approximately three-fourths came with at least a tentative choice of a major in mind. A firm commitment to a particular major could and probably does minimize exposure to other academic alternatives despite the opportunity offered in the University for a broad coverage in other agriculturally related fields.

The distribution of majors into general categories in 1964 and 1968, as indicated on Table 4, shows that the general areas that gained the most students during the four year period were the social sciences and vocational agriculture. Agricultural production, agricultural sciences, and practicing professions showed smaller gains. The one field which showed a loss of students was veteri-

TABLE 3--IMPORTANCE RATING ASSIGNED DESIGNATED REASONS FOR COMING TO COLLEGE IN 1964 Q-SORT AND 1968 IMPROVISION BY COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY PRIOR RESIDENCE

REASONS FOR COMING TO COLLEGE	Prior Residence					
	All Students		Country		Town-City	
	1964 (average)* (N=60)	1968 (average) (N=60)	1964 (average) (N=45)	1968 (average) (N=45)	1964 (average) (N=15)	1968 (average) (N=15)
OCCUPATIONAL - STATUS ACHIEVEMENT						
You just can't get along without money these days. That's one thing I had in mind.	7.2	7.3	7.1	7.2	7.3	7.5
It takes a college education to get a job these days.	8.4	7.7	8.3	7.6	8.4	8.3
Above all what the University will do is provide me with a stable secure future.	7.6	7.8	7.7	7.7	7.5	8.1
I want my University work to relate closely to my vocational goal, i.e., to help me for my future career.	9.2	8.7	9.1	8.6	9.6	8.9
These days you have to look out for yourself. I thought getting a good education would be a good way to do it.	7.0	7.4	6.9	7.4	7.2	7.4
Everyone ought to try to move up in the world. You sure can't do this without a college education.	7.3	7.6	7.3	7.7	7.3	7.3
HUMANITARIAN - INTELLECTUAL						
I feel that I want to have a purpose in society and that the University will help me to gain it.	7.4	8.4	7.4	8.5	7.4	8.1
Somebody ought to be thinking about the other fellow these days. I want my life to count something for other people.	6.6	7.2	6.6	7.2	6.7	7.1
Knowledge is its own reward. That's mainly why I'm here.	7.6	7.4	7.6	7.4	7.6	7.5
I felt that being here will make me a more complete and well-rounded person.	7.7	8.6	7.8	8.7	7.4	8.1

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TABLE 3 (Continued)--IMPORTANCE RATING ASSIGNED DESIGNATED REASONS FOR COMING TO COLLEGE IN 1964 Q-SORT AND 1968 IMPROVISION BY COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY PRIOR RESIDENCE

REASONS FOR COMING TO COLLEGE	Prior Residence					
	All Students		Country		Town-City	
	1964 (average)* (N=60)	1968 (average) (N=60)	1964 (average) (N=45)	1968 (average) (N=45)	1964 (average) (N=15)	1968 (average) (N=15)
I'm not out to change the world or other people. I want to get along with them and get ahead.	7.3	7.5	7.3	7.5	7.3	7.6
I like the idea of being away from home at the University. I have to handle my own affairs and I like this.	6.8	7.4	6.5	7.3	7.4	7.4
UNIVERSITY QUALITIES AND OTHER						
The University has better professors than smaller colleges. I expect better training here.	7.6	7.8	7.6	8.0	7.6	7.2
The University has a high academic reputation; that's why I came here.	7.1	7.6	7.0	7.6	7.3	7.3
My parents (or brothers and sisters) encouraged me to come and did what they could to help me.	7.5	7.6	7.7	7.6	6.8	7.7
I thought college life would be a new and exciting experience.	6.8	7.0	6.6	7.0	7.3	7.1
LIFE ADJUSTMENT						
College allows you to gain more independence without being thrown completely on your own.	6.8	7.3	6.7	7.2	6.8	7.5
The social aspects of college are really more important than the grades I receive.	6.1	6.8	6.0	6.7	6.1	7.1
It is an important part of my objective in coming to the University to learn to get along with other people.	7.3	8.0	7.3	8.0	7.3	7.9

*Possible range for averages is 1-11.

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TABLE 4--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY PRIOR RESIDENCE AND BY AREA OF ACADEMIC MAJOR IN 1964 AND 1968

AREA OF ACADEMIC MAJOR	Prior Residence					
	All students % (N = 145)		Country students % (N = 118)		Town-City students % (N = 27)	
	1964	1968	1964	1968	1964	1968
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Agricultural products	24.1	28.4	25.5	33.1	18.5	7.4
Agricultural sciences	2.1	3.4	.8	3.4	7.4	3.7
Social sciences	6.9	26.2	7.6	24.6	3.7	33.3
Veterinary medicine	26.9	12.4	18.6	9.3	63.0	25.9
Vocational agriculture	8.3	17.2	9.3	18.6	3.7	11.1
Other practicing profession	7.6	12.4	9.3	11.0	0.0	18.6
No decision	24.1	0.0	28.9	0.0	3.7	0.0

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nary medicine, the proportion selecting it in 1968 being less than one-half that of 1964.

About two-thirds expressed satisfaction with their present majors and slightly over one-fifth thought that maybe they would be satisfied. This was in contrast to approximately 12 percent who indicated that they were not satisfied. In order to get some assessment of reasons and/or influences which operated in decisions about the choice of a major, each student was asked to indicate how important they regarded each of 12 specified reasons or influences on a four category gradient plus an additional request to indicate which of the 12 they regarded as most and second most important. Thus, a six point importance scale for each of the items was provided. These reasons could be regarded as falling generally into three categories, namely (1) pre-college, (2) direct effects of the college experience, and (3) maturation considerations.

Choice of a college major is one of the important decisions that a student has to make, one that has considerable consequences on the way he will be spending his time for many years to come. Thus, it would be hoped that these decisions would be based on a careful assessment of interests, attitudes and needs; circumstances clearly relevant to one's own personal situation; and the projected consequences of the anticipated course of action to self and significant others; and on the contrary, that the influence of peers and perhaps even parents and teachers would be incidental.

Ideally counselors should perform their role in such a way that students understand their interests, attitudes, and needs in relation to their own goals, and projected consequences of alternative courses of action. With this effectively done, a student should have little feeling of recognition and influence of counselors or personal referents.

The manner in which the students assigned the importance ratings to the various influences enumerated in Figure 13 suggests that content and consequence considerations were central and that people may have been helpers at best. It will be seen from Fig. 14 that the item or influence getting by far the most "most importance" ratings was "own interests," itself the product of maturation. The "ability to do good work in the field," was second. What the student alleged he had learned before coming to the University was also rated quite high as a decisional influence.

If we turn to the college experiences, it was again content or "content shapers" that were central; namely (1) college courses, and (2) what I learned after coming here.

Except in a relatively few cases (and ideally there should be many who didn't need help), college advisers and particularly the centrally located ones in the dean's office, were rated even lower, with friends being of almost no importance. Of those involving personal influence, parents headed the list, no doubt figuring more in the decisions of students who had already made up their minds when they came to college than those who had decided on a major after enrolling.

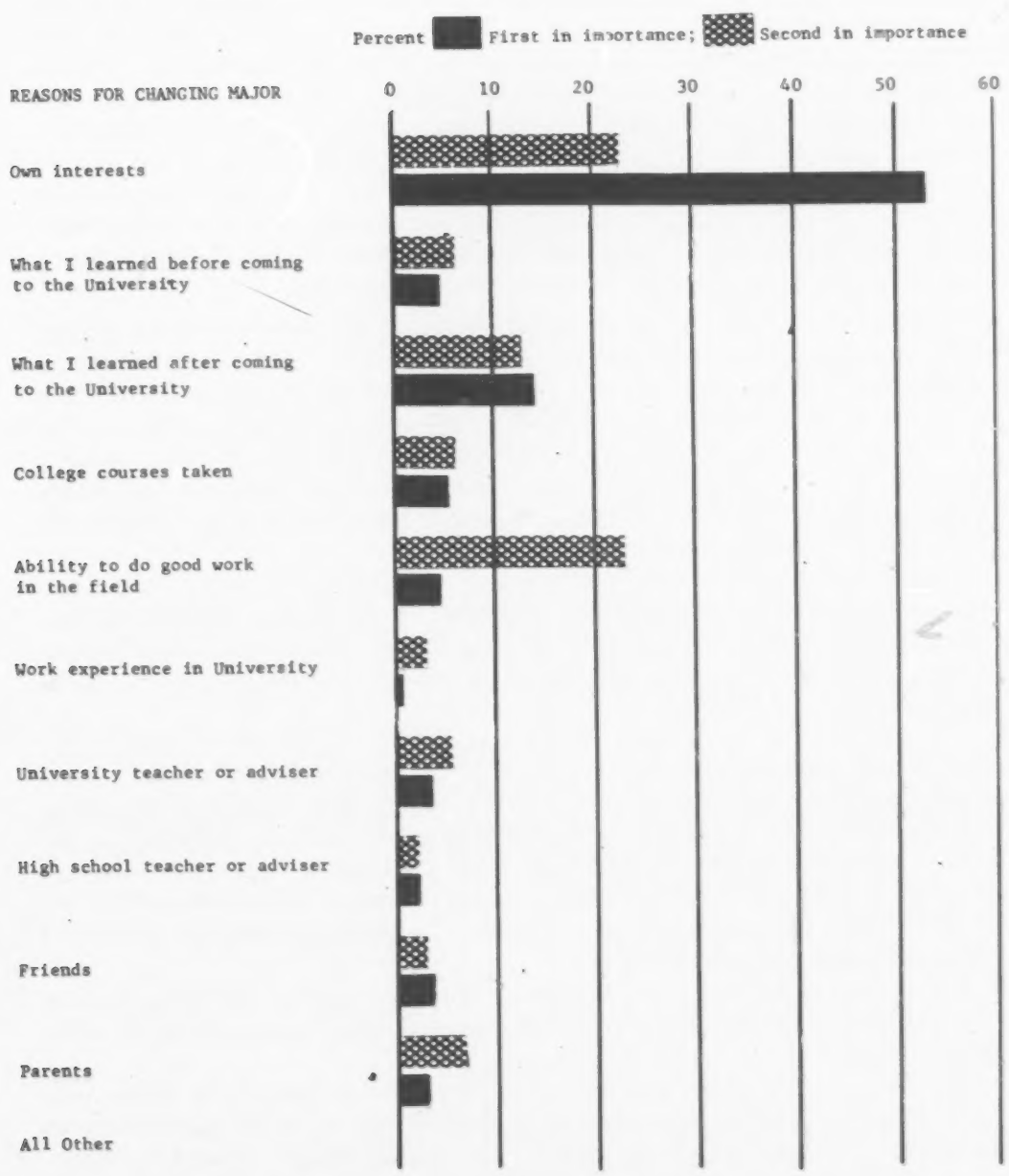

FIG. 14 - Proportions of students in College of Agriculture student panel who indicated designated reasons for choosing their academic major.

Thus, certainly what a student thought he had learned or knew rated well above persons as decision influencers, including counselors and teachers. This suggests a mature realism in arriving at decisions about majors. Any further pursuit of quality considerations would require more intimate knowledge of the influences and processes operating in student decisions judged in some kind of a rationality framework, all considerations quite beyond the scope of this study.

Changes in Occupational Orientations

With occupation as a prime reason for college attendance, it would seem likely that occupational matters would continue to be a major formative influence in shaping the college program while at the same time being influenced by the college experience itself; thus the choice of an occupation and occupational expectations. These areas of change plus a comprehensive look at the comparative characteristics, background, and college experiences of Changers, Non-changers, and Deciders (those who decided on an occupation after entering college) are examined in the section which follows.

The occupational choice. Occupational choice not being a matter for immediate concern for entering freshmen, choice may be expected to range from none at any level of generality to a choice of a specific job in a particular place with a particular person or company, e.g., back to the father's farm or business. The proportion having made a choice at any given point in time would thus be partly a function of the level of generality specified in the question asked. Questions were: "What was your career preference when you entered college?" and "What is your career preference now?" Students were also asked in 1968 what their career decisions were when they completed questionnaires in 1964 using comparable inquiries. It was upon the questions at this level of generality that students were classified as "decided and undecided" in 1964 and as Non-changers, Changers, and Deciders in 1968.

Thus, it was determined that 53.8 percent of the students had a general career preference area in mind when entering college as freshmen with the town-city group much higher than the country; 77.8 percent and 48.3 percent, respectively. From this it might be surmised that the prior experience and background of the former was much more conducive to a career area choice than the background of the country youth; an alternative hypothesis would be that the occupationally oriented students from the town-city environment disproportionately elected to enter the College of Agriculture.

We have already observed that having an occupational choice at this specified level of generality was not a factor in whether a student stayed in school or not, a finding somewhat at variance with the belief that a person ought to know what he is going to do "before going to college" or that he ought to "try to get a job" instead.

Over half of the country youth made an occupational choice while in college compared to 22.2 percent of the town-city. In marked contrast 37.0 percent of the latter and 21.2 percent of the former switched from one occupational area to another. Thus, three out of four of the farm boys and almost 60 percent of the

town-city either made up their minds after coming to the university or changed occupational areas at least once; some 16 percent of the farm and 18.5 percent of the town-city had changed their minds two or more times. Some changes were of such magnitude as to require a change from one departmental major to another. Only two country boys had given up their 1964 choice and had not decided on an occupation at the time they completed the questionnaires in 1968.

Some idea as to how occupational choice areas changed over the five year period may be obtained by observing the distribution of responses reported in Table 5. Thus, in the aggregate, students selected professions related to agriculture and those of a non-agricultural nature in greatest proportion in both years with an inclination to switch to the quite distinctly agricultural professions and away from the non-agricultural during the four years. Included in the former were such occupations as dairy manufacturing, dairy marketing, vocational agriculture teacher, agricultural journalism; in the latter, professions including lawyer, sociologist, psychologist, Air Force pilot, university teachers, and others.

It will be further noted that there was a considerable decrease in the proportion of students who expected to farm as they progressed through college. Perhaps the most marked change was the very distinct increase in the percent who expected to go into business and sales work. As might be expected, there was an inclination for the town-city youth to select professions peripherally related to agriculture in contrast to the open country students who were more inclined to choose the professions directly related to agriculture. Also as conditioned by both inclination and opportunity, the proportion of the country boys expecting to farm was much higher than the town-city.

Most changes in occupational choices during college were made during the sophomore or junior year, at a time when enough experience had accumulated to provide a substantially greater knowledge base than at the time of entry into college for arriving at an occupational decision but sufficiently early to permit taking the necessary course work to support the specialization choice (See Table 6). However, even with three-fourths of the country and 60 percent of the town-city boys either deciding on or changing an occupational choice area, plus roughly one out of six who changed two or more times over the four year period, nearly half said that they still would consider other alternatives or actually would prefer another occupational area than the one they had selected.

The inner direction of influence and the conditioning effect of the college experience was indicated by the distinct majority who said consideration of their own interests or abilities or college courses taken were influences that first started them to make their last change in occupational choice. Both personal influences (parents, friends, and teachers) and academic difficulties were mentioned by comparatively few as initial reasons for considering a change in occupational choice, thus again suggesting an inner direction and hopefully a considerable measure of rationality in arriving at occupational decisions.

Another question investigated was the perception of students about possible sources from which they could get information and advice in choosing an occupation. Gottlieb says this is likely to be a function of (1) how capable an individual thinks a source is to supply needed information and advice and (2)

TABLE 5--PERCENT OF COLLEGE OF AGRICULTURE PANEL OF STUDENTS INDICATING DESIGNATED CAREER PREFERENCES 1964-1968 CLASSIFIED BY PRIOR RESIDENCE

CAREER PREFERENCES	Total		Prior Residence			
			Country		Town-City	
	1964 % (N=145)	1968 % (N=145)	1964 % (N=118)	1968 % (N=118)	1964 % (N=27)	1968 % (N=27)
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
No preference stated	15.9	0.0	18.6	0.0	3.7	0.0
Professional agricultural	16.6	24.8	17.8	26.3	11.1	18.5
Professional non-agricultural	35.6	27.6	27.1	23.7	74.1	44.4
Business and sales	7.6	26.9	8.5	26.3	3.7	29.6
Farmer	24.3	18.6	28.0	21.2	7.4	7.4
Other	0.0	.7	0.0	.9	0.0	0.0
Unkown	0.0	1.4	0.0	1.7	0.0	0.0

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TABLE 6--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY TIME OF LAST CHANGE IN CAREER CHOICE AND PRIOR RESIDENCE

TIME OF LAST CAREER CHANGE OR DECISION	Total % (N=145)	Prior Residence: Country % (N=118)	Prior Residence: Town-City % (N=27)
TOTAL	100.0	100.0	100.0
Before college	38.7	38.1	40.8
Freshman year	9.0	9.3	7.4
Sophomore year	21.3	22.0	18.5
Junior year	18.6	18.7	18.5
Senior year	11.0	10.2	14.8
Time not determined	1.4	1.7	0.0

how willing he perceives the source to give this kind of assistance (Gottlieb, 1965). From the standpoint of perceived capability, university advisers and teachers stood very high on the list with someone on the job in a generally lower but still high position (See Fig. 15). Friends, wives, girl-friends, and fraternity brothers were seen as having very limited utility judging from the percentage who indicated that they regarded them as very capable.

The biggest discrepancy between perceived willingness and perceived capability was for wives and girl-friends who were seen as very high in willingness but low in capability. Parents were regarded as most often very willing to render assistance. Generally speaking, university teachers and advisers were seen as less willing than capable. The one exception was personnel in the dean's office who were seen as very capable and very willing by approximately 30.0 percent of the students. This placed them in a moderately important position on both counts, when compared to others who were willing and/or capable. Company representatives, like best friends, were more frequently seen as very willing than very capable, while the opposite was true for people on the job.

Country, town-city differences were most noted in a much higher percentage of the latter than the former regarding parents and people on the job as very capable of giving information and advice. Also in regard to willingness, many more of the town-city than the country students saw their parents and someone on the job as being very willing to render help in occupational decisions.

Idealized view of an occupation. A second kind of occupationally related consequence of a college education considered in this study was what we refer to as idealized view of an occupation or more specifically what the boys were inclined to emphasize as being of high order importance in an occupation which they would choose for themselves. Four views were abstracted from a six point range of importance assigned to a list of 23 occupational attributes by high school seniors in a recent Missouri study (Gregory and Lionberger, 1968). These were materialistic-doer, extrinsic reward, management-creativity, and personality fulfillment. The last were very closely related and may be regarded

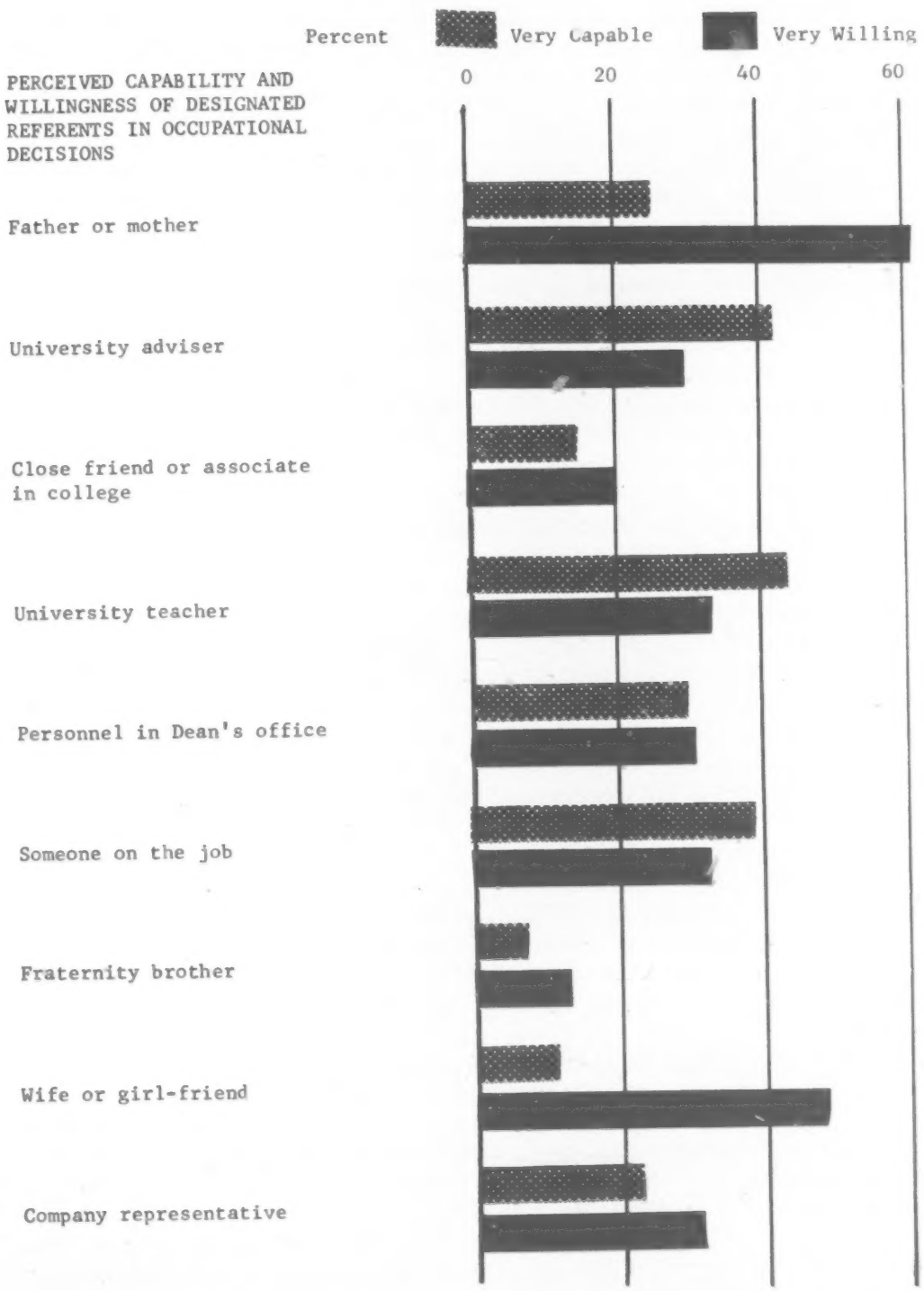

FIG. 15 - Proportions of students in College of Agriculture student panel who perceived different referents as "very capable" or "very willing" to help in occupational decisions.

merely as part of a more comprehensive view referred to as intrinsic reward. This carries the connotation that occupation is seen as a means of self-expression and satisfaction to be derived from participating in the occupational activity itself. Eighteen near identical attributes were used to define these views among the college students, as follows:

1. Materialistic-Doer—work requiring much physical activity, work out-of-doors, working with things, work involving much use of tools and machines.
2. Management-Creativity—work that requires managing of and responsibility for people, work that requires management and responsibility for money, people with whom one would associate, selling ideas or things, working with people, work that requires considerable thought and development of ideas.
3. Extrinsic Reward—good retirement plan, good beginning pay, chance for advancement, being able to keep the job as long as desired, jobs available in the field.
4. Personality Fulfillment—service to humanity, how interests and abilities fit in, how important people feel the occupation is, people with whom one would associate.

It will be observed from Fig. 16 that the two most dominant views in 1964 were extrinsic reward, mainly concerned with what an occupation can offer in terms of pay, security, and a good retirement plan, and personality fulfillment, concerned with how one's own interests and abilities fit in and the people with whom one would be associated. It will be seen that the first mentioned view remained about constant over the four year period except for a slight decrease for the town-city boys. On the other hand, the personality fulfillment view increased appreciably for the country boys and the management-creativity view for both. The latter emphasized work requiring responsibility for people and or money and thought about new ideas.

The materialistic-doer view, elsewhere shown to be more prevalent among agriculture college students than other freshmen students in the university (Gregory and Lindberger, 1967), decreased very considerably and was more prevalent in both years in the thinking of country than town-city boys. This view emphasized physical activity, working with things over people, and working out of doors.

Thus, the college experience was associated with and presumably was instrumental in causing more importance to be attached to the qualities of an occupation that permit a person to derive satisfaction by participation in the work activity itself; this notwithstanding the continued relatively high rating of good beginning pay, security, and retirement which compose the extrinsic reward view of an occupation.

Interests. One of the ingredients in successful adjustment to an occupation is interest, itself a product of maturation processes occurring in all developmental experiences. In order to assess the extent and nature of interest changes, all Freshmen were administered the Strong Vocational Interest Blank (SVIB) in 1964; 114 were again given the inventory in 1968. Examination of the nature

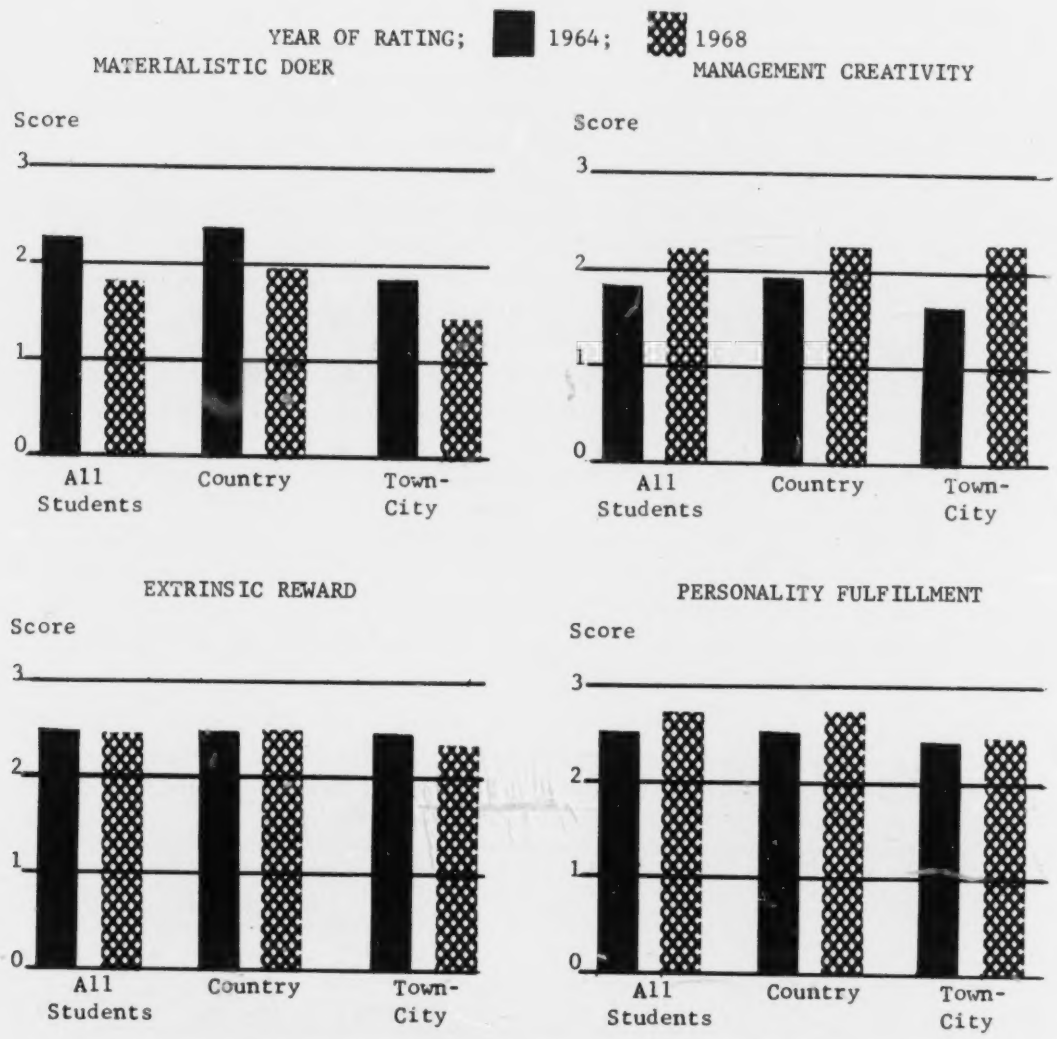

FIG. 16 - Idealized view of-occupation scores of country and town-city students in College of Agriculture student panel.

and distribution of the cases lost in the test—retest situation, observed from the standpoint of departmental majors and original interest patterns, gave no reason to believe that those omitted were appreciably different from those who took the inventory both times. Scoring for specific occupations was done on a basis regarded as comparable for the two years despite changes made in the item content of the inventory during the interim period.[4]

4 The 1964 SVIB profile sheets were re-scored by the Center for Interest Measurement Research, Minneapolis, Minnesota, reflecting changed item weights of the revised SVIB and making possible direct comparisons between 1964 and 1968 profile sheets.

Norms for inventory scores were stated in terms of a zero to 65 scale in relation to the interests possessed by those successfully employed in the respective occupations. Occupational scale scores in the range designated as B+ or A in the inventory were regarded as being of sufficient magnitude to permit successful adjustment to the occupation insofar as interests were concerned.

Processes of interest formation involve both development and stabilization of interests, the former and perhaps the latter being dependent on diverse and meaningful experiences in relation to the occupational world. In terms of prior residence, the town-city environment might seem to be more conducive to the development of occupational interests. Although this seemed evident, since substantially more of the town-city students had made an occupational choice at college entry, in the matter of measured interests on the SVIB the differences were very small in the mean number of high ranking scales held by each of these prior residence groups; country students had only slightly more A and B+ scales than town-city youth. Also a few more of the latter had no primary interest patterns.

As will be noted later, having a vocational decision seemed to have a stronger relationship to more highly developed and differentiated interests than did prior residence per se. However, somewhat greater stability in the town-city group was suggested by the distinctly larger percent showing no change in the number of A and B areas (See Table 7).

TABLE 7--PERCENT OF COLLEGE OR AGRICULTURE STUDENT PANEL CLASSIFIED BY PRIOR RESIDENCE AND CHANGE IN NUMBER OF B+ AND A SCALES ON SVIB 1964-68

CHANGE IN NUMBER OF B+ AND A INTEREST SCALES ON SVIB 1964-68	TOTAL % (N=114)	Prior Residence: Country % (N=94)	Prior Residence: Town-City % (N=20)
	100.0	100.0	100.0
TOTAL			
Increased 6 or more	9.6	8.5	15.0
4-6 more	13.2	14.9	5.0
1-3 more	25.4	26.6	20.0
No change	9.6	7.5	20.0
Decreased 1-3	31.6	32.9	25.0
4-6 fewer	8.8	7.5	15.0
More than 6 fewer	1.8	2.1	0.0
Unknown	0.0	0.0	0.0

As maturation continues it would be hoped that congruity of occupational choice and occupational interests would increase. Approximately 63 percent of the students who expressed an occupational choice in 1964 showed a drop in

rank order of the scale (or scales) corresponding to this choice, a proportion somewhat larger than expected, since only one-half of these changed choices.

Even with choice duplications retained for 27 percent of the entire panel, the rank order salience of occupational interests did improve in regard to the 1968 choice in comparison to the 1964, but certainly not to the extent that may be anticipated. Actually the percent experiencing a rank order increase in occupational interest salience in the 1968 choice was 42.1, a little less than the 43.8 percent who experienced a decline in the rank order measured interest for the 1968 occupational choice. The relationship of measured interest to occupational choice will be a consideration in a later section.

Specific occupational interest areas were distributed over approximately 30 occupations in 1964 with percents exceeding 10 in only two cases, namely, 12.3 for veterinarian and 40.1 for the occupation of farming. Both decreased appreciably in first order importance by 1968 with primary interest patterns in these occupational areas indicated in only 6.1 percent and 19.3 percent of the cases, respectively, Thus, the college experience seemed to dampen the interests which students had in common with those engaged in these two occupations.

Thinking in terms of broader categories, it may be seen from Table 8 that the technical supervision along with business and accounting areas were big gainers in the development of primary interest patterns, with social services and sales next highest. The technical and skilled trades area showed the greatest loss; aesthetic-cultural, small to begin with, was a moderate loser. Interest in the science oriented occupations as indicated by the percentage of primary interest patterns in these areas decreased from 16.2 percent in 1964 to only 12.1 percent in 1968.

CHANGES IN OCCUPATIONAL ORIENTATIONS AND COMMITMENTS

Priority of Occupational Choice

Of all changes occurring in students throughout the college experience those related to occupational choice and commitment were a prime concern and were accordingly singled out for special treatment in this study. Research has repeatedly shown that occupational objectives are the primary concern of most freshman students for getting a college education. In this society, all youth are expected to choose an occupation that they expect to pursue, and for college students certainly by the time of the senior year if not by the time of entry. Occupation is a central consideration in one's concept of self, one's own self-esteem, and is a key determinant of an individual's socio-economic status and life chances. With a college education providing the only means of access to some of the cherished goals set by self, it would hardly seem that any reasonably rational student could ignore the fundamental truths or the consequences of the occupational choice.

Within this choice context there is still much room for variation in idealized views held of an occupation, what one would hope to derive from the occupational experience itself, and from the extrinsic benefits of such employment. With decisions about an occupation essentially a developmental process begin-

ning in very early childhood and perhaps ending only with death, a vast gamut of considerations are necessary to explain the status of a choice and views at any given point in time. For this, consideration must be given to both background and college experience of which only selected aspects can be considered in this study, all of which must be thought of in an interactional framework. Thus, what a person is or thinks at any given point in time is a product of the combined influence of original nature and experiences to that point in time with self quite circumscribed as a selecting agent in the experiences to which he may be exposed (Robbins, 1953). Background factors which have quite consistently been associated are town-country residence and the general cultural area from which a person comes plus, of course, many family factors. For this reason students were divided into open country and town-city groups and the social area of prior residence. These, as well as such factors as socio-economic status of the parents, their psychological and financial support of the student in college attendance, and the student's birth order in the family were selected as appropriate independent variables. With possible jobs from which to choose numbering in the thousands and occupational areas easily within the hundreds, it could hardly be expected that a student by college age could be very well acquainted with the fields of possible choice or that interest patterns would be very well stabilized.

The college experience with all it offers would surely be expected to contribute to the maturation-developmental process in regard to the work world. Knowledge of what is possible, what an occupation can provide through actual participation in the work activity, and interests centering around an occupation all can be expected to change. All of these plus certain views about the value of a college education can be expected to operate as intervening variables in what a student finally decides to do occupationally. In a real sense, changes are likely to be the product of the college experience in the broadest sense, particularly since the college experience is the central focus and prime regulator of life activities of the student during the college years. To be sure other influences cannot be ruled out but the college experience is likely to be central.

In addition to the effects of college on intervening influences, there are those of a more direct nature. These include courses taken while in college, interaction with teachers and counselors, selective association with peers under a variety of circumstances, and work experiences while in college. All of these have been included in the interactional milieu considered as an explanation of how students progress through thought processes in arriving at occupational choices and commitments.

The Occupational Choice

Occupational choice or commitment at any given point in time ranges from inclinations slightly favoring one alternative over known others to a firm belief that the occupational choice is the one best for self, coupled with varying degrees of intent to follow the chosen occupational alternative. Choices and commitment with supporting interest and idealized views develop and change with time and experience. Truly this is all a part of the maturation-socializing proc-

TABLE 8--PERCENT OF PRIMARY INTEREST PATTERNS FOR COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY PRIOR RESIDENCE AND BY OCCUPATIONAL GROUPING ON SVIB

		Prior Residence				
	All students		Country students		Town-City students	
TOTAL						
	100.0	100.0	100.0	100.0	100.0	100.0
Biological science	13.1	10.0	11.8	9.4	20.0	13.0
Physical sciences	3.1	2.1	2.7	2.6	5.0	0.0
Technical supervision	9.2	15.0	9.1	14.5	10.0	17.4
Technical and skilled trades	32.4	17.1	34.6	17.9	20.0	13.0
Social service	2.3	6.4	2.7	6.0	0.0	8.8
Aesthetic-cultural	9.2	5.7	6.4	5.1	25.0	8.8
Business and accounting	12.3	17.9	13.6	18.9	5.0	13.0
Sales	13.8	17.9	14.6	17.1	10.0	21.7
Verbal-linguistic	4.6	7.9	4.5	8.5	5.0	4.3

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esses of life in a society where individual choice is expected and indeed required of those who want to be regarded as normal functioning members of the society.

Needless to say, the kind of response and the proportion giving affirmative answers to any occupational choice questions are partially a function of the way the question is asked. In this case, students were questioned as freshmen and again four years later. Responses were regarded as comparable bases upon which to make comparisons of the status of occupational choice at the two points in time, quite obviously relating to occupational areas, not particular positions chosen. The choice of an actual position was not at issue, certainly for the freshmen students, and in most cases likewise for the students interviewed four years later. It is upon this basis that students were divided into Non-changers, Changers, and Deciders for analytical purposes in this section.

The rationale in the use of such a division was that the decisional processes involved in each case were the product of identifiable differences in the background and the experiences of the student while in college. For those who came decided and left with the same decision one would expect a heavy conditioning influence of experience prior to college attendance and essentially reinforcement of a position already taken while in college. For Changers, all of whom came with an original choice which they later changed, the college experience surely operated in a different manner; and finally those who came undecided but ended with an occupational choice necessarily responded differently to the college experience than the other two groups. These in essence are general hypotheses upon which subsequent analyses reported in this bulletin are based.

On the basis of questions asked about the occupational choices at two points in time, it was found in 1968 that 26.9 percent of the 1964 freshmen still in college at the University of Missouri came with occupational choices which they did not change over the interim period; 26.9 percent did change their original choice; and the remaining 46.2 percent made up their minds at least tentatively at some time during their four years at the university. The proportions choosing specific kinds of occupations are indicated in Table 9.

Areas which showed the greatest gains in proportion of choices were social service, sales, business, and social sciences, in that order. Farming showed somewhat of a more moderate gain despite a decline in the measured sciences supporting interests. Only the general professions, which included occupations such as lawyer, journalist, college professor, veterinarian, entomologist, and others, showed a loss. This occurred in spite of the fact that almost 12 percent of the Deciders chose the general professions. The loss was due to changes in occupational choices made by the Changers.

It was expected that most of the decisions and changes in choice would occur before the end of the sophomore year. This was true to a certain extent, but there were more decisions during the junior and senior years than expected (Table 10). By the end of the sophomore year 38.5 percent of the Changers had already made their change; 23.1 percent did not do so until after the junior year. Choices made by Deciders were distributed throughout the four years.

Decisions seemed to be made essentially on such quality content considerations as course work, interests, abilities, attitude change, and employment expe-

TABLE 9--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY NATURE OF OCCUPATIONAL CHOICE 1964-68

NATURE OF OCCUPATIONAL CHOICE	Status of Occupational Choice (1964-68)							
	All students % (N = 145)		Non-changers % (N = 39)		Changers % (N = 39)		Deciders % (N = 67)	
1964-68	1964	1968	1964	1968	1964	1968	1964	1968
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Undecided yet	46.2	1.4	0.0	0.0	0.0	5.1	100.0	0.0
General professional	27.5	26.1	46.2	46.2	56.4	30.8	0.0	11.9
Biological sciences	1.4	2.1	0.0	0.0	5.1	0.0	0.0	4.5
Physical sciences	0.0	1.4	0.0	0.0	0.0	2.6	0.0	1.5
Social sciences	0.7	8.3	0.0	0.0	2.6	5.1	0.0	14.9
Social service	7.6	19.3	20.5	20.5	7.7	15.4	0.0	20.9
Business	2.1	11.0	5.1	5.1	2.6	15.4	0.0	11.9
Sales	0.0	9.7	0.0	0.0	0.0	17.9	0.0	10.5
Farming	14.5	19.3	28.2	28.2	25.6	7.7	0.0	20.9
Other	0.0	1.4	0.0	0.0	0.0	0.0	0.0	3.0

TABLE 10--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY TIME OF MOST RECENT CHANGE OR DECISION OF OCCUPATION

TIME OF MOST RECENT CHANGE OR DECISION OF OCCUPATION	Status of Occupational Choice 1964-68)			
	Total % (N = 128)	Non-changers % (N = 39)	Changers % (N = 39)	Deciders % (N = 50)*
TOTAL	100.0	100.0	100.0	100.0
Freshman year	7.0	2.6	7.7	10.0
Sophomore year	23.4	2.6	30.7	34.0
Junior year	20.3	0.0	25.6	32.0
Senior year	17.2	5.2	23.1	22.0
Not ascertained	1.6	0.0	2.6	2.0
Not applicable or unknown	30.5	89.6	10.3	0.0

*Number from whom usable responses were obtained.

rience. Personal influence of friends, family, and teachers was infrequently mentioned (Table 11). This suggests that these decisions were part of a maturation process where in developing personal capabilities, interests, and new experiences and attitudes provided the basis upon which choices were made, all likely a part of the college socialization experience to which they were exposed.

Non-changers were expected to express more satisfaction with their choices, having retained them over a longer period of time. This was the case, as 71.8 percent stated they preferred their choices to all others. Changers and Deciders, who decided later, displayed somewhat more ambivalence; 48.7 percent and 49.3 percent, respectively, indicated they would consider other alternatives, but only about seven percent of each thought they would actually prefer some other occupation.

A somewhat stronger satisfaction with choices may be inferred upon examining jobs which graduates accepted. Although the proportion who took jobs was much smaller than expected, considerable congruity between jobs taken and 1968 expressed choices was observed. Almost 91 percent of the Non-changers who accepted jobs did so in the precise field they had chosen. Proportions for Changers and Deciders were 70 percent and 76.2 percent, respectively.

TABLE 11--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL WHO CHANGED VOCATIONAL PLANS CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY INFLUENCE FIRST PRECIPITATING MOST RECENT CHANGE OF VOCATIONAL PLANS

INFLUENCE FIRST PRECIPITATING MOST RECENT CHANGE OF VOCATIONAL PLANS	Status of Occupational Choice (1964-68)		
	Total % (N = 106)	Changers % (N = 39)	Deciders % (N = 67)
TOTAL	100.0	100.0	100.0
Not applicable	21.7	10.3	28.3
Friends - personal	1.9	2.6	1.5
Persons in the field	2.8	0.0	4.5
Family relationships	0.9	2.6	0.0
Teacher(s) or adviser(s)	0.9	0.0	1.5
Course work	17.0	25.5	11.9
Academic difficulties	8.5	12.8	6.0
Interests, abilities and attitude change	20.8	15.4	23.9
Employment on job; experience	6.6	12.8	3.0
Knowledge of job opportunities	3.8	2.6	4.5
Not ascertained	4.7	7.7	11.9
Other	10.4	7.7	3.0

The Influence of Background Factors.

These are what the student experienced before coming to college and as indicated are by no means all-inclusive. The background factors included in this study, as has been seen, are open country—town-city and social areas of residence plus selected family background factors. Analyses are actually confined to testing of relationships between choice or no choice of an occupation by the freshmen year and each of the factors, always with town-country residents controlled. For it is on this factor and on relevant intervening variables that most differences in choice tended to occur. Although association of the variables actually tell us nothing as to cause, the authors are inclined to assume influence on the basis of knowledge of how socializing processes operate in shaping the lives of individuals.

Place of residence. Opportunity for exposure to knowledge about different work roles is surely greater in the urban than the farm open country environment; also some farm boys have an opportunity and actually do weigh the alternatives and perhaps are encouraged to do so by the parents. So long as this continues as an alternative, a farm boy may continue to be in a state of relative indecision. With both factors considered it was expected that more town-city than open country youth would have made at least a tentative occupational choice by the time they had entered college; thus it was that 77.8 percent and 48.3 percent respectively had made a tentative choice. It was further expected that the town-country youth would also be slightly more likely than the country youth to retain the original choice throughout the college experience; although the difference was small, this expectation was borne out by the data.

Rural social area differences were evident in that students from Areas D and E (the Ozarks region and Southeast Missouri) were most often in the group undecided about a vocation when they entered college. A good many more than average of the Non-changers came from the western areas of the state, social areas AB_1 and AB_4. It will be remembered that a majority of these students chose farming or veterinary medicine.

Family Factors. There was a marked tendency for oldest children to retain somewhat more tenaciously their original occupational choices. In addition there were some differences in the psychological and actual financial support accorded by parents, also in the degree to which parents became involved in encouraging activity on the part of their sons which might be expected to enhance the prospects of college entry and success.

Students were asked to rate the importance which they thought their parents attached to a college education. Large proportions of all three groups perceived great support from parents in this area. However, larger proportions of Non-changers than others thought parents considered a college education "the most important thing after high school." More Changers and Deciders thought parents considered this "important, but not really necessary."

Compared with other referents who were perceived to support students in college plans, parents rated considerably higher than any other, except that Non-changers felt highly encouraged by teachers. Siblings rated lower than counselors, friends, and teachers.

Parental economic assistance was expected by a majority of all students. Fewer Deciders expected parents to pay all of their expenses and somewhat more of them expected no financial help. However, approximately two-thirds of all groups expected parents to pay most or some of their college expenses; slightly more Non-changers expected parents to pay all.

Socio-economic Status of Parents. Three measures were used in comparing family socio-economic status and income variables; namely, occupation of the chief wage earner, estimated farm income for the farming contingent of the sample, and the North-Hatt Scale rating of the chief wage earner's occupation. Since opportunities for maturation and enhancement of the socialization processes are ordinarily greater at the higher socio-economic levels than at the lower, it may be expected that the more favorable life chances might also be reflected in earlier occupational decisions and firmer commitment on the part of the students coming from the more economically advantaged homes. For the farm groups as a whole this was true when the respondents' estimates of relative farm income in their own communities were used as the measure (See Table 12).

TABLE 12--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY PRIOR FARM INCOME

PRIOR FARM INCOME	Total % (N=145)	Status of Occupational Choice (1964-68) Non-changers % (N=39)	Changers % (N=39)	Deciders % (N=67)
TOTAL	100.0	100.0	100.0	100.0
Above average	38.6	43.6	28.2	41.8
Average	29.0	18.0	35.9	31.3
Below average	9.0	5.1	5.1	13.5
Not farming	23.4	33.3	30.8	13.4

Thus it was that the Deciders more often showed farm incomes below average and Non-changers more frequently than others were from families of above average estimated income. Again, on the basis of the North-Hatt ratings of occupational prestige the situation was much the same (See Table 13). However, in relation to specific occupation it would appear that the incidence of indecision rates was higher among farmers than other groups particularly the professional, business, and proprietor groups.

The Decisional Process. Although choice of an occupational area and college attendance as a means of occupational fulfillment, where this is a requirement, involves an extended process or perhaps sub-processes (i.e., a series of influences and events operating through time), this sequence cannot be assessed with accuracy in this study. Nevertheless, some elements of process were considered; first of all, time of decision. Although there was little evidence to indicate that decision on an occupational area prior to college entry enhanced the possibility of continuing in college for the four years or until graduation, Non-

TABLE 13--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY SOCIO-ECONOMIC STATUS

SOCIO-ECONOMIC STATUS*	Total % (N=145)	Status of Occupational Choice (1964-68) Non-changers % (N=39)	Changers % (N=39)	Deciders % (N=67)
TOTAL	100.0	100.0	100.0	100.0
50-54	1.4	0.0	0.0	3.0
55-59	6.2	5.1	7.7	6.0
60-64	3.4	5.1	5.1	1.5
65-69	11.7	2.6	23.1	10.4
70-74	8.3	15.4	5.1	6.0
75-79	60.0	61.5	51.3	64.1
80-84	2.1	7.7	0.0	0.0
85-89	2.8	2.6	5.1	1.5
Unknown	4.1	0.0	2.6	7.5

*as rated on the North-Hatt scale

changers were by a substantial margin earliest to seriously consider going to college. Over 40 percent said that they considered this as far back as they could remember compared to the Deciders who frequently deferred this consideration until the senior year in high school or even later (See Table 14). Thus, it seems that early decision on an occupation, continued commitment to the choice, and early serious consideration of college attendance were all positively associated with higher socio-economic status. These processes and related decisions came

TABLE 14--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY TIME OF FIRST SERIOUS CONSIDERATION FOR GOING TO COLLEGE

TIME OF FIRST SERIOUS CONSIDERATION FOR GOING TO COLLEGE	Total % (N=145)	Status of Occupational Choice (1964-68) Non-changers % (N=39)	Changers % (N=39)	Deciders % (N=67)
TOTAL	100.0	100.0	100.0	100.0
After high school graduation	2.8	0.0	0.0	6.0
Senior year of high school	16.5	10.3	12.9	22.4
Junior year of high school	13.8	10.3	12.8	16.4
Sophomore year of high school	6.2	10.3	7.7	3.0
Freshman year of high school	16.5	15.3	23.1	13.4
While still in grade school	14.5	10.3	17.9	14.9
As far back as I remember	29.0	43.5	25.6	22.4
Never seriously considered it	.7	0.0	0.0	1.5

much slower in the Decider group both with reference to choosing an occupation and in first seriously considering college attendance.

A similar relationship was found with reference to decision on a major course of study in college with Non-changers generally showing an earlier decision in this respect. On the other hand, almost half of the Deciders were still undecided about a major during the first semester at the university. Even though the late choice is permissible with the first two years being prescribed and general preparatory, this general curriculum does not preclude an early choice of a major, which would be in line with an occupational choice already made.

Changes in Intervening Influences

What intervenes in occupational choice, what is a concomitant change, and what is more or less a determinant is problematical. However, in view of some inclination of students to adjust occupational choice in line with changing interests and idealized view of an occupation, such matters as occupational interests, idealized view of an occupation, and changing views concerning reasons for coming to college were thought of and described as intervening variables between the old or non-choice situation of students initially and what they said they wanted to do four years later. The procedure followed was first to recall and briefly recount the changes that occurred generally over the four year period and then to note how the changes considered varied with occupational Non-changers, Changers, and Deciders.

Reasons for Attending College. The reader will recall that freshmen students came to the university in 1964 with a strong occupational orientation and that this was a nearly universal priority consideration among students. Of the 64 reasons originally considered for coming to college (19 of which were reconsidered in 1968), the one that rated the highest was "I want my work to relate closely to my vocational goals, i.e., to help me with my future career," Deciders were distinctive in rating this item lowest of the three groups and Changers somewhat distinctive in that they rated the item somewhat higher than the other two groups. Deciders were also a little more inclined to upgrade such extrinsic reward considerations as providing a stable secure future (presumably through the occupation chosen), getting a "good job", perhaps financially, and in trying to move up in the world. With Deciders being more often of average and below average socio-economic status to begin with, such matters may have looked more important by comparison than to students from more affluent homes. Conversely Deciders were a little less inclined than others to intellectual and humanitarian considerations. Generally it was the Changers who rated these items higher than other groups. This is seemingly supportive of the strong interests they had in the personality fulfillment view of work. Non-changers also rated the humanitarian intellectual items quite high. Perhaps having already decided on a vocation they looked beyond to the broader values of a college education. Whatever the combination of explanations, these were operative before the students came to the university as 1964 freshmen.

The next question posed was whether there were changes in the salience of reasons given for coming to college and how these changes occurred among the occupational status categories. It will be recalled that two approaches were used to assess these changes, namely: (1) by the remaining 60 of the 100 students who did the original Q-sort assigning relative importance to certain of the highly rated items from the 64 statements used in 1964; and (2) by the remaining 85 students estimating whether they regarded each of 10 reasons for coming to the university as much less or much more, a little less or a little more important now than when they came to the university. (A neutral "about the same" category was also allowed). The response items selected closely paralleled those that were originally rated high by the students in 1964.

It will also be recalled that the latter method allowed a student to make an assessment of what he thought happened to his own feelings about each reason separately, and permitted an estimate on each quite independent of its relative importance among other reasons. As a result, when students thought of how important certain reasons were, compared to how important they seemed when they entered college, there was a definite trend toward a higher evaluation on most of the things which were initially considered important. In other words, freshmen were aware of values attached to various facets of education, and as a result of maturation processes these reasons assumed greater relative importance by comparison as seniors. An investment of time and energy in pursuit of some goals and values augmented the significance of these goals in the thinking of the investors.

On the other hand the modified Q-sort forced the student to place a relative weight on 19 reasons originally rated high in 1964 (with the exception of one fun-social orientation reason). Thus it could be that students could say all or most of the reasons were regarded as more important to them in 1968 than in 1964 by the second measure and rate them relatively different by the Q-sort measure at the two points in time. As will be seen in Table 15 some variations indeed did occur. This was particularly true in the declining relative importance of occupational reasons for coming to college as initially predicted. It will be further observed that the greatest decline occurred in "I want my university work to relate closely to my vocational goal, i.e., to help me with my future career" reason, and furthermore, that the decline was strongest for Changers. Deciders showed the most decline in still another occupationally oriented reason, namely, "It takes a good college education to get a job these days."

As a whole, Changers definitely moved to a position emphasizing making money, looking out for oneself, and moving up in the world. In addition they showed less increase than the others on the importance attached to having a purpose in society and thinking about the other fellow. They showed considerably more over-all absolute change than the others, when changes in both directions were considered.

Deciders rated the security reason highest in 1964, but by 1968 it had declined to about average while the other two groups actually increased in the importance they attached to this statement. Generally, Deciders downgraded the occupational status achievement reasons more than Changers and Non-

TABLE 15--CHANGES IN AVERAGE RATINGS OF IMPORTANCE GIVEN DESIGNATED REASONS FOR COMING TO COLLEGE BY 1964 COLLEGE OF AGRICULTURE FRESHMEN, CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE (1964-68)

REASONS FOR COMING TO COLLEGE	Ratings Assigned in 1964 and 1968, classified by Status of Occupational Choice							
	All students (N=60)		Non-changers (N=17)		Changers (N=15)		Deciders (N=28)	
	1964	1968	1964	1968	1964	1968	1964	1968
OCCUPATIONAL - STATUS ACHIEVEMENT								
You just can't get along without money these days. That's one thing I had in mind.	7.15	7.31	7.23	7.05	6.86	7.40	7.25	7.42
It takes a college education to get a job these days.	8.35	7.73	8.00	7.58	8.00	7.40	8.75	8.00
Above all what the University will do is provide me with a stable secure future.	7.63	7.78	6.76	7.70	7.46	7.93	8.25	7.75
I want my University work to relate closely to my vocational goal, i.e., to help me for my future career.	9.23	8.71	9.41	9.17	9.73	8.73	8.85	8.42
These days you have to look out for yourself. I thought getting a good education would be a good way to do it.	6.98	7.40	7.05	7.05	6.60	7.53	7.14	7.53
Everyone ought to try to move up in the world. You sure can't do this without a college education.	7.30	7.56	6.88	7.00	7.06	7.93	7.67	7.71
HUMANITARIAN - INTELLECTUAL								
I feel that I want to have a purpose in society and that the University will help me to gain it.	7.43	8.36	7.47	8.82	7.60	7.80	7.32	8.39
Somebody ought to be thinking about the other fellow these days. I want my life to count something for other people.	6.60	7.21	6.82	7.05	6.66	7.06	6.42	7.39
Knowledge is its own reward. That's mainly why I'm here.	7.56	7.41	7.52	7.35	7.66	7.33	7.53	7.50
I felt that being here will make me a more complete and well-rounded person.	7.68	8.55	7.70	8.58	7.73	8.60	7.64	8.50

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TABLE 15--(Continued)
CHANGES IN AVERAGE RATINGS OF IMPORTANCE GIVEN DESIGNATED REASONS FOR COMING TO COLLEGE BY 1964 COLLEGE OF AGRICULTURE FRESHMEN, CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE (1964-68)

REASONS FOR COMING TO COLLEGE	Ratings Assigned in 1964 and 1968, classified by Status of Occupational Choice							
	All students (N=60)		Non-changers (N=17)		Changers (N=15)		Deciders (N=28)	
	1964	1968	1964	1968	1964	1968	1964	1968
LIFE ADJUSTMENT								
College allows you to gain more independence without being thrown completely on your own.	6.75	7.31	6.70	7.52	6.46	7.33	6.92	7.17
The social aspects of college are really more important than the grades I receive.	6.06	6.80	6.05	6.64	6.13	6.80	6.03	6.89
It is an important part of my objective in coming to the University to learn to get along with other people.	7.28	8.00	7.00	8.05	7.46	8.13	7.35	7.89
I'm not out to change the world or other people. I want to get along with them and get ahead.	7.30	7.51	7.17	7.41	7.13	7.93	7.46	7.35
I like the idea of being away from home at the University. I have to handle my own affairs and I like this.	6.75	7.35	7.00	7.70	6.66	7.40	6.64	7.10
UNIVERSITY QUALITIES AND OTHER								
The University has better professors than smaller colleges. I expect better training here.	7.60	7.78	7.47	7.64	7.86	7.66	7.53	7.92
The University has a high academic reputation; that's why I came here.	7.06	7.55	7.17	7.41	7.33	7.66	6.85	7.57
My parents (or brothers and sisters) encouraged me to come and did what they could to help me.	7.45	7.63	7.76	8.00	6.86	7.46	7.57	7.50
I thought college life would be a new and exciting experience.	6.78	6.98	6.88	7.17	6.40	6.86	6.92	6.92

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changers. They upgraded more than the others statements indicating a concern for the other fellow, the social aspects of college, and the better professors and high academic reputation of the university.

Non-changers presented no unique pattern of downgrading such as the other two groups. They increased somewhat more than the others on ratings given to reasons involving future security, having a purpose in society, becoming a complete and well-rounded person, and getting along with people.

In the opinion of the researchers, greater confidence can be placed in the relative evaluations gained from Q-sort rankings done in 1964 and 1968 than on personal opinion in regard to changes in importance attached to individual ties. The only limitation in making direct comparisons is that imposed by the methodological improvision cited elsewhere. As noted there, interpretations can be made with much confidence concerning the downgrading of certain reasons, less about the upgrading. However, the above comparisons could reasonably be made between the increasing or declining importance attached to various reasons by the three groups of students.

Changes in Idealized View of an Occupation. Table 16 indicates that initially all students were substantially materialistic-doers. Non-changers apparently

TABLE 16--COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY AVERAGE SCORES ON DESIGNATED IDEALIZED VIEWS OF AN OCCUPATION AS RATED IN 1964 AND 1968

IDEALIZED VIEWS OF AN OCCUPATION	Status of Occupational Choice (1964-68)							
	All students (N=145)		Non-changers (N=39)		Changers (N=39)		Deciders (N=67)	
	1964	1968	1964	1968	1964	1968	1964	1968
Materialistic doer	2.27	1.84	2.38	2.20	2.20	1.52	2.25	1.81
Management creativity	1.86	2.27	1.91	2.28	1.89	2.32	1.81	2.25
Extrinsic rewards	2.49	2.47	2.28	2.24	2.23	2.60	2.77	2.53
Personality fulfillment	2.51	2.72	2.51	2.83	2.57	2.53	2.47	2.77

changed less in this respect; Changers varied most from their initial rating on this view. As expected, all declined in the value they placed on work with tools and machines, physical activity, and out-of-door work. Also as expected, there was increasing importance placed on management, working with people, and creative thought and development of ideas.

Differences were noted on the extrinsic rewards items, where Changers moved up very sharply on these values, while both other groups declined. On similar values attached to reasons for coming to college, Changers also showed more interest in making money, watching out for oneself, etc. This group, on both educational and work values, moved toward an emphasis on prestige, money, and security, and somewhat away from self-fulfillment and humanitarian ideals.

The rating of Changers on the personality fulfillment view of an occupation further supported this, as they were the only group that showed a decline, even though slight, on this view. Other groups showed a decided increase in the importance of personality fulfillment items.

Deciders, on the other hand, had the highest rating on the extrinsic rewards view when they entered college, but declined sharply on this value by 1968. Again, consistency was noted between these work values and the previously mentioned educational ones. In 1964 Deciders ranked highest on such educational values as making money, security, moving up in the world, looking out for oneself, and a college education as instrumental to getting a job. In 1968 they downgraded these more than either Changers or Non-changers. The trend toward decreased evaluation on extrinsic rewards of both work and education was evident.

Changes in Measured Vocational Interests. The prime questions here were whether interests changed over the four year period and if so in what manner in relation to the occupational status categories. Certainly interests would be expected to change and in a manner somewhat dependent upon differential participation in various aspects of the college experience; also hopefully occupational choices would move in the direction of developing interests and thus to greater congruency between interests and choices in 1968 than in 1964. Ideally, Non-changers would develop an enhanced interest base in support of their tenaciously held occupational choices, Deciders a stronger interest base upon which to decide, and Changers would make choices more in the direction of measured interests in 1968 than in 1964.

The Strong Vocational Interest Blank (SVIB), a standardized and much used instrument for measuring congruency of interests in relation to those held by persons successfully employed in various occupations, provides interest measures for both general occupational areas and specific occupations. Where the desired specific occupational scale is not available, inferences can ordinarily be made from appropriate occupational group scores. As previously noted, the scores assigned are calibrated on a standard score range from 0 to 65. A score of 45 or above for a particular occupation is assigned an A rating which means that a person has interests similar to those of people sucessfully engaged in that occupation and would likely enjoy that work; a score of 30 to 44 is assigned a B-, B, or B+ rating which means that although he probably has parallel occupational interests one cannot be as sure of it as with the A ratings. In addition, scores in the C range and below indicate that the person definitely does not have interests like people engaged in that kind of work and probably should consider something else (Strong, 1966).

The most unexpected change in measured interests occurred for Non-changers; although occupational choices for them did not change, SVIB scales matched with their 1964 occupational choices showed lower scores in 1968 than in 1964. This would have been expected of the Changers who made some rather drastic shifts in occupational choices during the interim period. And indeed, this did occur, but only slightly more than for the group who didn't change vocational objectives. Since most Non-changers who took jobs did so in their chosen

fields, it must be concluded that there was little evidence of increased congruity between jobs taken and measured vocational interests on the 1968 SVIB for this particular group. They tended to hold tenaciously to and value the validity of their original choice while the interest base of support receded.

Non-changers were also distinctive in a marked decline in the number who had primary interest patterns at the later point in time. In 1964, more Non-changers than others had primary interests patterns, which indicates some rather well developed and differentiated interests at that time; in 1968, unlike both other groups, this proportion decreased rather than increased. Furthermore, unlike the others, 61.2 percent of Non-changers had fewer high ranking scales (A and B+) in 1968 than in 1964.

All of this suggests that having a strong occupational commitment and retaining it throughout college is not conducive to retention of initial measured interests or to a general broadening of a variety of other interests. Rather, these students manifested less interest in their specific occupational choices and presumably showed less broadening of interests as a result of their college experiences than did other students. These differentials in experience and their results will be examined in more detail later.

Deciders showed a somewhat different response in terms of measured vocational interests. A larger proportion, compared to Non-changer and Changers, showed an increase in the number of A and B+ scales during the four years. Initially they had shown evidence of a slower development of occupational interests, since fewer of them had a primary interest pattern as freshmen. However, in 1968, they were about average in this regard. There was a definite trend toward congruity between their measured interests and 1968 occupational choices, this being noted for approximately 60 percent of the group. There seemed to be the development of a broad interest base during college, which related quite closely to vocational choices that they made during college.

Changes in occupational choices seemed to be related to an increase in the number of A and B+ scales and in the number of primary interest patterns. Measured interests for Changers showed more congruity with 1968 choices than with 1964 choices, suggesting that interests changed during the interim period much in line with occupations which this group chose as seniors.

The College Experience as a Direct Conditioning Influence

The college experiences of students may bring about changes in vocational interests, idealized views of an occupation and basic values upon which choices are made. These in turn may be assumed to influence occupational choices in varying degrees. Changes in these intervening influences may be assumed to be at least a partial product of the college experience. However, effects on choice may be more direct as with courses of study pursued, differential association with peers, work experiences while on the campus, and interaction with the faculty. In this section an effort will be made to arrive at possible inferences on the basis of the differential manner in which the decider catergories of students participated in the various experiences. Changes in majors already observed may be more properly regarded as a concomitant change. For many occupations a number of majors are quite appropriate even though for some a change in one

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may necessitate a change in another. Thus, in some cases the relationship between choice of a major and an occupational area of specialization may bear a cause and effect relationship, in other cases little or none at all, and in still others the change in major may operate as an intervening variable in effecting a change in the occupational choice.

Student-Faculty Relationships. College of Agriculture freshmen are assigned advisers with whom they may confer on any matter which they wish to bring to the adviser's attention. They naturally also become acquainted with other members of the teaching, extension, and research staff of the college with whom they may interact. The question here is how the relationships with adviser and faculty varied by occupational decisional categories of students. Each student was accordingly asked to indicate whether he thought a series of relationships with his adviser was possible. These, which are listed in Table 17, ranged from such intimate matters as stopping by the adviser's house for a friendly chat to talking to him in his office about official matters associated with the student's own study program. In terms of the decider categories the greatest incidence of perceived possibility and intimacy of contacts would be expected among Changers and perhaps next most among Deciders who had to develop a

TABLE 17--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY DESIGNATED RELATIONSHIPS DEEMED POSSIBLE WITH OWN ADVISER

DESIGNATED RELATIONSHIPS DEEMED POSSIBLE WITH OWN ADVISER	Status of Occupational Choice (1964-68)			
	All students % (N = 145)	Non-changers % (N = 39)	Changers % (N = 39)	Deciders % (N = 67)
Exchange greetings on street	95.9	100.0	89.7	97.0
Discuss study program at the university	92.4	89.7	89.7	95.5
Walk into the office to talk about school problem	90.3	87.2	87.2	94.0
Write recommendation for you	85.5	82.1	82.1	89.6
Ask for an explanation about a grade given	84.8	92.3	76.9	85.1
Ask for suggestions to improve grades	82.8	87.2	76.9	83.6
(You think) knows you by your first name	82.1	79.5	76.9	86.6
Talk about important decision which affects your future	76.6	71.8	74.4	80.6
Walk into the office for a friendly chat	73.1	74.4	69.2	74.6
Argue outside class about a point of view explained in class	69.0	74.4	64.1	68.7
Has a real interest in your problems (you think)	66.2	64.1	64.1	68.7
Talk about a family problem that may make you drop out of school or is interfering with your work	53.8	53.8	59.0	50.7
Stop by or visit shortly in teacher's home	33.8	43.6	38.5	25.4

knowledge base upon which to arrive at an occupational decision. Non-changers, presumably feeling quite sure of what they wanted out of college, would have less reason to contact advisers and any other than a few faculty members representing their own interest specialty.

The reader will recall, and note in Table 17, that generally speaking most students felt they could discuss academic and friendly matters with advisers. However, the crucial question here is how these relationships varied by the decisional categories. Accordingly, it will be seen in Table 17 that for relationships concerning academic interest such as grades or points of view expressed in class, Non-changers more frequently deemed these interactions possible. Deciders more often than others felt it possible to have such a friendly relationship as stopping by the office for a friendly chat or to talk about a school problem, or being known by their first names. A large proportion also felt that it was possible to discuss their study programs, get a recommendation, or talk about an important decision which would affect their future. Changers somewhat more frequently than others felt they could speak with advisers about a family problem which might make dropping out of school a necessity.

There is the suggestion that Deciders probably felt somewhat more free to enter into the designated relationships with advisers; Changers, on the other hand, seemed to feel it possible to enter into designated relationships with more faculty members, thus probably having a wider range of such associations than other students.

Social Participation. The classification of campus organizations given on pages 24-25 indicates the broad range of opportunities a student has to participate with peers and to some extent with the faculty in various activities. Academic agricultural organizations include among others the Agriculture Council, Block and Bridle Club, Collegiate Future Farmers of America, Independent Aggies, and various academic area clubs associated with major areas of study. Homecoming Committee, Student Government, Intrafraternity Council and student political organizations were among those classed as University-wide. Honorary organizations included Alpha Zeta, Gamma Sigma Delta, Alpha Tau Alpha, and others; music organizations were the concert band, Marching Mizzou band, etc.; and social orgainzations included Alpha Gamma Sigma, Alpha Gamma Rho and Farm House.

The consequences of choice can be considerable. A student can choose a course of essentially no participation in formal group activities in which case he is essentially cut off from one important aspect of college life. On the other hand, he can choose a social fun course of action or one in which he deliberately works at making the "right contacts" and develops skills of social manipulation in line with the idea that these skills and contacts may be more important than the grades he receives in the university. The specialized and committed student, can choose associations in such a manner as to reinforce what he already is and believes. If a student chooses broadly oriented groups that involve students from other colleges or with other interests he is liable to be exposed to many ideas and influences he didn't plan on in the first place. Such participation is likely to bring old ideas into question and start thought processes along new

lines, i.e., the latent consequences of participation in social-fraternal or university-wide organizations might be to enhance changes in views on many subjects including those relating to a chosen occupation.

The results of the aggregate scores by decider categories are entered in Table 18. It may be seen that the agricultural academic organizations received

TABLE 18--MEDIAN SOCIAL PARTICIPATION SCORES FOR COLLEGE OF AGRICULTURE STUDENT PANEL FOR SCHOOL YEAR 1967-68, CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY CATEGORY OF ORGANIZATION

		Median Social Participation Scores by Status of Occupational Choice 1964-68		
CATEGORY OF ORGANIZATION	Total (Median) (N=145)	Non-changers (Median) (N=39)	Changers (Median) (N=39)	Deciders (Median) (N=67)
Agricultural academic	5.4	6.9	5.6	3.6
University-wide	0.7	0.7	0.8	0.6
Honorary	0.8	0.8	0.8	0.7
Social	0.8	0.8	1.1	0.6
Student religious	0.5	0.6	0.5	0.5
Social participation in all organizations	9.9	15.8	15.8	6.6

the widest support, accounting for over half of the total participation. These organizations provide activities of common concern to particular professional or academic interests, in addition to having social activities as a part of their regular routine. Thus, students may receive quite diversified benefits from participation in such organizations and this may partially account for the wide interest shown in them. Participation in other kinds of groups did not vary widely; honorary and social organizations showed the next highest participation with university-wide and religious organizations following in that order.

Non-changers and Changers had identical total social participation scores, varying from each other primarily in two respects: Non-changers had higher participation in the academic organizations and Changers had somewhat higher scores in the social organizations. Deciders were quite variant in having less than half as much total participation as others, the greatest difference being in their comparatively low participation in agricultural academic organizations.

The median number of organizational memberships per year revealed an interesting pattern. There was in increase each year up to the junior year and then a leveling off, with a slight decrease during the senior year. This pattern was also noted for Deciders. Non-changers and Changers showed their maximum memberships during the sophomore year, with a leveling off during the last two years. This suggests a possible relationship between being quite definite about occupational decisions and "settling down" into a pattern of organiza-

tional involvement. This pattern is reflected in the students' own evaluation of their participation. Almost half of them stated that they were more active in organizations as seniors than when they were freshmen. However, less than one-third said they were more active as seniors than as juniors.

Work Experience. Another way in which a student can participate in the life of a college campus is through work experiences. His selection of a particular job, along with the nature and location of the work, reveals something about his occupational interests and views. Even though a student cannot be the professional or entrepreneur to which he aspires, he can often work closely enough to such persons to see what an occupation of the type under consideration is really like and what it means to those participating in the vocation he eventually intends to follow. Such an experience can be equally devastating because in this kind of setting the halo effect fades into the background and the more routine and less exciting matters move forward. On the other hand, a work experience may be no more than a means of providing subsistence while a student is in college, and of value to him only as he determines that this occupation is not one which he wishes to follow. In any case one is sure to learn a bit more about what the work world is like. Even though a student is not so free to choose work assignments in the university setting as in matters of social participation, opportunities do eventually present themselves to those who are persistent which allow experiences that will help them size up some of the pros and cons of a chosen occupation.

It has already been noted that approximately 84 percent of the students were employed at some time during their stay in college. This, plus the fact that well over one-half of the students indicated that they were paying half or more of their college expenses from their own or spouses' work and savings, plus an additional 29 percent who were paying at least one-fourth, attests to the economic necessity of work while in college.

Differences between the three groups were slight, with Deciders showing slightly more who reported no job during the four years (See Table 19). Non-

TABLE 19--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY EMPLOYMENT WHILE IN COLLEGE AND RELATIONSHIP OF JOB TO 1968 MAJOR

		Status of Occupational Choice (1964-68)		
EMPLOYMENT WHILE IN COLLEGE AND RELATIONSHIP OF JOB TO 1968 MAJOR	Total % (N=145)	Non-changers % (N=39)	Changers % (N=39)	Deciders % (N=67)
TOTAL	100.0	100.0	100.0	100.0
University job related to major	34.4	56.4	23.1	28.3
University job not related to major	16.6	5.1	12.8	25.4
Non-university job related to major	6.2	5.1	7.7	6.0
Non-university job not related to major	26.9	18.0	43.6	22.4
No employment	15.9	15.4	12.8	17.9

changers more often had a university job related to their major field. This suggests that having employment closely related to an academic major is also related to the retention of a stated vocational choice. Whether having a definite occupational goal predisposes one toward jobs in that field or having a job related to a vocational goal (tentative or not) strengthens one's commitment to that goal is not revealed by the data.There does, however, seem to be some relationship between these.

Changers tended to hold non-university jobs not related to their 1968 major fields. More than half of them were employed in the local community. Such work activities probably provided community experiences which brought them in contact with societal values related to monetary gain and social prestige derived from occupations. They may have seen the value placed on money demonstrated in fellow workers' patterns of conspicuous consumption and utilization of leisure, and internalized to a certain extent these same values for themselves.

Deciders, on the other hand, more often had jobs in the university even though over one-fourth were not related to their majors. They thereby probably received less exposure than Changers to status achievement activities of associates and more to matters of academic inquiry and to satisfactions derived from the work activity itself. The different work environments may have been factors in the differential changes in values of the two groups.

All three groups showed an increase in the median hours worked from freshman to senior years. Deciders worked more hours as freshmen but fewer than others as seniors. Changers worked only 0.9 median hours as freshmen, compared to 10.5 for Non-changers and 12.4 for Deciders. As seniors, however, they worked almost the same number of hours as Non-changers.

Academic Achievement. Certainly the way a student participates in the academic aspects of college life and the success that he has in this activity are both limiting and predisposing factors to many alternative courses of action including an occupational choice. The relationship of changes in majors and occupational choice has already been discussed. Only one additional aspect of academic participation will be examined here, namely, academic achievement level. The central question considered is whether or not academic difficulties promoted changes in occupational plans.

It will be seen from Table 20 that Non-changers were good performers; 95 percent had a cumulative grade point average of 2.0 and above. Although Changers more often than others gave "not doing well in old field" as their reason for a change of academic major, having academic difficulties was clearly not the basic reason for their changes of occupational choice. Over 80 percent of them had a 2.0 or higher cumulative grade point average. Twice as many shifted out of pre-veterinary medicine as the number indicating academic difficulty as a reason for change.

Deciders showed more variation than the other groups in academic achievement. Approximately one-fourth had grade point averages below 2.0, while a larger proportion than others were in the 3.0 and above category. Further investigation of the latter showed that 70 percent of this group had a high school percentile rank above 90, and half had scholarships. Mothers of about half were college trained; all of those living on farms reported average or above

TABLE 20--PERCENT OF COLLEGE OF AGRICULTURE STUDENT PANEL CLASSIFIED BY STATUS OF OCCUPATIONAL CHOICE AND BY CUMULATIVE GRADE POINT AVERAGE

CUMULATIVE GRADE POINT AVERAGE	Total % (N=145)	Status of Occupational Choice (1964-68) Non-changers % (N=39)	Changers % (N=39)	Deciders % (N=67)
TOTAL	100.0	100.0	100.0	100.0
3.50-4.00	4.1	5.1	5.1	3.0
3.00-3.49	8.3	5.1	5.1	11.9
2.50-2.99	32.4	48.8	30.9	23.9
2.00-2.49	37.2	35.9	41.0	35.8
1.50-1.99	15.9	5.1	12.8	23.9
1.00-1.49	2.1	0.0	5.1	1.5

average incomes; half were oldest children in the family; and 70 percent chose the professions or business as their occupational choice. All of these characteristics were more often evident for Non-changers than for Deciders as a whole.

It seems that for this panel of students academic achievement was somewhat related to the status of their occupational choices. Doing well in course work seemed to be related to retention of initial choice, while achieving less well in academic pursuits seemed to be related to making a late choice of occupation. However, a causal interpretation is not warranted from these data.

SUMMARY ANALYSIS

This study was concerned with changes in vocational interests, values, occupational choices and majors that occurred in the 1964 freshmen class in the Missouri College of Agriculture as they progressed through four years of college, and with the background and experience factors associated with the changes made. The chief focus of attention was on changes in occupational choices and commitments that occurred in the students.

The original 255 freshmen that had entered the college in 1964 had declined to 145 by the winter, 1968, semester when the reassessment of changes made and participation in the student sub-culture was undertaken. Four of their number had graduated in January 1968; the rest would normally be expected to graduate at the end of the winter, 1968, semester; 110 had left the university in the meantime without a college degree. About 80 percent (79.6) were from the country (farm and rural non-farm)and 20.4 percent were from towns and cities of the state. Although the focus of attention was on the 145 who stayed in school, some comparisons of the ones who stayed and the 110 who left were undertaken.

Data were obtained from questionnaires administered in the fall of 1964 and spring of 1968 at which time questons were asked about their background, prior experiences, their views of and orientations toward vocations, vocational choices, and their majors. In 1968 they were also asked about their academic, social, and work experiences while in college. In addition 100 of the 1964 freshmen were given a Q-sort of 64 reasons for coming to the university. They were asked to arrange these reasons on a most important-least important basis in terms of their own decisions to enter the university. In 1968 the remaining 60 of the original 100 were asked to do a modified Q-sort in which they were again asked to arrange the highly rated reasons from the 1964 sort in terms of importance for going to college as they saw them four years later.

Strong's Vocational Interest Inventories (SVIB) were administered to the students as freshmen and again in 1968 as part of the guidance program associated with the dean's office of the College of Agriculture. Scores assigned in 1964 were adjusted to allow comparison of responses resulting from an interim revision of the inventory. Such secondary data as the high school rank and cumulative grade point averages on record in the university offices were also used.

Town, City-Country Differences

Prior residence differences were ascertained partly because city and country differences in characteristics of students and the way they relate to the university persist and partly because of the practical interest of agricultural college administrators who have found it necessary to relate the agricultural college to the needs and interests of city youth as well as those from the country. Enumeration and interpretation of the more salient of these differences follow.

Persistence in School. Although intentions to farm and farm residence itself seem to have a depressing effect on college attendance, a higher proportion of the country than the city youth actually remained in college during the four year period. Even with the very broad course offerings of the college of agriculture and study programs which permitted much freedom to take courses in other schools, the agricultural college curricula were still likely to appeal more to the country than to the town-city youth. Also country youth had a somewhat stronger commitment to academic matters both in the present and in the recent past. Their academic records in high school were slightly better than the students of town-city origin and in college they participated more in extra-curricular academic activities.

Maturational Differences. Occupationally, decisional processes had not progressed as much among the country as the town-city youth. Although differences in development of SVIB primary interest patterns were nil, more of the boys from the city (77.8 percent) had made at least a tentative occupational choice at the time of entering college than those from the country (48.3 percent). The proportion choosing farming was, of course, much higher for the country than the town-city boys. The most chosen occupations for country boys were farming and veterinary medicine; for the town-city the last only. Measured interests were also aligned with farming for the country students and in considerable degree toward veterinary medicine for the town-city boys. However, on the whole, measured occupational interests were initially quite undifferentiated and not particularly strong in either group of students. More town-city than country boys had made tentative choices of academic majors by college entry time, 96.3 percent and 72.0 percent, respectively. Pre-veterinary medicine was the most frequently chosen major, again indicating the strong vocational orientation of both student groups.

In another sense country boys were more self-reliant than the town-city. They and their wives financed more of their college expenses from their own and spouses earnings and/or savings. Although they received considerably less support from their parents than town-city youth, they were much more frequently recipients of scholarships (48.3 percent and 15.8 percent, respectively) and much more likely to be recipients of loans (28.0 percent and 7.4 percent, respectively). They were also more likely to have worked in partial payment of college expenses, particularly during the freshman and sophomore years.

Occupational Orientation. Although all students showed a very strong occupational orientation for attending college the town-city were even more so inclined. They stressed the extrinsic rewards of an occupation, i.e., security, good retirement plan, being able to keep the job as long as one wanted to more than country boys. The personality fulfillment view was strong for both groups, both initially and in the final analysis. The country youth were most distinctive (initially and only a little less in the final analysis) on the materialistic-doer view which stressed work requiring much physical activity, work out of doors, working with things, and work involving use of tools and machines. This would seem to be a natural consequence of the environmental conditions under which youth from the country lived and, perhaps, came to appreciate.

Social Participation. Other differences were evident in the extent and kind of participation in organized activities on the campus and in interaction with the university faculty. Organization-wise, students had the option of participating in essentially academic, honorary-scholastic, social-fraternal, religious, and university-wide activities. The last tended to cut across the others and included such things as student government and Savitar frolics.

Social participation ratings based on membership, varying degrees of attendance at meetings, serving on committees, and as officers in the organizations were used to measure the amount of participation for comparative purposes. The average participation score for country boys accordingly computed was a little higher than for the town-city. However, major variations were in participation totals and kinds of participation. There was a tendency to bi-modal participation rates for the country youth, i.e., some with no participation and some with much. This was not true for the town-city boys. Country boys participated much more heavily in the academic and honorary activities while the town-city were considerably more active in the social-fraternal and the university-wide activities. Comparatively few of the country boys participated in the latter but the few who did were generally very active.

Perhaps earning one's way in school and seriousness of academic purpose operated to reduce the participation of country boys in social activities and to enhance participation in less time consuming academic activities. Also norms of social exclusion may have differentially operated to exclude more country than town-city youth from the social-fraternal organizations. In any case participation differentials between the two groups of students were indeed quite distinct particularly in regard to kind.

Interaction With Faculty. In large schools and in the absence of ways to encourage friendly relationships, interaction between students and faculty is likely to be minimal with students feeling somewhat alienated in the anonymous impersonal college environment. To get some assessment of the extent to which this may have been the case the students were asked to indicate whether they thought a wide range of relationships ranging from such things as talking to advisers and faculty about grades and college courses to dropping into their homes for a friendly chat were possible, also with about how many faculty members they felt that each of the relationships would be possible.

The first general conclusion in relation thereto was that students felt quite free to consult with advisers and with at least some faculty members about a wide range of matters some of which were quite personal in nature. A second salient conclusion was that country boys were less restrained in their interaction with advisers and the faculty than the town-city, perhaps reflecting neighborliness norms more prevalent in rural than in urban environments.

Students Who Stayed vs. Those Who Left

Students who stayed in college were:

1. slightly more likely to have been from the country than town-city,

2. to have had *no more* support psychologically or financially from parents,
3. to have been the oldest child in the family,

Students who left:

1. were more likely to have been influenced relatively more toward going to college by their peers or other persons,
2. were more likely to have made a last minute decision to enter college,
3. emphasized extrinsic rewards (pay, retirement, and security) of an occupation slightly less.
4. were much poorer prospects academically to begin with and were poorer academic performers while in college.

Occupational Changers, Non-changers and Deciders

Of the students remaining in college until the winter semester of 1968, 26.9 percent did not change their 1964 occupational choice, 26.9 percent did and the remaining 46.2 percent made up their minds during their stay in college. Occupational areas which gained were social services, sales, business, social sciences, and farming, in that order. The general professions including law, journalism, college teaching, and veterinary medicine showed losses.

In order to provide a sufficient number of students in the three decisional categories for judgmental purposes the country, town-city classification was deleted from this part of the study.

Background Factors. Town-city youth who made their occupational decisions earlier were also slightly more persistent in their original choices. Areawise, students from the more economically advantaged northern and west-central parts of the state were more stable in their occupational choices than those from the less advantaged southern and south-eastern parts of the state. The latter were also slower to decide.

It would seem that economic disadvantage tended to retard early firm occupational decisions. This was further suggested by economically related family factors associated with the occupational choice status. A few more of the Non-changers than of the other two groups expected their parents to pay all of their college expenses. In accord with the same line of reasoning Deciders on the average came from farm families with somewhat lower incomes than Non-changers. Evidence from the North-Hatt occupational ratings of a students' parents showed much the same thing, all suggesting an association of economic disadvantage with delayed occupational choices.

The College Experience

The college experience can be expected to have both direct and indirect influences on occupational choices. In the first instance, exposure to new knowledge from courses, interaction with faculty and students, and work experiences may be expected to directly influence occupational choices. In the second, these same experiences may be expected to broaden horizons resulting in changes in interests and views of what an occupation can offer, perhaps also in basic

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changes in one's concept of self resulting in changes in the way occupational attributes are valued and occupations chosen.

Intervening Influences

Of these, three were considered:
(1) changes in reasons for coming to college,
(2) changes in idealized view of an occupation,
(3) changes in vocational interests.

Deciders, being from somewhat more economically disadvantaged homes, perhaps quite naturally initially stressed financial and security matters as major reasons for coming to college a little more than students in the other two groups. At the same time they tended initially to downgrade intellectual and humanitarian considerations. This was in contrast to the other two groups who rated these relatively higher, all within an overriding predominance of what a college education could contribute occupationally.

Actually students perceived many reasons (occupational, humanitarian, personality fulfillment and social) for coming to college as being more important in 1968 than in 1964. However, within this general upgraded context the occupational reasons tended to recede relative to the others. This was most true for Changers. At the same time they were the ones who most upgraded such self-seeking reasons as making money, looking out for oneself, and moving up in the world. Conversely, they granted less increased importance to such reasons as "having a purpose in society" and "thinking about the other fellow". Within this general pattern of change there were also erratic changes in the way they rated the reasons. Aggregate changes were greater for them than for either Non-changers or Deciders.

Deciders, who initially rated security reasons highest, showed a decline in importance attached to this reason while the other two showed an increase. In contrast to Changers, who seemed to show some disillusionment with initial humanitarian views, Deciders tended to upgrade them as the years passed.

Except for a slight inclination to upgrade security, having a purpose in society, becoming a complete and well-rounded person, and getting along with people, Non-changers showed little change over the four year period. Thus in terms of ratings assigned reasons for coming to college, Deciders and Non-changers tended to become more humanitarian and appreciative of general educational objectives while Changers became more self-seeking.

Changes in idealized views held of an occupation for self tended to substantiate these general observations, with Deciders and Non-changers moving up sharply on personality fulfillment views while Changers, higher to begin with, showed a slight decline.

Changers, unlike others, again showed sharp increases on the extrinsic rewards view while Deciders, as also indicated by reasons for coming to college, showed a recession in importance attached to this view. All tended to move up on the management-creativity view of an occupation and down on the materialistic-doer view, Changers most of all and Non-changers least.

It would almost seem that occupational Changers went through a period of disillusionment with regard to humanitarian values initially held more strongly while Deciders like Non-changers tended gradually to internalize these views increasingly more as time passed.

In regard to changes in measured vocational interests the most unexpected change was a decided decline in the scores of SVIB scales matched with vocational choices of Non-changers, even though these students held to their original choices and continued to express more satisfaction with them than students in the other two groups. Thus, congruity between choice and measured interests for the Non-changer group decreased decidedly. This group was also distinct in the decline in the number of primary interest patterns held, these being interests congruent with occupational areas of possible choice. Thus, the receding interest base of the Non-changers seemed to have occurred by a flattening of interests, perhaps a condition that could be expected to precede re-formation of salient new ones.

Deciders on the other hand who had fewest primary interest patterns to begin with, developed more than any other group but ended up with about an average number, thus forming an interest base congruent with a majority of the occupational choices. For Changers, new occupational interests were more congruent with their 1968 occupational choices than the 1964, thus indicating a tendency to increasing congruity between the two.

Direct Conditioning Influences. College experiences surely influenced occupational interests which in turn must have been a factor in the occupations chosen for all of the groups concerned. Even original occupational choices of Non-changers were quite in agreement with their initially strong farm and veterinary medicine interests.

Conceivably college experiences which operated to bring about changes in interests, essentially a slow and unconscious process, had direct effects on the more conscious process of making an occupational decision. Although the data at hand did not permit claims of direct cause and effect relationships, the manner in which the three groups of students differentially participated in the college experiences permit at least tentative inferences concerning influence.

Thus, Deciders more often than others felt such friendly relations as stopping by the adviser's office for a friendly chat or talking to him about school problems were possible.

Changers, on the other hand, were more inclined to have contacts with many faculty members of an apparently less intimate and friendly nature, quite understandably, since changes in occupational choices if also accompanied by changes in majors meant new advisers and contacts with other faculty members. In fact, the life of the Changer on campus seems to have been one of relatively more gregarious contacts with student and faculty both academically and socially. Their somewhat greater participation in social-fraternal groups would have had the net effect of exposing them to more people with diverse ideas, some no doubt quite different from those to which they had become accustomed.

Non-changers were more likely to have had the same adviser throughout the college career and actually to have less need for one than either Changers or

Deciders. Having already made up their minds about an occupation and perhaps also a major in college, they surely became selectively involved with people and organizations which had the net effect of confirming the decisions already made. Their greater involvement in academic organized activities on the campus is an example in point.

In the final analysis the different associational patterns of the three groups seemed to offer partial explanations for the manner in which they arrived at occupational decisions and perhaps vice versa.

Work experiences of the three groups of students also showed a logical congruency with choices made and their timing. Changers tended to hold non-university jobs not related to their major fields of study. This kind of employment was essentially an extrinsic reward experience and thus one that tended to demonstrate extrinsic reward values, i.e., money, etc., and thus the need for being able to retain the job in order to be paid. Such an occupational experience would seem to offer little in the nature of building a knowledge base for occupational choices of the type that college graduates would be expected to make. But it was the type of experience that might be expected to enhance the extrinsic reward views of an occupation in which Changers showed increasing interest over the four year period.

Deciders on the other hand more often had jobs in the university. Even though over one-fourth were not related to the majors, the work atmosphere was more conducive to internalizing intrinsic rather than extrinsic rewards of an occupation. Finally Non-changers more frequently than others had a job related to their major field of work and thus again were more likely placed in association with people of like thought and feeling about their own occupational ideals as well as with many other things.

Although occupational Changers more often reported not doing well in the old field as a reason for changing majors they on the whole were superior students; 82.1 percent had cumulative grade point averages of 2.0 or over. Although academic achievement in original choice area was undoubtedly a factor in the changes made, ability to do college work was not the major reason for changing in most cases. Deciders showed more variation in academic achievement than the others. Approximately one-fourth had grade point averages of less than 2.0 and more had a grade point average of 3.0 or over. Non-changers perhaps the most persistent academic achievers, tended to receive reinforcement in their original choice of a major. In general, continued high achievement in a chosen area tended to be associated with retention of the choice while achieving less well was associated with choice changes and late decisions. Perhaps the relationship of academic achievement to occupational choice was more a matter of limitation than determination.

CONCLUSIONS

In conclusion it may be said that:

1. Country and town-city youth came to the university with different degrees of occupational maturation, values and backgrounds, participated differently in the college experience, and with different results.
   a. Country youth:
      (1) Being somewhat more reliant in economic support were nevertheless in more need of financial assistance on the campus.
      (2) Being somewhat more committed to the academic demands of both high school and college they continued differentially to participate more in academic activities where choice was permitted.
      (3) Were more inclined to establish friendly relations with the faculty and advisers while on the campus.
      (4) Were more likely to remain in the university once enrolled.
      (5) Had much stronger materalistic-doer views about an occupation which, although reduced by the college experience, were nevertheless much stronger in the final analysis than for the town-city boys.
   b. Town-city youth:
      (1) Came to the university with a somewhat stronger general occupational commitment and much more specifically formulated views about choices of an occupation and majors.
      (2) Came with better prospects for financial support from home.
2. Those who left the university without a college degree were on the whole initially much poorer prospects academically for success in college than those who stayed, and subsequently had lower grade point averages for their semesters here.
3. Those who stayed proceeded through college at a very uneven rate and with much uncertainty as to future plans, some progressing rapidly to graduation and some delaying graduation to some anticipated date quite beyond the normal four year period.
4. The college experience had different effects on students in different states of occupational choice. For:
   a. Non-changers the effects seemed to be mostly reinforcement;
   b. Deciders mostly maturation; being uncommitted occupationally, they were more subject to being influenced by the college experience, and for
   c. Changers - changes also in deep seated values and views perhaps growing out of the latent influences of broader associations.
5. Occupational choices were made more on the basis of knowledge and interests than on influence of peers, teachers, advisers, and other university personnel.

   The influence of these latter factors was likely in shaping interests and internalized views of an occupation that served as intervening variables in arriving at occupational decisions.

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6. Occupational interests were generally more aligned with occupational choices at the end of college than at the beginning for all students except Non-changers.
   This suggests that early firm occupational commitments may cause students to retain choices after the interest base has materially diminished and thus to exclude exposures and experiences that might otherwise be beneficial.

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ABSTRACT - Hoping to help industry raise its level of productivity and profitability this manual provides guidance on how industrial training methods may be made more effective and how training along proposed lines may be grant aided. Divided into six sections the manual contains information pertaining to (1) Fixed Scale Grants, (2) Variable Grants for External Courses, (3) In-Company Training, (4) Group Training Schemes, (5) Special Grant Arrangements, and (6) How to Claim Grants. Appendixes offer information on (1) administering apprenticeship schemes, (2) courses and available

VT 011 842

CITB

Grants Scheme 1968-69

ED0 54390

CONSTRUCTION INDUSTRY TRAINING BOARD

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CONSTRUCTION INDUSTRY TRAINING BOARD GRANTS SCHEME 1968/69

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FOREWORD BY THE CHAIRMAN OF CITB
SIR NORMAN LONGLEY, C.B.E., F.I.O.B.

Introducing the 1968/69 scheme of training grants gives me the opportunity to re-emphasise the objectives of the Board. These are to assess the manpower and training requirements of the industry, to draw up training recommendations and recommendations for associated courses of further education and to see that these recommendations are put into effect. CITB must aim to help the industry to increase its productivity and profitability by raising standards of individual performance, quality, reliability and safety through the systematic development of improved training programmes.

CITB's Objectives

During the next training year an increasing number of training recommendations, work experience schedules and notes for guidance will be issued. These will provide guidance on how industrial training methods may be made more effective and how training along lines proposed, including suitable on-the-job training, may be grant aided. When these training recommendations—which will deal with training at all levels from management to operatives in all sections of the industry—are published, they will encourage more practical training.

Where present training facilities are inadequate CITB plans to continue the process already started of establishing and developing new facilities and encouraging others to do so. In many cases pilot training schemes will be run experimentally to test new ideas; those proving viable will then be offered to technical colleges or other organisations so that they may stimulate progress all over the country. Examples of this process are in the fields of management development, supervisory training, productivity techniques, specialist operations and programmed learning.

Development work will continue on improving training for the major craft and non-craft operations, including those covered by the Building Research Station's enquiry into operatives' skills which was published in September, 1966. The Board's Industrial Committees will have proposals to discuss with authorities in the industry during the coming year. At the Construction Industry Training Centre, Bircham Newton, the training of plant operators and other operatives is in fact already taking place and this will be expanded.

A complementary objective is to offer an even more useful advisory service to the industry. This will be directed towards helping employers to decide what training they should undertake to ensure continued growth and profitability and to help them plan and programme the training either within the firm or outside it. I am glad to say that CITB training advisers are increasingly able to offer useful

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and practical advice to employers or groups of employers. They should also be able to improve training facilities to meet local needs. In this activity the independent work of group training officers will be a tremendous asset. CITB will do all it can to encourage the initiation and to help in the development of more and more group training associations.

Grants Scheme

This Grants Scheme should provide an improved financial lubricant to the smooth working of these further training developments. It is similar in pattern to the previous scheme so that its operation will be familiar to many. It does, however, offer a completely new grant for approved systematic management development within a firm (see page 19). The limitation on grant of more than four times the levy has been removed. The extension of the 20% supplementary grant to all parts of the Scheme will provide increased encouragement to in-company training schemes and to firms which are members of training groups. Finally the clerical work involved in claiming grants has been reduced.

For the future, the operation of the grant/levy scheme is being reviewed and a further appraisal made of the real costs of training so as to ensure that employers are fairly reimbursed for their efforts; the Board will also aim at ensuring that, for the payment of grant, performance is in line with the standards laid down in its training recommendations.

Conclusion

The Board is most grateful for the constant support and constructive criticism and advice of many thousands of people throughout the industry, in the world of education and in the press.

The long term objectives of the Board are to assist the industry to improve the quality of its training and the facilities offered, to help to provide enough trained people to meet its needs and to spread the cost of training more fairly; as the training capability of the industry progressively develops so will these objectives be achieved.

Norman Longbottom

Chairman.

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SUMMARY

This summary is to help you to pick out the main points that interest you. The Scheme is basically the same as the last two schemes but some further changes have been made to make the Scheme more comprehensive and to make some of the grants more generous. The main changes are mentioned in this summary, while those paragraphs in the Scheme where changes affecting the grants have been made are sidelined. Where a paragraph in the previous scheme has been removed altogether, the word "DELETED" appears against the corresponding paragraph number in the new Scheme.

Paragraphs

PART A—FIXED SCALE GRANTS

The rates of grant are:

(a) for **craft apprentices** or trainees on basic craft courses and other courses at a similar level, £2 10s. for each day's attendance by day or block release; payment of examination fees by the employer is now a condition of grant .. .. 11—13

(b) for courses at higher levels, £3 10s. (e.g. advanced craft or ONC), £4 10s. (e.g. HNC), and £5 10s. (e.g. Certificate of Supplementary Studies to the HNC) per day depending on the standard of the course; payment of examination fees by the employer is now a condition of grant .. .. 14—19

(c) for **graduate trainees** £30 a month, now available in certain circumstances for a maximum of 36 months; the duration of the grant is no longer reduced by previous experience in the construction industry .. 20—22

(d) for holders of a **Higher National Diploma** an increased grant of £21 a month 23

(e) for holders of an **Ordinary National Diploma** a new grant of £9 a month 23

(f) for industrial training given to **sandwich courses students** £51 a month 24—25

The upper and lower limits of 30 and 90 days respectively on the length of day or block release courses have been removed.

Apprentices will no longer be registered by the Board .. .. .. 13 (c) and (d)

PART B—VARIABLE GRANTS FOR EXTERNAL COURSES

For **external courses** other than those qualifying for fixed scale grants the grant is normally 75% of the fee and the full cost of wages or salaries. As an optional alternative, lump sum grants for certain courses are now offered. Auditors' certificates are no longer required with every claim but may be called for on a sample of claims selected at random. The system of starred approval of courses has been dropped .. .. 27—38

Grants are available for approved **pre-craft courses** 29

Full-time **craft level courses** at technical colleges and government training centres may attract these grants .. .. 30—32

For courses for **training staff** and courses in **safety training** the grant covers the whole of the fee .. .. 33—35

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Paragraphs

Safety officers of safety groups approved by the Board may be eligible for grants for attendance at courses on safety 35

Grants are available for **training overseas** when no suitable training is available in the U.K. 36

Courses lasting two days may now be approved for grants .. .. 37 (a)

Grants towards the cost of fees and travel cover students of 21 or over attending **evening classes** for courses available by day or block release .. 37 (b)

Wages and salaries are reimbursed at a fixed rate per day dependent on salary range. New salary ranges 11 and 13 have been introduced .. .. 38 (d)

PART C—IN-COMPANY TRAINING

50% to 90% of the salaries of **training staff** may be claimed from CITB, together with a higher grant towards the cost of clerical assistance .. .. 41—43

Companies running their own off-the-job **training schemes** may claim three-quarters of the cost together with the wages of trainees while under training. The grants for the cost of off-the-job training schemes have been extended in some instances .. .. 44—46

Special grants are also available from the Ministry of Labour through CITB towards the cost of certain types of training 47

Interim grants for **on-the-job training** are available when special schemes have been approved by the Board 48

A new grant for the initiation of **management development** activities has been introduced .. .. 49—52

PART D—GROUP TRAINING SCHEMES

Grants are available for **group training schemes** on the same lines as for in-company training except that 75% to 100% of the salaries of training staff may be claimed from the Board, while development grants or loans up to £2,500 are available to help new group training schemes in their early stages .. 53—58

PART E—SPECIAL GRANT ARRANGEMENTS

For a **survey of training needs** 75% of the cost may be claimed from the Board 59

Firms releasing members of their staff from their normal duties to instruct in approved courses may claim the whole of their salaries from the CITB. This grant is no longer restricted to courses at public educational establishments 62

Grants of £5 a week are available for students on **industrial attachments** .. 64—66

Grants are available towards the cost of sending apprentices to take part in certain **apprentice competitions.** Other technical competitions may now be similarly approved by the Board for grant purposes from time to time .. 67—70

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Paragraphs

When the use of **training aids and programmed learning** by a company is approved by the Board, three-quarters of the cost may normally be claimed in grant 71

Grants are available from the Board as well as from the Science Research Council for **post-graduate courses** .. .. 74—76

Unemployed adults and pre-release servicemen may apply for places in courses at the Construction Industry Training Centre. One-quarter of the full economic fee will be charged (e.g. £20 for two weeks) 77

The **supplementary grant of 20%** has been extended to cover grants paid under **all parts of the Scheme**. Subsistence and travelling expenses are no longer excluded .. .. —

PART F—HOW TO CLAIM GRANTS

Part F of the Scheme explains how grants should be claimed from the Board. The **limit** on the total grant which may be claimed by a firm has been **removed.** The attention of employers is drawn to the right of the Board to inspect the training carried out by any firm before grants are paid

APPENDICES

Appendix 1 contains a list of bodies administering **apprenticeship schemes** recognised by the Board, Appendices 2 and 3 give details of **external courses** approved for grant purposes, Appendix 4 contains information on grants available from the Ministry of Labour, Appendix 5 contains advice on **training records,** Appendix 6 gives details of grants for **travelling expenses** and of increased rates of grant for **subsistence,** Appendix 7 contains details of the grants for **training aids and programmed learning**, and Appendix 8 contains details of **grant claim forms.**

GENERAL

Employers wishing to claim grants should refer to those parts of the Scheme in which they are interested for further details of the grants and the conditions on which they may be claimed. The general conditions of grant at the start of the Scheme should also be read.

Safety Training. where appropriate, must be an integral part of any training for which grant is claimed 4

Levy. The levy payable during the fourth levy period which ends on 5th April 1969 will be 0·7% on emoluments plus 0·7% on payments made for labour only services, payable in one instalment on 1st April, 1969.

Grants for Overseas Nationals. Grants are payable for the training of overseas nationals providing the usual requirements of the Levy/Grants Scheme are satisfied. It should be noted that subsistence allowance is not payable merely on the grounds that an overseas trainee is away from his home in another country.

Ministry of Labour Grants. All employers are advised to read Appendix 4 for details of grants which may be available in addition to CITB grants.

CITB STATEMENT OF THE PRINCIPLES OF SOUND TRAINING

Long-standing traditions in the construction industry have consistently favoured 'on-the-job training' as the means of acquiring proficiency in both craft and non-craft operations, in keeping with the personal development of the trainee. Only in recent years has there been any serious departure from this method, notably by the development of part-time off-the-job instruction for the craft skills, provided mainly in technical colleges, and associated with technical education and liberal studies.

Generally speaking, training is more effective when conducted under systematic conditions off-the-job; but there are operations for which this kind of instruction is difficult to set up, or too expensive to be justified. All training, however, whether it is given off- or on-the-job, or as a combination of both, should be systematic, based on a predetermined programme with in-built standards.

The essential features of systematic training to ensure sound and effective progress may be summarised as follows:

(a) A nominated member of management to be responsible for the planning and oversight of training.

(b) An assessment of the operations involved, the personnel and numbers requiring training, how such training should be organised, and who will be responsible for it: this assessment is the outcome of an overall training survey.

(c) Job specification for the operations concerned, prepared by job analysis from first-hand observations of competent operators at work. This ensures that trainees are instructed in the best methods of operation and in safe practices. Job specifications detail operations, tools, materials and equipment, the skills and knowledge required, danger-points, and standards of quality and performance to be achieved.

(d) Task analysis to establish how these operations are carried out. These analyses show the key points in a job, the background knowledge required, procedures for checking faults in order to ensure quality of work, pointers to the avoidance of danger at work, and guides to good performance.

(e) Job specifications and task analyses form the basis of the instruction syllabus. This will show methods and length of training required, the systematic practice desirable, and whether further education is involved requiring attendance at college. Also, proficiency tests or other examinations. **Note:** For some operations planned practical instruction on-the-job is a necessary accompaniment of the basic or introductory training given off-the-job; the diagnosis of operations for the preparation of the job specifications and the training programme will enable the balance of these phases to be realistically determined.

(f) Training to be given by competent instructors, who have been trained in instructional techniques as well as being experienced in the skills and knowledge of the job to be taught. At the very least the training should be given by responsible and competent operators taught to instruct and concentrating for the time being on instruction.

(g) Reports by the instructor and records of trainees' progress to be kept, so that deficiencies can be systematically overcome. These also help to improve the training programme and instruction methods.

Notes

(a) Part of the service of CITB to the construction industry will be the preparation and provision of basic job specifications, task, analyses and recommended training programmes for a wide-ranging variety of operations. These will sometimes be prepared and provided in co-operation with the appropriate specialist employer or trade association.

(b) In the course of the diagnostic and development work for the preparation of training recommendations, CITB personnel will always ensure the proper consultation with the employer or trade associations, the trades unions, the educational authorities, or other pertinent bodies.

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GENERAL CONDITIONS OF GRANT

1. Grants announced in this scheme will be payable only in connection with training taking place during the training year 1st August, 1968 to 31st July, 1969 and only to employers who have paid their levy.

2. All training must be related to the trainee's present or future work in the construction industry.

3. Grants for young trainees undergoing a substantial period of training will only be payable if they are given day release or the equivalent by block release, where appropriate part-time courses are available. For the time being this will be interpreted as applying to trainees who are undergoing training for a period normally of at least twelve months, and who have not reached their eighteenth birthday. By day release the Board means at least one full day per week during normal working hours.

4. (a) Employers claiming grant must be able to satisfy the Board that a suitably planned programme of training is being followed for each category of employee for whom grant is being claimed, or that arrangements are being made to draw up and implement such a programme.

(b) Where appropriate, safety must be an integral part of training; arrangements should also be made for instruction in health and welfare and in relevant legislation.

(c) Details of training programmes must be open to inspection by the Board's representatives.

(d) Where the employer does not take steps to comply with the Board's requirements or where the Board is not satisfied that adequate training is being given, grants may be withheld or reduced.

5. The training of all employees for whom grant will be claimed must be recorded, and the records must be open to inspection by the Board's representatives. Advice on the keeping of training records is given in Appendix 5.

6. When claiming grants employers will have to certify that during the periods of training they have paid the trainee salary or wages at not less than the normal rate.

7. No approval expressed by the Board in connection with any course or condition in the following scheme will be valid or recognised by the Board unless it is in writing and signed by an authorised officer of the Board.

8. In all matters relating to the interpretation of this scheme the Board's decision is final.

Note: Since this booklet was in print the name of the Ministry of Labour has been changed to the Department of Employment and Productivity.

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PART A

FIXED SCALE GRANTS

9. **Purpose.** To encourage an employer to ensure that his apprentices and other trainees are properly trained, including attendance at day or block release courses for further education and training.

10. **General**

(a) Trainees who attend part-time courses covered by Part A of the Grants Scheme and who do other training may also attract grants under other parts of the Scheme.

(b) **Application for places in Technical Colleges.** It is especially important that as much advance notice as possible is given to technical colleges of places required, and particularly of any proposals by a firm or firms which differ substantially from previous practice, e.g., a large increase in numbers or a request for block release instead of day release. Colleges will gladly advise on the availability of suitable courses.

Grants for Apprentices or Trainees on Basic Craft Courses

11. **Scale of Grant**

(a) **Rate.** Where an apprentice or trainee attends an approved part-time course (or courses) by day or block release, the rate of grant will be £2 10s. for each day's actual attendance.

(b) **Subsistence and Travelling Allowances.** See Appendix 6.

12. **Conditions**

(a) **Attendance.** For the final grant claim for the training year the CITB will require a certificate of attendance from the college showing possible and actual attendance in days or hours and the standard number of hours in one day's attendance. Grant will only be paid for those days on which the trainee actually attends the course. If absences which cannot be satisfactorily explained exceed 25%, i.e. one day in four, of possible attendance, no grant will be paid. Sickness, but not normally annual holidays, will be accepted as a reason for being unable to attend. Employers should ensure that technical colleges inform them promptly of any absences.

(b) **Registration.** Before an employer will qualify for this grant an apprentice or trainee must be registered with one of the administering bodies listed in Appendix 1, except as provided in paragraphs 13(c) and (d) below.

(c) **Payment of Wages.** In claiming grant the employer must certify that he has paid the apprentice or trainee not less than the full appropriate rate of wages for days or periods of release, and has paid any connected examination fees if this is not in conflict with current apprenticeship agreements.

(d) **Duration.** The CITB will not normally grant aid for more than four years an apprentice or trainee following a basic craft course.

(e) **Courses.** The course must be among those listed at Appendix 2A, or subsequently approved by the CITB.

13. **Notes**

(a) Grants will be payable under paragraphs 11 and 12 for apprentices or trainees who start their further education course after one or two terms.

(b) Where an apprentice or trainee is engaged but remains on probation, any claim for grant may relate back to the time when he began his training and further education pro-

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vided that an indenture or written service agreement is entered into within twelve months. When it can be shown that a probationary apprentice or trainee is unsuitable for indenturing, grants may be claimed for the probationary period or any part of it.

(c) Fixed scale grants in respect of apprentices and trainees following trades not covered by any of the administering bodies in Appendix 1 will be payable in accordance with the conditions of paragraphs 12(a), (c), (d) and (e). (See also note 13(d).)

(d) A variable grant will be payable to an employer for releasing a trainee to a day or block release course when the trainee is too old to be indentured as an apprentice. The conditions of paragraphs 12(a) and (e), 27 and 28(b) will apply.

(e) DELETED.

(f) While the Board does not relate fixed scale grant to evening class attendance, because such attendances are outside the time for which the employer pays, it wishes to encourage attendance at those evening classes which are an integral part of a day or block release course. Attention is drawn to the obligation of indentured apprentices to attend all sections of their appropriate courses. (See Appendix 6 for subsistence and travelling allowances.)

(g) When the apprentice or trainee cannot attend a course by day release, because the nearest technical college with a suitable course is more than 1½ hours' travelling time in each direction from the apprentice's or trainee's home or place of residence, and when no alternative block release course is available, then the employer may claim a grant of such amount as the Board may determine provided he advises the Board of the circumstances before 1st October, 1968.

(h) Where it can be shown to be desirable for his future employment in the construction industry an apprentice or trainee may attract fixed scale grants for attending more than one course in one training year.

Grants for Other Trainees Attending Part-time Courses

14. **Scale of Grant.** Where a trainee attends an approved part-time course (or courses) by day or block release, grants will be payable at the following rates:

(a) Courses in Appendix 2B, for example the Certificate in Office Studies, £2 10s. a day.

(b) Courses in Appendix 2C, for example the General Course in Construction, all years of advanced craft courses, certain technicians' courses, and courses for an Ordinary National Certificate, £3 10s. a day.

(c) Courses in Appendix 2D, for example courses for the Higher National Certificate and for the Certificate of Supplementary Studies to the Ordinary National Certificate, £4 10s. a day.

(d) Courses in Appendix 2E, for example the Certificate of Supplementary Studies to the Higher National Certificate and part-time courses at a higher academic level than the Higher National Certificate such as courses leading to certain professional qualifications, £5 10s. a day.

15. Other courses of a standard acceptable to the Board may be approved from time to time.

16. **Travelling Allowances**

See Appendix 6.

17. **Subsistence Allowances**

See Appendix 6.

18. **Conditions**

(a) **Attendance.** The requirements of paragraph 12(a) will apply.

(b) **Payment.** The employer must certify that he has paid the trainee not less than his usual rate of wages for days or periods of release, and has paid any connected examination fees if this is not in conflict with current service agreements.

(c) While the Board is in favour of formal service agreements for trainees at technician level and above, it does not at present insist on them as a condition of grant. A claim for grant in the case of a trainee without a formal service agreement must normally be accompanied by a certificate from the employer that he has begun the trainee's employment and training by 1st October, 1968, and will continue it until at least the end of the training year 31st July, 1969. Where the employment and training of a trainee starts after 1st October, 1968, the employer must certify that the training will continue for at least 12 months.

19. **Notes**

(a) Grants will be payable under paragraphs 14 to 18 for trainees who start their further education course after one or two terms.

(b) The provisions of paragraph 13(h) will apply.

(c) An employer may claim variable grants instead of fixed scale grants for releasing trainees to day or block release courses if the trainee is 21 or older. The conditions in paragraphs 12(a), 27 and 28(b) will apply and the course must be among those listed in Appendix 2B to E.

Other Fixed Scale Grants

Graduate Trainees

20. **Purpose.** To assist the employer with the cost of employing and training a graduate for two or three years in the industry before he is fully effective.

21. **Scale of Grant.** £30 a month. When the trainee is still studying for a professional qualification and has not yet reached the age of 30, the grant will be payable for a maximum of 36 months, which need not be continuous. For other trainees the grant will be payable for a maximum of 24 months. As an alternative for any given period grants may be claimed under Part B, External Courses, or Part C, In-Company Training. Subsistence and travelling allowances may be claimed as in Appendix 6.

22. **Conditions**

(a) For the purpose of this paragraph the term 'graduate' means the holder of a university degree or a degree of the Council for National Academic Awards or a Diploma in Technology or an equivalent qualification recognised by the Board.

(b) This grant will be payable only if the employer can certify that the graduate concerned is familiarising himself with work in the construction industry during his first two or three years in the industry after graduation.

(c) The training must follow a planned and recorded programme approved by the Board.

(d) Where a graduate trainee serves with more than one employer during the period covered by the grant, proportional grants will be paid.

(e) The grant may be paid to the main employer in respect of periods during which a trainee is temporarily transferred to another firm for the purpose of furthering his experience.

23. **H.N.D. and O.N.D.**

(a) **Higher National Diploma.** Employers of holders of a Higher National Diploma may claim grants on the basis of paragraphs 20 and 21, and subject to the conditions of paragraphs 22(b), (c), (d) and (e), excepting that the grant will be £21 a month and for each trainee the maximum duration of the grant will be 24 months.

(b) **Ordinary National Diploma.** Employers of holders of an Ordinary National Diploma may claim a grant of £9 a month under similar conditions for up to 1 year.

Sandwich Courses—Industrial Part

24. An employer may claim grant for the training given to students doing the industrial part of a sandwich course leading to Ordinary National Diploma, Higher National Diploma or any of those qualifications mentioned in Appendix 2F. Both college-based and industry-based students will attract these grants.

25. **Scale of Grant**

(a) A monthly allowance of £51 for each month of industrial training given.

(b) As an alternative to the grant of £51 a month, grants may be claimed under Part C, In-Company Training, for any given period.

(c) Subsistence and travelling allowances will be payable as shown in Appendix 6.

(d) The Ministry of Labour also gives grants in addition to the CITB grants; these grants are restricted to courses which started in the three academic years 1965/6 to 1967/8. For courses leading to a degree of a technological university or an award of the Council for National Academic Awards, the grant is at the rate of £80 a year, and for Higher National Diploma courses at the rate of £60 a year, for the first 12 months in industry, whether in one or two periods. These grants will be payable through the CITB after they have been agreed by the Ministry.

Supplementary Grant

A supplementary grant of 20% of the grants payable under Part A, including subsistence and travelling allowances, will be paid to all employers.

How to Claim Grants

For details of how to claim grants please refer to Part F of the scheme.

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PART B

VARIABLE GRANTS FOR EXTERNAL COURSES

26. **Purpose.** To encourage firms to improve the effectiveness of their employees and the contribution which they can make to the industry by sending them on courses relevant to their work and development.

Scale of Grant

27. (a) **Wages and Salaries.** Grants will be paid in accordance with the scales shown in Paragraph 38(d) which will cover at least 100% of wages or salaries.

(b) **Fees.** 75% of fees (and residential charges when included) for courses and examinations where the Board has approved the establishment, the course and fee. (See paragraphs 33 and 35.)

(c) **Subsistence and Travelling Allowances.** See Appendix 6.

(d) **Consolidated Grant.** As an optional alternative, CITB offers lump sum grants for certain courses, broadly equivalent to variable grants except that they do not cover travelling expenses which should be claimed separately. For details see the list of approved courses referred to in Appendix 3.

Conditions

28. (a) The course must be approved by the Board. See Appendix 3. Further details may be obtained from the Board on request. Other courses will be approved from time to time, and firms wishing to use courses which are not shown as approved are invited to communicate with the Board.

(b) Claims for these grants must be supported by detailed statements of the cost to the employer. The Board will call for auditors' certificates on a sample of claims selected at random. Where an auditor's certificate is called for, the auditor's fee for preparing the certificate may be reclaimed from the Board.

(c) For plant operator courses at CITC the grant for wages (see paragraph 27(a)) will not normally exceed £25 a week (or salary range 5).

Pre-Craft Courses

29. Approved part-time pre-craft courses intended to bring young apprentices up to the standard required for entry to a craft course will be eligible for grant under paragraphs 27 and 28. The attendance requirements at paragraph 12(a) will apply.

Full-Time Craft Level Training Courses

30. Certain public educational establishments and Government Training Centres provide full-time craft level training courses. If the trainees are in employment these courses will attract grant under the general provisions in paragraphs 27 and 28 if the courses and the fees have been approved by the CITB. These courses will not normally be less than six months or more than one year but the Board will consider proposals outside these limits.

31. Grants for these courses will be subject to the following further conditions:

(a) Grants will be paid in accordance with paragraph 38(d), and will be based on a rate of wages not exceeding the level fixed by the appropriate joint negotiating machinery.

(b) At least these wages must have been paid to the employee during attendance at the course.

(c) Where appropriate, paragraphs 12(b) and 13(b) will apply.

(d) Grants under paragraph 30 will not be awarded for pre-apprenticeship courses.

32. **Note.** The charge made by local education authorities for the industrial training element of first year full-time apprenticeship courses amounts to about £240 a year.

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Courses for Training Staff

33. The Board particularly wishes to encourage a greater proficiency in training in the construction industry. Employers releasing training staff or those scheduled to become training staff to attend approved courses for training officers, supervisors and instructors at major establishments, may claim grant as in paragraphs 27 and 28, except that 100% of the fee will be paid by the Board.

34. **Condition.** The Board reserves the right to refuse payment of this grant for training officers' courses if it is not satisfied that the trainee is suitably qualified or experienced. Employers intending to send trainees on courses for training officers should therefore submit to the Board in advance details of their qualifications and experience.

Courses in Safety Training

35. The Board recognises that safety training is of particular importance to the construction industry, and employers releasing employees for courses of training approved by the Board may claim grant at the higher rate as in paragraph 33. These grants may also be claimed for safety officers of safety groups approved by the Board.

Training Overseas

36. Courses in other countries may be eligible for grants when it can be shown that appropriate training is not available in the U.K. and the Board is satisfied that the trainee selected is suitable in every respect. Grants will be payable under paragraphs 27 and 28 with the proviso that payment of travelling expenses will not normally exceed half the cost of overseas travel. Employers wishing to claim grants for training overseas should seek the prior approval of the Board.

Other Courses

37. Certain types of course will attract grants as follows:

(a) **Short Courses and Seminars.** The Board will not normally approve for grant under paragraphs 27 and 28 courses lasting less than two days. This limitation will not apply to approved courses in safety training. Courses lasting two days must be held on consecutive days. Courses lasting three days and more need not be held on consecutive days, but each day must be an integral part of the same course. Salaries or wages will only be grant-aided for attendance on normal working days, or when the trainee is paid for attendance on Saturdays.

(b) **Evening Classes.** Courses of six or more approved evening classes will be eligible for grants towards the cost of fees and travel under paragraphs 27 and 28. No grant will be payable for wages or salaries. These grants are not given for courses available by day or block release unless the trainee is 21 or older. Grants in these cases will be subject to review by the Board after this training year.

(c) **Character Building and Similar Courses.** Although in general the Board offers grants only for courses directly related to an employee's present or future employment in the construction industry, it acknowledges the indirect value of certain other courses, such as Outward Bound and those covered by the Duke of Edinburgh's Award Scheme. For approved courses of this type the grant will not exceed 50% of the fee, and grant may not be claimed for any other expenses. The courses already approved by the Board are shown in Appendix 3.

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Notes

38. (a) Trainees attending part-time courses for which grants may be claimed under Part A of the Scheme may in addition attract variable grants for attendance at courses approved under Part B.

(b) The attention of employers is drawn to paragraphs 13(d) and 19(c) in Part A which state the circumstances in which variable grants instead of fixed scale grants may be payable for attendance at the part-time courses approved under Part A.

(c) Grants in accordance with Part B of the scheme will be paid for trainees attending in-company training schemes or group training schemes approved by the Board under Parts (C) or (D) respectively.

(d) **Wages and Salaries—Scales of Grant.** Wages and salaries will be reimbursed under paragraph 27(a) at a fixed rate per day dependent on the salary range of the employee, as follows:

Annual Salary	*Average weekly Salary*	*Salary Range*	*Grant per Normal Working Day*
up to £499	up to £10	2	£ 2
£500 to £749	£10 0s. 1d.—£15	3	£ 3
£750 to £999	£15 0s. 1d.—£20	4	£ 4
£1,000 to £1,249	£20 0s. 1d.—£25	5	£ 5
£1,250 to £1,499	£25 0s. 1d.—£30	6	£ 6
£1,500 to £1,749	£30 0s. 1d.—£35	7	£ 7
£1,750 to £1,999	£35 0s. 1d.—£40	8	£ 8
£2,000 to £2,249	£40 0s. 1d.—£45	9	£ 9
£2,250 to £2,749	£45 0s. 1d.—£55	11	£11
£2,750 and over	over £55	13	£13 (maximum of £65 a week)

For employees paid at an hourly rate the salary range may be based on the average total of weekly wage and bonus for the twelve weeks immediately before attending the course, or the actual period in employment, whichever is the shorter.

Supplementary Grant

A supplementary grant of 20% of the grants payable under Part B, including subsistence and travelling allowances, will be paid to all employers.

How to Claim Grants

For details of how to claim grants please refer to Part F of the scheme.

PART C

IN-COMPANY TRAINING

Purpose

39. The grants in this part of the Scheme are intended to encourage employers to employ suitable training staff and to develop their own training schemes when this is the most efficient way of meeting the training needs of the firm. Grants may be claimed for approved induction training as well as other training.

Notes

40. (a) **DELETED**

(b) Employers offering places in their own in-company training schemes to other organisations are advised to consult the Board about the grant implications.

Training Staff

41. **Scale of Grant.** For training officers, training supervisors and instructors who are engaged full-time on training duties (including selection of trainees), the Board will pay grant to the extent of 50% of their salaries or wages. This scale of grant will be raised to 90% when the Board is satisfied that individual members of the training staff have successfully completed courses in their own training duties approved by the Board, or are otherwise qualified by years of experience for their training duties. Intermediate levels of grant between 50% and 90% will be established by CITB Training Division on the basis of a points scheme. Copies of this may be obtained on request. Both the scale of grant and the points scheme will be subject to revision in future training years. Details of travelling and subsistence allowances for training staff are shown in Appendix 6. Grants under this paragraph are available for full-time site instructors responsible for planned on-the-job training of apprentices who have been trained off-the-job in an approved in-company or group training scheme.

42. **Clerical Assistance.** To help with the cost of clerical assistance for training staff, 25% of the grant payable under paragraph 41 excluding travelling and subsistence allowances may be claimed.

43. **Conditions**

(a) Grants for salaries and wages under paragraph 41 will be reduced *pro rata* if the employee is not engaged full-time on training duties. Grants may be claimed under paragraph 62 for staff who are not training staff but give occasional instruction in in-company training schemes.

(b) In claiming grants the name, address, official title and date of appointment of each person concerned will have to be given with a detailed statement of all his duties.

Off-the-job Training Schemes

44. It has always been the policy of the Board that in-company training schemes and courses should be approved by the Board for grant, if possible before the training starts. This policy will continue in the training year 1968/69. Courses should satisfy certain general requirements if they are to be grant-aided. These are:

(a) The need for the particular course will have to be shown to be based on an assessment of the training requirements of the firm or department.

(b) The course content should be based on the actual skills and knowledge required of a person in the particular job at which the course is aimed.

(c) Following from (a) and (b) the objectives of the course should be clearly stated and a syllabus and programme produced to show how these will be achieved.

In addition to the points noted above the Board requires certain other information about an internal course before it can be approved. The Board obtains this information by asking firms to complete a questionnaire which has been specially prepared for internal

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courses. During the year 1968/69 continuing attention will be paid, among other things, to the quality of instruction at internal courses, both in terms of the instructor's knowledge of his subject and his ability as an instructor, and to the cost per trainee of running internal courses particularly when this increases sharply because the number of trainees is very small. The provisions of paragraph 37(a) relating to short courses will apply.

45. **Scale of Grant**

(a) Grants for training staff will be as in paragraphs 41, 42 and 43 above. Where the use of consultants' services has been approved by the Board the grant for consultants' fees and expenses will not exceed a total rate of £36 per consultant day, including the customary professional supervision services.

(b) 75% of the rent or hire or of the approved rate of depreciation*, and 75% of the appropriate overheads, of any building, place, plant, machinery or equipment devoted to training with a *pro rata* reduction of costs for a building used partly for training. Where a building is used mainly for training (i.e. for more than six months in the year) grant will cover the whole year except for periods when it is used for another purpose. Where a building is used occasionally for training, grant will only cover the period during which it is so used. Grants will also be available towards the interest on the agreed cost of new buildings. Details may be obtained from the Board.

(c) 75% of the cost of materials used in training.

(d) **Grants for Trainees.** Grants for trainees during attendance at an off-the-job training course will be paid in accordance with Part B, namely wages (by scale), and subsistence and travelling allowances.

(e) DELETED

46. **Conditions**

(a) The Board may call for auditors' certificates in support of claims for grants for in-company training schemes on the lines of paragraph 28(b).

(b) In claiming grant for an off-the-job training scheme, an employer must provide a statement either giving the value of any output used or sold, or certifying that the training does not result in saleable or useable products. The value of any output used or sold will be deducted from the allowable costs on which the grant will be based.

(c) The CITB reserves the right to inspect the training scheme at any time.

47. **Ministry of Labour Grants.** The Board will pass on to employers the grants which may be claimed from the Ministry covering 25% of the current costs associated with additional off-the-job training places. Such training places provided since 1st August 1965 may attract these grants. Other grants are available from the Ministry for employers in development areas. For further details of these grants, which are payable in addition to the CITB grants, please refer to Appendix 4.

On-the-job Training Schemes

48. (a) **Policy.** On-the-job training, if properly planned and controlled, is the essential complement to off-the-job training in the construction industry. However, conditions in the industry vary so widely that it has not so far proved possible to devise a comprehensive scheme of grants which would be fair to firms operating in all circumstances. Where

*Approved rates of depreciation are:

For buildings 5% to 20% per annum, depending on the life of the building, calculated on original cost; for equipment 20%; for furniture 10%.

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specialised sections of the construction industry are generally unable to take advantage of this Grants Scheme for training their operatives because no off-the-job training facilities have yet been created and no CITB training recommendation for their special activity has yet been published, or where circumstances are such as to render basic off-the-job training unreasonable for clearly objective reasons, the CITB will, through its Industrial Committees, consider proposals for special training schemes based on the Principles of Sound Training at page 8. On scrutinising these schemes the Board will consider whether to offer firms adopting them an interim grant as a stop-gap measure until suitable training recommendations and, where possible, off-the-job training facilities have been developed.

(b) **Grants.** Grant will be paid under paragraph 41 of the Scheme for instructors, including approved supervisors and competent operatives who are taken off their normal work. For operatives under training grant will be related to the CITB training staff's estimate of the period of training required and a training value will be allotted to each operation. The grants will normally be between £10 and £60 for each operation or stage in which the operative is trained; the Industrial Committees will advise the Board on any special circumstances which may necessitate the payment of grants outside this scale. During the 1968/69 training year the Industrial Committees will apply the Principles of Sound Training at page 8 with reasonable flexibility. Employers must be able to show that a trainee has been under training for his job for the first time and is not already an experienced worker who has been instructed in the same job in another firm of the same or an allied trade.

(c) From time to time the Board will publish training recommendations for the above categories of trainee and others. The grants offered for various elements of training recommended will then be announced.

Management Development

49. The Board wishes to encourage the initiation of management development activities covering all grades of management and supervision. While recognising that action taken by firms in initiating management development activities must be related to the needs and circumstances of individual firms, the Board has laid down the following initial minimum requirements:

(a) A senior executive in each firm must hold, and be known to hold, clear responsibility for planning, carrying out and reviewing all aspects of management training and development appropriate to that firm.

(b) An estimate must be made by the firm of its present and future requirements for management and supervision manpower.

(c) Management job descriptions must be prepared initially for the more important posts, and be available for inspection.

(d) An appraisal scheme must be prepared and initiated, calling for assessment of performance of managers and supervisors at appropriate intervals, with suitable records of the assessments.

(e) Records must be established containing evidence of necessary training assignments and progress of performance.

(f) Evidence must be provided to show that programmes of training and development have been initiated in consequence of the foregoing.

Scale of Grant

50. A grant of 0·1% of the firm's annual assessable emoluments on which the levy is calculated will be paid in each year for a period of 3 years.

Condition

51. In order to qualify for this grant, firms will have to satisfy the Board that the minimum initial requirements in paragraph 49 have been fulfilled.

Notes

52. (a) This grant may be claimed in addition to the grants available under other parts of the scheme for management and supervisory training.

(b) An employer who has initiated these management development activities before this Grants Scheme becomes effective will not forfeit the grant on that account.

(c) Firms wishing to claim this grant should apply to the Board's Area Staffs for further advice.

Supplementary Grant

A supplementary grant of 20% of the grants payable under Part C, including subsistence and travelling allowances, will be paid to all employers.

How to Claim Grants

For details of how to claim grants please refer to Part F of the scheme.

(Paragraph numbers from the last Grants Scheme, so far as possible, have been retained up to paragraph 48.)

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PART D

GROUP TRAINING SCHEMES

Purpose

53. The Board is most anxious to encourage groups of firms in as many localities as possible to form non-profit making training associations to organise group training schemes on their behalf. These schemes will provide training facilities for members of the group which would normally only be possible in a really large firm.

Grant Claims by Firms

54. Firms which are members of a training group should claim grants directly from the CITB for their employees on day or block release, according to the regulations for fixed scale grants (Part A). They should also claim directly the variable grants for attendance at courses external to both the firm and the group (Part B). If they have their own training staff and in-company training schemes they should claim grants under Part C. For trainees attending off-the-job courses run by the group, they should claim grants in accordance with Part B.

Grant Claims by Associations

55. An association formed to organise the group training scheme, if approved in advance by the Board, may claim grant directly from the Board on the lines of grant announced in Part C, In-Company Training, except those under paragraph 45(d) which will be claimed by the individual firm. Part E grants should be claimed as appropriate depending on whether they apply to the group as a whole or to the individual firms.

56. In certain cases CITB may make special grant arrangements with group training associations to permit flexible and economic use to be made of resources, especially when these can be shared.

57. **Scale of Grant**

(a) The scale of grant for this training year will be the same as specified in Part C except that grants for group training staff will be between 75% and 100% of salaries or wages depending on qualifications and experience. In addition a mileage allowance of 8d. per mile for private motor transport, instead of the cost of second-class travel by public transport, may be claimed for group training officers/instructors travelling on duty. Subsistence allowances will be as shown in Appendix 6. The rent of approved office accommodation for the group training staff will also be reimbursed by the Board.

(b) The Board will consider applications for development grants and /or loans up to a maximum of £2,500 for each newly-formed group training association to assist with initial development costs.

58. **Conditions.** The same conditions as for in-company training schemes apply. In addition, it is a condition of grant which is being paid direct to a group training association that:

(a) A majority of the firms which are members of the group are within the scope of the CITB and have paid their levy to this Board. (Other firms may belong to other industries, e.g. shipbuilding.)

(b) The group training association has been registered with the CITB.

(c) Membership of the association is open to firms which pay levy to the CITB.

(d) Because of the possible variation in grant between 75% and 100%, appointments of training staff are made in consultation with the Board.

Supplementary Grant

A supplementary grant of 20% of the grants payable under Part D, including subsistence and travelling allowances, will be paid. (The development grant/loan facilities under paragraph 57(b) will not qualify for the supplementary grant.)

How to Claim Grants

For details of how to claim grants please refer to Part F of the scheme.

PART E

SPECIAL GRANT ARRANGEMENTS

Surveys of Training Needs

59. The Board will assist firms and employer and trade associations with the cost of approved surveys of training needs. Before giving its approval the Board will require full details of the nature, length and cost of the survey and will enquire into the qualifications and experience of those undertaking it. Once the Board has approved the proposals for the survey and the consultant's report has been submitted to the Board, a grant of 75% of the consultants' fees and expenses up to a maximum rate of grant of £36 per consultant day (including the customary professional supervision service) will be paid.

Training Within Industry Scheme

60. The Ministry of Labour's T.W.I. Scheme is aimed at developing skills in supervision. Courses can be taken on-site or at Employment Exchange premises and will qualify for the appropriate grants under paragraphs 27 and 45(b) and (c).

Exchange Visits and Attachments—Industrial/Educational Establishments

61. Firms may reclaim the costs directly incurred in receiving members of staff from universities, technical colleges and other major establishments of further education with a view to improving educational courses. (Entertainment expenses are not covered.) The costs incurred in receiving the trainee training staff of other firms or of CITB on approved training attachments or attachments for project work may also be claimed.

62. Firms releasing members of their staff from their normal duties during working hours to conduct or assist in courses approved by the Board for grant purposes may claim from the CITB 100% of the salaries or wages payable over the working time for which they are released.

Correspondence Courses

63. An employer who has borne the cost of a correspondence course for a craft apprentice or trainee and can show that, for the purpose in view, no adequate alternative exists and that the correspondence course has been used within a programme of training approved by the Board, may claim 75% of the fees paid to a correspondence college and 75% of the cost of necessary text books.

Industrial Attachments

64. Employers may claim a grant of £5 a week towards the cost of providing industrial training for students on industrial attachments. The trainee must be pursuing or preparing for a degree, diploma or other course approved by the Board to which training in the construction industry will be complementary or must be a student in the professions associated with the construction industry. The period of attachment must be for not less than 6 weeks and must follow a properly planned programme of training approved by the Board. Subsistence allowances may be claimed as shown in Appendix 6.

65. A grant of £5 a week may also be claimed by employers of students who have been granted a deferred place at a university and are given up to 12 months industrial training before starting their course. The programme will require the prior approval of the Board.

Notes

66. (a) Grants for industrial attachments will not be payable for periods for which a local education authority or other award has been given.

(b) DELETED

Apprentice and Other Competitions

International Apprentice Competition

67. The board will pay grant to employers who nominate apprentices for selection for the International Apprentice Competition, and also to those employers whose apprentices are selected to take part in the Competition, as follows:

(a) Half the cost to the employer of a candidate attending the one-day final tests and final interviews, i.e. the costs of travel, necessary accommodation and wages.

(b) The full costs of the wages paid to competitors during the fortnight of the Competition.

68. The Board will not reimburse the cost of the nomination fee for entry to the selection procedure, or the cost of an apprentice's travel, accommodation and wages during the initial regional tests.

Apprentices' Competition, Building Exhibition at Olympia

69. Employers of apprentices entering the biennial competition at the Building Exhibition may claim the cost of travel and necessary accommodation and half the cost of wages.

Other Competitions

70. Grants will also be available to employers of apprentices and other trainees who enter or who have won an award in other technical competitions approved by the Board from time to time. The grants will normally be the cost of travel and necessary accommodation and half the cost of wages or salaries.

Training Aids and Programmed Learning

71. Training aids and programmed learning can play an important part in a carefully planned programme of systematic training. Grants are available for the purchase or hire of equipment and teaching machines, and of films, other training aids and learning programmes. Grants are also available for the production of learning programmes, and in certain circumstances for the production of films. For details of these grants see Appendix 7.

Ministry of Labour Grants for Development Areas

72. Employers in development areas are reminded that training grants may be available direct from the Ministry of Labour in addition to the grants obtainable from CITB. Full details are available from local Ministry of Labour offices. (See Appendix 4.)

Research

73. Firms contemplating projects for research into training methods are invited to forward their proposals to the Board which will consider whether they can be grant-aided.

Post-Graduate Courses

74. The Science Research Council is the central government agency for the award of post-graduate studentships and fellowships in the areas of science not covered by other research councils and for the whole of technology including the construction industry.

75. Where the terms of a Science Research Council award permit an employer to top up the trainee's salary without any reduction in the size of the award, the element of topping up by the employer may be reclaimed from the CITB up to a maximum of £1,000 per annum. Where no Science Research Council or other award has been given, approved post-graduate courses of similar standing may be eligible for an equivalent grant from the CITB (after taking account of the 20% supplementary grant), and also the grant for the topping up of salary.

76. Employers wishing to claim grants for post-graduate courses should seek the prior approval of the Board in good time, as each case will need careful scrutiny before a decision can be made on whether a CITB grant can be given.

Re-training at the Construction Industry Training Centre

77. Unemployed persons wishing to attend a course at the Construction Industry Training Centre may be allocated a place if the course is not fully booked for employees of firms paying levy to the Board and if the entry requirements to the course are satisfied. Such trainees will be grant-aided directly by the Board to the extent of 75% of the full economic fee charged to employers who have not paid levy to the Board; e.g. for a course costing £80 to employers not on the register (£60 to those on the register) the charge to the trainee would be £20. Reasonable travelling expenses for one journey to and from the Centre will be paid. The same facilities are available to pre-release servicemen, and applications from other individuals will also be considered.

Metrication Training

78. The Board's arrangements for assisting employers in training and re-training for metrication will be announced later.

Supplementary Grant

A supplementary grant of 20% of the grants payable under Part E, including subsistence and travelling allowances, will be paid to all employers.

How to Claim Grants

For details of how to claim grants please refer to Part F of the scheme.

PART F

HOW TO CLAIM GRANTS

Forms for Claiming Grants

79. To enable employers to know what information will be required when forwarding claims, the main headings of the claim forms referred to below are shown at the end of this booklet, in Appendix 8.

Fixed Scale Grants: Part A

80. From 1st January, 1969 an INTERIM grant on account of the total grant due for the training year may be claimed by an employer. A claim form (see page 53) will be provided on which an employer will certify the number of apprentices/trainees attending day or block release courses, of graduate trainees, of holders of H.N.D. or O.N.D., and of sandwich course students in his employment. A payment of £40 for each of these trainees will be made. Attendance certificates are not required with this interim claim.

81. The FINAL claim form for the whole training year 1968/69 (see page 53) will be provided at the end of the training year for the employer to enter in it all details required to support a claim for grant under Part A of the Scheme so far as it relates to attendance at day or block release courses. College attendance certificates are required with this claim form. Claim for grant to offset the effects of Selective Employment Tax may be made in the Other Items column for apprentices or trainees on block release courses under the conditions given in Appendix 4. The date of birth must be given in the Remarks column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

82. A separate final claim form (see page 54) will be available on request on which an employer may claim grants for sandwich course students doing the industrial part of a sandwich course, for graduate trainees, and for holders of H.N.D. or O.N.D. Claim for grant to offset the effects of S.E.T. may be made in the Other Items column for the college part of sandwich courses and for certain university courses under the conditions given in Appendix 4. The date of birth must be given in the Remarks column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

83. Any interim grants of £40 per trainee already paid to an employer will be deducted from the grant calculated for the whole training year.

Variable Grants for External Courses: Part B

84. From 1st January, 1969 a claim form (see page 54) will be available on request on which an employer may claim grant under Part B of the Scheme on the basis of expenditure incurred for courses completed. Further claims may be lodged as convenient for courses completed during the remainder of the training year. Claim for grant to offset the effects of S.E.T. may be made in the Other Items column for apprentices or trainees on full time courses under the conditions given in Appendix 4. The date of birth must be given in the Remarks column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

Grants for In-Company Training: Part C

85. From 1st January, 1969 a claim form marked 'Parts C and D' (see page 55) will be available on request, on which an employer may claim grants on the basis of expenditure incurred (salaries, wages, subsistence and travel) for internal courses completed. Further claims may be lodged as convenient for courses completed during the remainder of the training year. Claim for grant to offset the effects of S.E.T. may be made in the Other Items column for trainees attending full time off-the-job training courses under the conditions given in Appendix 4. The date of birth must be given in the Remarks column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

86. Claims for grant under paragraphs 45(b) and (c) of the Scheme may be incorporated on the claim form marked 'Parts C and D' or may be listed separately and attached to the claim form.

87. Claims for grant for training staff do not require a claim form. The grant is paid as a result of the employer lodging a completed questionnaire for each member of his training staff.

88. Firms wishing to claim the grant for Management Development described in paragraphs 49 to 52 of the Scheme should apply to the Board's area staffs for advice.

Grants for Group Training Schemes: Part D

89. From 1st January, 1969 a claim form marked 'Parts C and D' (see page 55) will be available on request on which an employer may claim grants on the basis of expenditure incurred (salaries, wages, subsistence and travel) for completed courses run by a group training association. Further claims may be lodged as convenient for courses completed during the remainder of the training year. Claim for grant to offset the effects of S.E.T. may be made in the Other Items column for trainees attending full time off-the-job training courses under the conditions given in Appendix 4. The date of birth must be given in the Remarks column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

90. Claims for which payment is to be made direct to a group training association (see paragraphs 55 to 58 of the Scheme) will be paid quarterly and in a manner agreed between an association and the Board.

Special Grants: Part E

91. From 1st January, 1969 a claim form marked 'Part E' (see page 55) will be available on request on which an employer may claim grants under this part of the Scheme.

Time Limit for Claiming Grants

92. Interim claims for fixed scale grants under Part A of the Scheme should not be lodged after 30th June, 1969.

93. It will not normally be possible for final grant claims for the training year 1968/69 to be accepted after 31st March, 1970. If any firm due to unforeseen circumstances is unable to claim grant by that date, it should give brief details of the reason to the Board before the closing date in order to obtain acceptance of a claim by an agreed later date.

Note

94. The limit to total grant described in paragraph 91 of the 1967/68 Grants Scheme has been removed.

APPENDICES

APPENDIX 1

BODIES ADMINISTERING APPRENTICESHIP SCHEMES
(see paragraph 12(b))

Applications for registration of apprentices/trainees should be addressed as follows:—

National Joint Apprenticeship and Industrial Training Commission of the National Joint Council for the **Building** Industry
F. W. Beazley, Esq., MBE, Clerk to the Council,
The National Joint Council for the Building Industry,
11, Weymouth Street, London, W.1. Tel. 01-580 1740.

Scottish **Building** Apprenticeship and Training Council
R. Hyslop, Esq., Registrar,
Scottish Building Apprenticeship and Training Council,
13, Woodside Crescent, Glasgow, C.3. Tel. Douglas 7144 (041-Dou-7144)

Civil Engineering Construction Conciliation Board for Great Britain
T.N.C. Garfit, Esq., Employers' Secretary,
Civil Engineering Construction Conciliation Board for Great Britain,
Romney House, Tufton Street, London, S.W.1. Tel. 01-222 2544.

Joint Industry Board for the **Electrical** Contracting Industry
G. T. King, Esq., CEng, AMICE, AMIMunE, Barrister-at-Law, Director,
Joint Industry Board for the Electrical Contracting Industry,
Kingswood House, 47-51 Sidcup Hill, Sidcup, Kent. Tel. 01-302 0031.

Joint Apprenticeship Council for the **Electrical** Contracting Industry in Scotland
Jas. Smellie, Esq., CIEE, General Secretary,
The Electrical Contractors' Association of Scotland,
23, Heriot Row, Edinburgh, 3. Tel. 031-225 7221/2/3.

†National Joint Council for the **Felt Roofing** Contracting Industry
R. L. Mills, Esq., Employers' Secretary,
The Felt Roofing Contractors' Advisory Board,
Victoria House, Southampton Row, London, W.C.1. Tel. 01-405 0670.

†National Joint Council for the **Glazing** Trades
L. F. Brett, Esq., FCIS, National Secretary,
The Flat Glass Association, 6, Mount Row, London, W.1. Tel. 01-629 8334/5.

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†Registration is effected in conjunction with the National Joint Council for the Building Industry.

National Joint Council for the **Glass Processing** Industry
L. F. Brett, Esq., FCIS, National Secretary,
The Flat Glass Association,
6, Mount Row, London, W.1. Tel. 01-629 8334/5.

National Joint Industrial Council for **Heating, Ventilating** and Domestic Engineers
Miss L. M. Conway, MBE, Secretary,
Heating, Ventilating and Domestic Engineers' National Joint Industrial Council,
Coastal Chambers, 172, Buckingham Palace Road, London, S.W.1. Tel. 01-730 8245.

†National Joint Council for the **Mastic Asphalt** Industry
D. R. Walker, Esq., FCCS, Secretary,
Mastic Asphalt Employers' Federation,
75, Victoria Street, London, S.W.1. Tel. 01-222 7159.

National Joint Council for the **Monumental** Industry for England and Wales
Mrs. N. White, General Secretary,
The National Association of Master Monumental Masons,
242, Abbey House, 2, Victoria Street, London, S.W.1. Tel. 01-222 6088.

†**Plumbing** Trades National Apprenticeship Council
A. E. Soones, Esq., MRPA, Hon.MIP, Hon. Secretary and Treasurer,
The Plumbing Trades National Apprenticeship Council,
15, Abbeville Road, Clapham, London, S.W.4. Tel. 01-673 8811/2.

Scottish National Apprenticeship Board for the **Plumbing** Industry in Scotland
W. Todd Soutar, Esq., B Com, LLB, BSc.(Econ), General Secretary,
The Scottish Plumbing Employers' Federation.
2, Walker Street, Edinburgh, 3. Tel. 031-225 6842/3.

Joint Apprenticeship Committee of the Amalgamated Union of **Building** Trade Workers of Great Britain and Ireland and the **Refractory** Users Federation
A. P. Hughes, Esq., Secretary,
The Refractory Users' Federation,
21 Devonshire Street, London, W.1. Tel. 01-935 0281/01-486 2371.

National Joint Council for the **Terrazzo Mosaic** Industry
W. Strachan Esq., MA, LLB, Secretary,
The National Federation of Terrazzo Mosaic Specialists,
19-20, Leicester Square, London, W.C.2. Tel. 01-839 6508.

National Joint Council for the **Thermal Insulation** Contracting Industry
C. W. Allen, Esq., FCCS, FRSA, Secretary,
The Thermal Insulation Contractors' Association,
Alderman House, 37 Soho Square, London, W.1. Tel. 01-437 6588.

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†Registration is effected in conjunction with the National Joint Council for the Building Industry.

Note. The courses listed in Appendix 2A–2F are approved for payment of grants under earlier grants schemes.

APPENDIX 2A

BASIC CRAFT COURSES.—RATE OF GRANT £2 10s. PER DAY
(or alternatively Variable Grants under paragraph 13(d))

1. The City and Guilds Craft Certificate Courses in the following subjects:

260	Agricultural Mechanics' Course
82	Brickwork
103A	Cabinet Making
80	Carpentry & Joinery
347	Electrical Craft Practice
58	Electrical Fitters' Course
51A	Electrical Installation Craft Practice (Course A)
51B	Electrical Installation Work (Course B Certificate) (under 18 years)
47	Electronics Servicing
360	Fabrication Engineering Craft Practice
176	Fabrication of Steelwork
13	Gas Fitting (Intermediate Certificate)
334	Glazing
103D	Hand and Spray Polishing (Intermediate Certificate)
337	Heating and Ventilating Engineering Fitting Craft Practice
81	Machine Woodworking
83	Masonry
92	Mastic Asphalt Work
193	Mechanical Engineering Craft Practice (Parts I and II)
169	Motor Vehicle Electricians Work
168	Motor Vehicle Mechanics' Work
85	Painters' and Decorators' Work
61	Pattern-making
84	Plasterers' Work
86	Plumbers' Work Ordinary Craft Certificate
48	Radio & Television Servicing
99	Roadwork
96	Roof Slating, Tiling and Cement Work
66	Sheet Metal Work
183	Ship Joinery
374	Thermal Insulation Craft Practice
103C	Upholstery
335	Wall and Floor Tiling
323	Welding Craft Practice
74	Welding (Ordinary Certificate)

2. Equivalent courses to those listed in paragraph 1 leading to the examinations conducted by the following regional examining bodies:

East Midlands Educational Union
Northern Counties Technical Examination Council
Union of Educational Institutions
Union of Lancashire & Cheshire Institutes
Welsh Joint Education Committee
Yorkshire Council for Further Education

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APPENDIX 2A
(continued)

3. Built-up Felt Roofing Course at Riversdale Technical College, Liverpool (Block Release)
Fireplace Building Course at Glasgow College of Building
Floorlaying Course (including Terrazzo) (Trowel Trades) at Glasgow College of Building
Monumental Masonry at Aberdeen Technical College (Years 1 and 2)
Shopfitting Course at Southend College of Technology (Years 1 to 3)
Terrazzo Apprentices' Course at Hall Green Technical College, Birmingham (Block Release)

APPENDIX 2B

OTHER COURSES—RATE OF GRANT £2 10s. PER DAY

(or alternatively Variable Grants under paragraph 19(c))

OFFICE STUDIES

1. The Certificate of Office Studies

2. The following courses of the Scottish Council for Commercial, Administrative and Professional Education:

Audio Typewriting
Business Machine Operators Certificate
Junior Secretarial Certificate
Secretarial Certificate
Scottish Certificate in Office Studies

3. Courses by day or block release leading to the qualifications of the following regional and other examining bodies:

East Midlands Educational Union
London Chamber of Commerce
Northern Counties Technical Examination Council
Royal Society of Arts
Union of Educational Institutions
Union of Lancashire and Cheshire Institutes
Welsh Joint Education Committee
Yorkshire Council of Further Education

OTHER COURSES

4. The following City and Guilds Courses:

134 Certificate in Retailing
903 Electrical Wholesaling Course
325 Graphic Reproduction (Years 1 to 3)
215 Lithographic Printing (Years 1 to 3)
418 Maintenance and Repair of Construction Plant
188 Solid Fuel Production, Distribution and Utilization (2 years)
296 Vehicle Painting and Industrial Finish (Years 1 to 3)

5. Basic Design Course at West Sussex College of Art
Certificate in Interior Design at Birmingham College of Art (Years 1 to 3)
Certificate in Decoration at Brixton School of Building (Years 1 and 2)
Floorlaying Course (Dry-land decorative) at Glasgow College of Building
Graphic Arts Stage I at Foley College of Art, Stourbridge
Tracing Course at Garretts Green Technical College (Years 1 and 2)
Tracing Course at Springburn College of Engineering
Trainee Bar-Benders and Steelfixers Course at Riversdale Technical College
Urban Blacksmiths Course at Herefordshire Technical College

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6. Courses leading to the following examinations:

The Certificate in Storekeeping of the Institute of Purchasing and Supply
The Institute of Corn and Agricultural Merchants—Part I Examination
The Institute of the Motor Industry—Section A—Parts I and II Examinations
The National Federation of Builders and Plumbers Merchants—Certificate Examinations
The National Institute of Hardware —Certificate Examinations

APPENDIX 2C

COURSES—RATE OF GRANT £3 10s. PER DAY
(or alternatively Variable Grants under paragraph 19(c))

ADVANCED CRAFT AND FINAL CERTIFICATE COURSES

1. The City and Guilds Craft Courses detailed in Appendix 2A at Advanced Craft and Final Certificate levels, where applicable.

2. The Union of Lancashire and Cheshire Institutes' Courses in Road Construction (190)
The 4th year of City and Guilds Course 99, Roadwork (usually including City and Guilds 93 Concrete Practice)

FULL TECHNOLOGICAL CERTIFICATES

3. The City and Guilds Full Technological Certificate Courses in:
291/292 Building Crafts and Extension Courses
176 Fabrication of Steelwork
81 Machine Woodworking
85 Painters' and Decorators' Work
66 Sheet Metal Work

TECHNICIANS' AND OTHER COURSES

4. The following City and Guilds Technicians' and Post-Craft Certificate Courses:

261 Agricultural Engineering Technicians' Certificate
89 Builders Quantities (Part I)
319 Certificate for Computer Personnel
110 Concrete Technology (Supervisory Level)
314 Construction Technicians' Certificate
51B Electrical Installation Work (Course B) (Over 18 years of age)
51C Electrical Installation Work (Course C)
95 Formwork for Concrete Construction
356 Formwork Planning and Technology
97 Furnace Brickwork
313 General Course in Construction
287 General Course in Engineering
246 General Course in Science
325 Graphic Reproduction (Years 4 and 5)
338 Heating and Ventilating Engineering Pipe Welding
257 Heating and Ventilating Engineering Fitter/Welders' (Metal-Arc)
181 Heating and Ventilating Engineering Technicians' Course
339 Heating, Ventilating, and Air-Conditioning Technician's Certificate (Parts I and II)
215 Lithographic Printing (years 4 and 5)

193 Mechanical Engineering Craft Practice (Supplementary Subjects)
293 Mechanical Engineering Technicians' Course (Parts I and II)
154 Metallurgical Technicians' Certificate
170 Motor Vehicle Technicians' Work
133 National Retail Distribution Certificate
345 Photographic Technicians' Certificate
358 Plastic Technicians' Course
86 Plumbing Technology
72 Refrigeration Practice
94 Stair Construction and Handrailing
288 Structural Detailing
91 Structural Engineering (Intermediate)
228 Technical Illustration
49 Telecommunication Technicians' Course
317 Traffic Engineering Technicians' Certificate
90 Welding in Relation to Plumbers' Work

5. Equivalent courses to those listed in paragraph 4 leading to examinations conducted by the regional examining bodies listed in paragraph 2 of Appendix 2A

6. Certificate of Interior Design at Birmingham College of Art and Design (Years 4 and 5)
Certificate in Decoration at Brixton School of Building (Years 3 to 6)
Design Interpretation (Interior) at Birmingham College of Art and Design (Years 4 and 5)
Graphic Design Course at Birmingham College of Art and Design (Year 3)
Monumental Masonry at Aberdeen Technical College (Years 3 and 4)
Signwriting and Heraldry Course at the West of England College of Art (1 year)

ORDINARY NATIONAL CERTIFICATE COURSES

7. Ordinary National Certificate in:

Building (Scotland)
Business Studies
Chemistry
Construction (England and Wales)
Electrical Engineering
Electrical Engineering (Scotland)
Engineering (England and Wales)
Mechanical Engineering (Scotland)
Mining Surveying
Science

8. Courses for the Scottish National Certificate in Business Studies (formerly Senior Commercial Certificate) of the Scottish Council for Commercial, Administrative and Professional Education.

PROFESSIONAL EXAMINATION COURSES

9. Courses leading to the following professional examinations:

The Association of Certified and Corporate Accountants—Sections 1 and 2 Examinations
The Chartered Institute of Secretaries—Intermediate Examination
The Corporation of Secretaries—Intermediate Examination
The Incorporated Association of Architects and Surveyors—Part I Examination
The Incorporated British Institute of Certified Carpenters—Associateship Examination
The Incorporated Institute of British Decorators and Interior Designers—Intermediate Examination
The Institute of Building—Intermediate Examination
The Institute of Chartered Accountants in England and Wales—Intermediate Examinations
The Institute of Clerks of Works—Part I—Preliminary Examinations
The Institute of Cost and Works Accountants—Parts I and II Examinations
The Institute of Office Management—Certificate in Office Supervision Certificate in O & M
The Institute of Wood Science—Intermediate Examination
The Institute of Works and Highways Superintendents—Intermediate Examination
The Institute of the Motor Industry—Section B Groups 1 to 6 Examinations
The Institute of Public Health Engineers—Part I Examination
The Institution of Heating and Ventilating Engineers—Part A Examination

SCOTTISH CERTIFICATE OF EDUCATION

10. The Scottish Certificate of Education, Ordinary Grade, when taken in the appropriate subjects as an entry to an approved National Certificate Course:

Course	*Appropriate Subjects*
Ordinary National Certificate in Building (Scotland)	Mathematics Building Drawing or Technical Drawing Physics or Applied Mechanics or Chemistry
Ordinary National Certificate in Electrical Engineering (Scotland) or in Mechanical Engineering (Scotland)	Physics or Applied Mechanics Technical Drawing Mathematics

APPENDIX 2D

COURSES—RATE OF GRANT £4 10s. PER DAY

(or alternatively Variable Grants under paragraph 19(c))

CITY AND GUILDS COURSES

1. The following City and Guilds Courses:

320 Advanced Certificate for Computer Personnel
89 Builders' Quantities (Part II Certificate)
136 Certificate in Retail Management Principles
57 Electrical Technicians' Course (Endorsement Subjects)
293 Full Technological Certificate in Mechanical Engineering
98 General Foremanship Studies in Relation to the Building Industry
358 Plastic Technicians Course (Years 4 and 5)
121 Plumbing Design and Quantities
73 Refrigeration Science and Technology
91 Structural Engineering (Final)
195 Work Study

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HIGHER NATIONAL CERTIFICATE COURSES

2. Higher National Certificate in:

Applied Physics
Building
Business Studies
Chemical Engineering
Chemistry
Civil Engineering
Electrical Engineering
Mechanical Engineering
Metallurgy
Mining Surveying
Public Health Engineering

PROFESSIONAL EXAMINATION COURSES

3. Courses leading to the following professional examinations:

The Association of Certified and Corporate Accountants—Section 3 Examination
The Building Surveyors Institute—Licentiate Part A Examination
The Chartered Institute of Secretaries—Final Part I Examination
The Corporation of Secretaries—Final Part I Examination
The Incorporated Association of Architects and Surveyors—Part II Examination
The Incorporated British Institute of Certified Carpenters—Fellowship Examination
The Incorporated Institute of British Decorators and Interior Designers—Final Examination
The Institute of Building Estimators—Intermediate Examination
The Institute of Chartered Accountants in England and Wales—Part I Final Examination
The Institute of Clerks of Works—Part II Final Examination
The Institute of Cost & Works Accountants—Part III Examination
The Institute of Marketing—Parts I and II Examinations
The Institute of the Motor Industry—Section C Examination
The Institute of Office Management—Diploma Part A Examination
The Institute of Public Health Engineers—Part II Examination
The Institute of Quantity Surveyors—First Examination
The Institute of Quarrying—Associateship Examination
The Institute of Transport—Graduate Parts I and II Examinations
The Institute of Wood Science—Final Examination
The Institute of Works and Highways Superintendents—Final Examination
The Institute of Work Study Practitioners—Parts I and II Examinations
The Institution of Civil Engineers—Part I(A) Examination
The Institution of Heating and Ventilating Engineers—Part B Examination
The Institution of Municipal Engineers—Part I Examination
The Institution of Structural Engineers—Part I Examination
The Institution of Works Managers—Certificate Examination
The Royal Institute of British Architects—Intermediate Examination
The Royal Institution of Chartered Surveyors—First Examination
The Royal Institute of Chemistry—Graduate RIC Part I Examination

OTHER COURSES

4. Courses for the Scottish Advanced National Certificate in Business Studies of the Scottish Council for Commercial, Administrative and Professional Education.

5. Certificate of Supplementary Studies (formerly endorsements) to the Ordinary National Certificate when the trainee has already been awarded the Ordinary National Certificate.

6. The National Diploma in Design.

APPENDIX 2E

COURSES—RATE OF GRANT £5 10s. PER DAY
(or alternatively Variable Grants under paragraph 19(c))

1. Certificate of Supplementary Studies (formerly endorsements) to the Higher National Certificate when the trainee has already been awarded the Higher National Certificate.

PROFESSIONAL EXAMINATION COURSES

2. Courses leading to the following professional examinations:

The Association of Certified and Corporate Accountants—Section 4 Examination
The Building Surveyors' Institute—Diploma Part B Examination
The Chartered Institute of Secretaries—Final Parts II and III Examinations
The Corporation of Secretaries—Final Parts II and III Examinations
The Incorporated Association of Architects and Surveyors—Part III Examination
The Institute of Building—Final Part I and II Examinations
The Institute of Building Estimators—Final Examination
The Institute of Chartered Accountants in England and Wales—Part II Final Examination
The Institute of Cost and Works Accountants—Part IV and V Examinations
The Institute of Marketing—Part III Examination
The Institute of Office Management—Diploma Part B Examination
The Institute of Personnel Management—Graduateship Examination
The Institute of Quantity Surveyors—Second and Third Examinations
The Institute of Transport—Associateship Parts I and II Examinations
The Institute of Work Study Practitioners—Part III Examination
The Institution of Civil Engineers—Part I(B) and Part II Examinations
The Institution of Heating and Ventilating Engineers—Part C Examination
The Institution of Municipal Engineers—Parts II and III Examinations
The Institution of Structural Engineers—Parts II and III Examinations
The Institute of Works Managers—Diploma Examination
The Royal Institution of British Architects—Final Parts I, II, III Examinations
The Royal Institution of Chartered Surveyors—Intermediate and Final Examinations
The Royal Institute of Chemistry—Graduate RIC Part II Exam.; LRIC Examination

APPENDIX 2F

GRANTS FOR SANDWICH COURSES—INDUSTRIAL PART

The following courses will attract grant in terms of paragraphs 24 and 25 of the Grant Scheme:

1. Courses leading to:
   - Awards of the Council for National Academic Awards
   - The Diploma in Technology
   - Ordinary or Higher National Diplomas
   - University Degrees

2. Approved courses leading to College Diplomas or Associateships and professional qualifications, e.g.:
   - Diploma in Architecture at Brixton School of Building
   - Diploma in Civil Engineering at Reading College of Technology (where completed by 1970)
   - Diploma in Civil Engineering at Sheffield College of Technology (where completed by 1970)
   - Diploma in Civil and Structural Engineering of the South West Essex Technical College and School of Art (where completed by 1970)
   - Diploma in Electrical, Electronic and Control Engineering at Twickenham College of Technology (where completed by 1970)
   - The Three Year's Course in Environmental Engineering leading to the Higher Diploma of the National College for Heating, Ventilating, Refrigeration and Fan Engineering
   - Diploma Course in Heating and Ventilating Engineering at the National College for Heating, Ventilating, Refrigeration and Fan Engineering, at the Rutherford College of Technology, or at any other approved centre
   - Diploma in Structural Engineering at Brixton School of Building (where completed by 1970)
   - Diplomas in Structural Engineering and in Civil Engineering at Bolton Institute of Technology (where completed by 1970)

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Note. All courses listed in **Appendix 3** of not less than three day's duration may also attract grants under earlier grants schemes. The approval of courses of two days' duration will become effective from the implementation of the 1968/69 Grants Scheme, i.e. 1st August, 1968, and will not be retrospective. Courses in safety training of one or two days duration, however, already attract grant, as do approved two-day courses conducted by authoritative organisations specific to the construction industry.

EXTERNAL COURSES ATTRACTING VARIABLE GRANTS

1. For the following courses employers may claim 100% of salaries or wages of trainees and 75% of fees. 100% of fees may be claimed for courses in safety training and courses for training staff. See also Appendix 6 of the scheme.

2. In the circumstances quoted in paragraphs 13(d) and 19(c) of the Grant Scheme courses listed under Appendix 2A to E as attracting fixed scale grant may alternatively attract variable grant.

PUBLIC EDUCATIONAL AND TRAINING ESTABLISHMENTS

3. With certain exceptions all courses related to the needs of the construction industry held by public educational and training establishments may attract grant. The exceptions are as follows:

(a) The college part of sandwich courses.

(b) Full-time university courses other than post-graduate courses dealt with under paragraphs 74 to 76.

(c) Courses leading to 'O' or 'A' level examinations of the General Certificate of Education

(d) Courses other than those detailed in paragraph 10 of Appendix 2C leading to the Scottish Certificate of Education examination.

(e) Full-time integrated craft courses and other courses with an industrial training content, which require individual approval.

(f) All courses for which a local education authority award may be available, such as full-time OND and HND courses.

(g) Any other courses specifically excluded by the Board from time to time.

Examples of courses which attract grant are as follows:

City and Guilds of London Institute

4. The following course:

93 Concrete Practice

Clerical and Commercial Courses

5. Courses other than full-time and those by full-day or block release, leading to the qualifications of the following regional and other examining bodies:

East Midland Education Union
London Chamber of Commerce
Northern Counties Technical Examination Council
Royal Society of Arts
Scottish Council for Commercial, Administrative and Professional Education
Union of Educational Institutions
Union of Lancashire and Cheshire Institutes
Welsh Joint Education Committee
Yorkshire Council for Further Education

Courses in Safety Training

6. All courses at public educational and training establishments. See paragraph 35 of the Scheme.

Courses for Training Staff

7. (a) All courses for training officers approved by the Ministry of Labour and the Department of Education and Science.

   (b) Special courses for training officers in the construction industry developed by CITB with selected colleges, e.g. The Brixton School of Building.

Government Training Centres

8. (a) Courses for Instructors at Letchworth and Hillington, Glasgow.
   (b) Intensive training courses for adults.

Management Courses

9. (a) Graduate School of Business Studies:
   Executive Development Programme (12 weeks)
   Senior Executive Programme (6 weeks)

   (b) Manchester Business School:
   The Management Course (12 weeks)

   (c) Oxford University Business Summer School:
   Course of Study (4 weeks)

   (d) South West London College:
   Electrical Contractors' Association Management Training Course (2 weeks)

   (e) Special Construction Industry Management Courses developed by the CITB with selected universities and colleges, e.g. Strathclyde University.

Other Courses

10. (a) Courses leading to the awards of the National Examinations Board in Supervisory Studies.

    (b) Special courses in critical path programming, work study, computer appreciation, instructional techniques and other courses in advanced construction technology.

    (c) The Bridge Course (exempting ONC (10 weeks full-time) at Brixton School of Building).

Evening Classes

11. See paragraph 37 (b) of the scheme.

OTHER ORGANISATIONS

12. Certain courses offered by the organisations listed below attract grant. **A complete list of the courses so attracting grant can be obtained from CITB on request. A reply paid card for this purpose is enclosed in the first copy of the Scheme sent to an employer.**

For certain of these courses the consolidated grant referred to in paragraph 27(d) of the Scheme may be claimed as an optional alternative. The amount of this consolidated grant is shown in the complete list mentioned in the previous paragraph.

A.C.E. Training Centre
Maxim Road, Crayford, Kent.

Addressograph Multigraph Ltd. Varityper Division
5/7 Acton Park Industrial Estate
The Vale, Acton, W.3

Administrative Staff College
Greenlands, Henley-on-Thames, Oxon.

Advanced Management Programmes International
8 Hill Street, London, W.1

Advisory Service for the Building Industry
39 Devonshire Street, London W.1

Aerograph de Vilbiss
Ringwood Road, West Howe, Bournemouth

Airmec Ltd.
Crescent Estate, High Wycombe, Bucks

Airwork Services Training
Perth Aerodrome, Perth, Scotland

John Allen & Son Ltd.
Cowley, Oxford

Allied Ironfounders Ltd.
Aga Works, Ketley, Shropshire

Amalgamated Electrical Services
Waddon, Croydon, Surrey

Anglian Industrial Gases Ltd.
Hall Road, Norwich, NOR 54B

Architectural Association
34/36 Bedford Square, London, W.C.1

Armstrong Cork Ltd.
Woodgrange House
Woodgrange Avenue, Kenton, Middx.

Artex Products (Manufacturing)Ltd.
Artex Avenue, Newhaven, Sussex.

Ashorne Hill College
Leamington Spa, Warwickshire

Ashridge Management College
Berkhamstead, Herts.

Association of Certified & Corporate Accountants
22 Bedford Square, London, W.C.1

Associated Electrical Industries
Harlow, Essex

Associated Industrial Consultants
Knightsbridge House
197 Knightsbridge, London, W.C.1

The Association for Programmed Learning
27 Torrington Square, London, W.C.1

Association of Special Libraries & Information Bureaux
3 Belgrave Square, London, S.W.1

Atomic Energy Research Association
Isotope School, Wantage Research Laboratory, Wantage, Berks.

Atomic Energy Research Establishment
Post-Graduate Education Centre
Harwell, Didcot, Berks.

B.A.C.I.E.
16 Park Crescent
Regents Park, London, W.1

J. C. Bamford (Excavators) Ltd.
Rocester Services Ltd.
Rocester, Staffs.

Samuel Barron & Partners
21/22 Poland Street, London, W.1

Battle of Britain House
Ducks Hill Road
Northwood, Middlesex

Gordon Bell & Partners
20 Hand Court
High Holborn, London, W.C.1

Benford Limited
Warwick

Berkshire, Management Centre
Upton Court, by Theale, Berks.

Berlitz School of Languages
321 Oxford Street, London, W.1

Binks-Bullows Training School
Brownhills, Staffs.

B.M.C. Service Ltd.
Longbridge
Birmingham and also at Cowley, Oxford

B.O.W. Secretariat
5Z Artillery Mansions
75 Victoria Street, London, S.W.1

Bristol Tutor Group,
Mark Lane, Bristol, 1

British Association of Sports Ground & Landscape Contractors Ltd.
61/63 Holywell Road, Watford, Herts.

British Crane & Excavators Corporation Ltd.
Coles Crane Training School,
Crown Works, Sunderland

British Gypsum Limited
Ferguson House
15/17 Marylebone Road, London, N.W.1

British Institute of Management
Management House
80 Fetter Lane, London, E.C.4

British Oil Burners Ltd.
Burrell Way, Thetford, Norfolk

British Olivetti Ltd.
142 Piccadilly, London, W.1

British Oxygen Company Ltd.
North Circular Road
Cricklewood, London, N.W.2

British Productivity Council
Vintry House
Queen Street Place, London, E.C.4

British Railways Board—Work Study Training Centre
The Grove, Watford, Herts.

British Railways School of Transport
Faverdale Hall
Darlington, Co. Durham

British Red Cross Society
14 and 15 Grosvenor Crescent, London S.W.1

*British Welding Research Association
Abington Hall,
Abington, Cambridge

Broom & Wade Ltd.
P.O. Box No. 7, High Wycombe, Bucks.

Bulgomme-Silence
11 Mount Park Crescent, London, W.5

Burton Manor College
Burton-in-Wirral, Neston, Cheshire

Calor Gas (Distribution) Co. Ltd.
Calor Gas House, Key West, Slough, Bucks.

Capital Computer Application Ltd.
Creechurch House
Creechurch, London, E.C.3

The Careers Research & Advisory Centre
25 St. Andrews Street, Cambridge

Caterpillar Tractor Co. Ltd.
Glasgow, Scotland

Caterpillar Distributors:
Bowmaker Plant Ltd.
Watling Street, Cannock, Staffs.
(West Midlands, S.W. & Wales)

H. Leverton & Co. Ltd.
Maidenhead Road, Windsor
(North and Eastern Region)

Caledonian Tractors Ltd.
Baithestone, Glasgow
(Scotland)

C.E.I.R. Ltd.
C.E.I.R. House
30/31 Newman Street, London, W.1

Cement & Concrete Association
Fulmer Grange, Fulmer, Bucks.

Chartered Insurance Institute
The Hall, 20 Aldermanbury, London, E.C.2

Chaseside Engineering Co. Ltd.
Blackburn, Lancs.

*See note on page 47

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C.I.T.C. Work Study School
Bircham Newton, Norfolk

Clark Equipment Ltd.
Yorktown Works
P.O. Box No. 3, Camberley, Surrey

Cleaver-Hume Language Laboratory
83 New Broadway, Ealing, London, W.5

Climate Equipment Ltd
Wynford Road, Industrial Estate
Acocks Green, Birmingham 27

Coal Utilisation Council
19 Rochester Row, London, S.W.1

College of Marketing
Marketing House, Richbell Place
Lamb's Conduit Street, London, W.C.1

College of Production Technology
Ashford, Kent

Commercial Calculating College
2 Fitzroy Square, London, W.1

Construction Industry Training Centre
Bircham Newton, King's Lynn, Norfolk

Conveyancer Fork Lift Trucks Ltd.
Liverpool Road
Sankey, Warrington, Lancs.

Co-operative College
Standford Hall
Loughborough, Leicestershire

Council of Industrial Design
The Design Centre
28 Haymarket, London, S.W.1

Council for Small Industries in Rural Areas—(CoSIRA)
(Formerly Rural Industries Bureau)
35, Camp Road, Wimbledon, London, S.W.19

Cranfield Work Study School
College of Aeronautics
Cranfield, Bedfordshire

Crypton Equipment Ltd.
Bridgwater, Somerset

Cummins Engine Co. Ltd.
Yarm Road, Darlington, Co. Durham

De la Rue Ball Machines Ltd.
92, Middlesex Street
London, E.1

Derby & District Building & Civil Engineering Safety Group
102 Friars Gate, Derby

Derby & District Productivity Association
Britannic House
5/7 St. Mary's Gate, Derby

Eaton Yale & Towne Inc.
Wednesfield, Staffs.

The Economic League
89b London Road, West Croydon, Surrey

Edwards High Vacuum Ltd.
Manor Royal, Crawley, Sussex

Electrical Contractors Association
145 Charing Cross Road, London, W.C.2

Electrical Contractors Association of Scotland
23 Heriot Row, Edinburgh, 3

Elliot-Automation Ltd.
Boreham Wood, Hertfordshire

Engineering Employers' West of England Association
Department of Work Study and Staff Training
Engineers House
The Promenade, Clifton Down, Bristol, 8

English Electric Leo-Marconi Computers Ltd.
Technical Sales Department,
Training Department, Radley House
35/39 South Ealing Road, London, W.5

Euclid (G.B.) Ltd.
Newhouse, Industrial Estate
Motherwell, Lanarkshire

Eutectic Welding Alloys Ltd.
North Feltham Trading Estate
Feltham, Middx.

Export Practice Associates
34 Friars Garden
Hughenden Valley, Bucks.

Federation of Civil Engineering Contractors
Romney House, Tufton Street
Westminster, S.W.1

Ferranti Automation Systems Division
Ferranti Ltd.
Simmons Way, Wythenshawe, Manchester, 22

Fibre Building Board Organisation Ltd.
Buckingham House
6/7 Buckingham Street, London, W.C.2

Fire Protection Association
Aldermary House
Queen Street, London, E.C.4

Fisher & Ludlow Ltd.
Kirkby Industrial Estate, Liverpool

Fodens Ltd.
Elworth Works, Sandbach, Cheshire

Ford Motor Co. Ltd.
Sutton Lane, Langley, Slough, Bucks.

Ford Motor Co. Ltd.
Tractor & Equipment Training Centre
Boreham House, Nr. Chelmsford, Essex

The Forest Industrial Accident Prevention Group
Safety Officer, Plessy Co. Ltd.
Vicarage Lane, Ilford

Forest Products Research Laboratory
Princes Risborough, Aylesbury, Bucks.

H. Foulks-Lynch & Co. Ltd.
4/7 Chiswell Street, London, E.C.1

Foxboro-Yoxall Limited
Training Centre, Redhill, Surrey

Friden Limited
101, Blackfriars Road, London, S.E.1

Frigidaire
Stag Lane, Kingsbury, London, N.W.9

David Frost & Associates
20 Roland Gardens, London, S.W.7

Further Education Staff College,
Coombe Lodge, Blagdon, Nr. Bristol

Furniture Industry Research Association
Maxwell Road, Stevenage, Herts.

Gas Boards—See Area

The Gas Council
Hyde Park House
4/5 Grosvenor Place, London, S.W.1

General Motors Ltd.
Power & Industrial Division
London Road, Wellingborough, Northants

Gerland Ltd.
90 Crawford Street, London, W.1

Gestetner Ltd.
P.O. Box No. 23, Gestetner House
210 Euston Road, London, N.W.1

Girling Ltd.
Technical School
Birmingham Road, West Bromwich

Glacier Institute of Management
17 King Edwards Road
Ruislip, Middx.

G.P.O. Recruitment and Training Branch
Camelford House
87/90 Albert Embankment, London, S.E.1

Guild of Architectural Ironmongers
High Holborn House
52/54 High Holborn, London, W.C.1

Heating & Ventilating Contractor's Association
Coastal Chambers
172 Buckingham Palace Road, London, S.W.1

Heating, Ventilating & Domestic Engineers' National Joint Industrial Council
Coast Chambers
172 Buckingham Palace Road, London, S.W.1

P. C. Henderson Ltd.
Tangent Works
Harold Hill, Romford, Essex

Hicksons Timber Impregnation Co. (G.B.) Ltd.
Castleford, Yorkshire

E. HillAldam & Co. Ltd.
Brittannic Works
Red Lion Road
Tolworth, Surbiton, Surrey

Hollister Park Commercial College
24 Cotham Road South, Bristol, 6

Holman Brothers Ltd.
Sales & Service Training School
Camborne, Cornwall

Honeywell E.D.P. Division
Great West Road, Brentford, Middx.

Hoover Ltd.
23 Park Circus
Glasgow, C.3, Scotland

M. G. Howitt & Associates Ltd.
Cotswold House
67 Broadway Road, Leicester

Hydraulics Research Station
Wallingford, Berkshire.

The Hymatic Engineering Group
Millsbro Road, Redditch, Worcs.

Ideal Standard, Ltd.
P.O. Box No. 60
Ideal Works, Hull

Industrial & Commercial Speakers Bureau
3 Sidney Road, Staines, Middx.

Industrial & Commercial Techniques
30 Fleet Street, London, E.C.4

Industrial Education International Ltd.
17 Buckingham Gate, London, S.W.1

Industrial Police & Security Association
2 Queen's Court
Queen's Ride, Barnes, London, S.W.13

Industrial Society
Robert Hyde House
48 Bryanston Square, London, W.1.

Industrial Training Foundation
5 Cromwell Road, London, S.W.7

Industrial Training Service
53 Victoria Street, London, S.W.1

Institute of Chartered Accountants in England & Wales
City House,
55/66 Goswell Road, London, E.C.1

Institute of Chartered Accountants of Scotland,
27 Queen Street, Edinburgh, 2

Institute of Directors
10 Belgrave Square, London, S.W.1

Institute of Municipal Building Management
9 Chapter Close
Hillingdon, Uxbridge, Middx.

Institute of Office Management
167 Victoria Street, London, S.W.1

Institute of Office Management
(Norwich Branch)
c/o Laurence, Scott & Electromotors
Gothic Works, Hardy Road, Norwich

Institute of Personnel Management
5 Winsley Street
Oxford Circus, London, W.1

Institute of Purchasing & Supply
York House
Westminster Bridge Road, London, S.E.1

The Institute of Quarrying
62/64 Baker Street, London, W.1

Institute of Supervisory Management
Education Department
King Edward Street,
New Street, Birmingham, 2

Institution of Industrial Safety Officers
23 Queen Square, London, W.C.1

Institution of Production Engineers
10 Chesterfield Street, London, W.1

Instructor Training Associates
1 Orchard Chambers
189 London Road, Reading

International Business Machines (IBM)
I.B.M. Education Centre
15/17 Lodge Road, London, N.W.8

International Computers & Tabulators (ICT)
Customer Training Centre, Newlands House
37/40 Berners Street, London W.1

International Computers & Tabulators (ICT)
Bradenham Manor, Bradenham
Nr. High Wycombe, Bucks.

International Computers & Tabulators (ICT)
The Grange, Cookham, Berkshire.

International Janitor Ltd.
Camberley, Surrey

J. D. Tractors Ltd.
Airfield Trading Estate
White Waltham, Maidenhead, Berks.

Johnsons Control Systems Ltd.
Regal House, London Road, Twickenham

Johnson & Starley Ltd.
Rothersthorpe Crescent, Northampton

Joint Training Committee for Local Authority Services
41 Belgrave Square, London, S.W.1

George Kent Ltd.
Luton, Bedfordshire

Keyboard Training Holdings Ltd.
162/4 Upper Richmond Road
Putney, London, S.W.15

Kwikform Ltd.
Waterloo Road, Birmingham, 25

Kodak School of Industrial & Engineering Radiography
Wealdstone, Harrow, Middx.

Lancashire County Fire Brigade
Fire Brigade Headquarters
Fulwood, Preston

Language Studies Ltd.
21/23 Ashburn place, London, S.W.1

Lead Development Association
34 Berkeley Square, London, W.1

LEC Refrigeration Ltd.
Bognor Regis, Sussex

Lennox Heating Co. Ltd.
Lister Road, Basingstoke, Hants.

Leyland Motor Corporation
Sales and Service Training Centre
Capmartin Road, Radford, Coventry

Leyland Paints Ltd.
Leyland, Preston, Lancs.

Lincoln Electric Company Ltd.
Lincoln Welding School
Welwyn Garden City, Herts.

R.A. Lister & Co. Ltd.
Dursley, Glos.

London Borough Management Service Unit
3 Buckingham Gate, London, S.W.1

London Graduate School of Business Studies
28 Northumberland Avenue, London, W.C.2

Joseph Lucas Ltd.
Great Hampton Street, Birmingham 18

Management Courses Limited
P.O. Box No. 40, Amersham, Bucks.

Management Studies Centre Ltd.
Broadway House, London, S.W.19

Marketing & Manpower International Ltd.
38 Bedford Place, London, W.C.1

Marketing & Sales Services Ltd.
29/30 Kingly Street, London, W.1

Martonair Ltd.
St. Margarets Road, Twickenham, Middx.

Massey Ferguson (U.K). Ltd.
Products & Sales Training Dept.
Stareton, Nr. Kenilworth, Warwickshire

Mastic Asphalt Employers Federation
75 Victoria Street, London, S.W.1

Maxam Power Ltd.
36 Brunel Road, East Acton, London, W.3

Merseyside Productivity Association
2 Chapel Hall, Old Street, Liverpool, 3

Metal Window Association Ltd.
Burnwood House,
Caxton Street, London, S.W.1

Ministry of Technology
Warren Springs Laboratory
Gunnells Wood Road, Stevenage, Herts.

Mitchell Construction
Kinnear Moodie Group Ltd., Wharf Works,
Peterborough

Harry Mitchell and Partners
School of Management Services
Midland Bank Chambers
The Square, 3 High Road, Beeston, Notts.

Murex Welding Processes Ltd.
Waltham Cross, Herts.

Nairn Flooring Limited
Kirkcaldy, Scotland

National Building Agency (London)
N.B.A. House,
Arundel Street, London, W.C.2

National Building Agency (Scotland)
3/11 North St. Andrew Street, Edinburgh, 2

National Building Agency (Newcastle)
3 Leazes Park Road, Newcastle-upon-Tyne, 1

National Cash Register & Elliot Computers Ltd.
309 Ruislip Road East, Greenford, Middx.

National Coal Board—Computer Services
West Midlands Computer Centre
Cannock, Staffs.

National Construction Safety Training Council
c/o H.M. Government Training Centre
Bilton Way, Enfield, Middx.

Member Training Centres:
Yorkshire Safety Centre
C. Hogan, Esq. Y.F.B.T.E. (Yorkshire Region)
Davidson House, Hales Road, Leeds, 11

Eastern Federation of Building Trades Employers
T. S. Riches, Esq., Secretary E.F.B.T.E.
95 Tenison Road, Cambridge

Merseyside and N.W. Safety Centre
A. H. Johnson, Esq.
31 Beaumaris Drive
Thingwall, Heswall, Cheshire

Scottish Building Safety Group
G. L. Caldwell, Esq., MBE
19 Palmerston Place, Edinburgh, 12

National Federation of Builders' and Plumbers Merchants
High Holborn House
High Holborn, London, W.C.2

National Federation of Building Trades Employers (London Region)
47 Bedford Square, London, W.C.1

National Federation of Building Trades Employers (Liverpool)
Federation House, Hope Street, Liverpool, 1

National Federation of Building Trades Employers (Southern Region)
Sterling Buildings
Carfax, Horsham, Sussex

National Industrial Fuel Efficiency Service
Baltic House, Mountstuart Square, Cardiff

National Institute of Hardware
22 Harborne Road, Birmingham, 15

National Institute of Industrial Psychology
14 Welbeck Street, London, W.1

National Marketing Council
Vintry House
Queen Street Place, London, E.C.4

N.C.K. Rapier Ltd.
P.O. Box No. 1
Waterside Works
Ipswich, Suffolk

North Thames Gas Board Training Centre
Peterborough Road
Watson House, London, S.W.6

North of Scotland Hydro-Electric Board
Dundee Area
Dudhope Crescent Road, Dundee

North Western Gas Board
Welman House, Altrincham, Cheshire

Nu-Way School of Oil Firing
P.O. Box No. 1
Vines Lane, Droitwich, Worcs.

Organisation and Methods Training Council
2nd Floor, Stuart House
1 Tudor Street, London, E.C.4

O.T.M.A.
6 Carlos Place
Grosvenor Square, London, W.1

P.E. Consulting Group Ltd.
Park House
Wick Road, Egham, Surrey

Pendley Residential Centre of Adult Education
Pendley Manor, Tring, Hertfordshire

Perkins Engines Ltd.
Eastfield, Peterborough

Petters Ltd.
South Works, Hamble

Philips Welding Ltd.
Blenheim Gardens, Brixton, London, S.W.2

Pilkington Brothers Ltd.
Glass Manufacturers
St. Helens, Lancashire

Pirelli General Cables Ltd.
Eastleigh, Hampshire

Pitman's College
154 Southampton Row, London, W.C.1

Poclain Ltd.
Poyle Road
Colnbrook, Slough, Bucks.

Polycon Group Building Industry Consultants
96 Eltham Road, Lee, London, S.E.12

Polyplan Ltd.
97 Princess Road, Leicester

Thomas Potterton Ltd.
Training Centre
Saltisford, Birmingham Road, Warwick

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Practical School of Welding
19/21 Upper Sutton Street
Aston, Birmingham

Precise Surveys Ltd.
Waterworks Road, Worcester

Priestman Construction Equipment
Hedon Road, Hull, Yorks

Production Engineering Research Association
Melton Mowbray, Leics.

Provincial Councils for Local Authorities Services in the South West
County Education Dept.
County Hall, Taunton, Somerset

Redfyre Limited
Thorncliffe, Nr. Sheffield, Yorks.

Road Research Laboratory
Ministry of Transport
Harmondsworth, West Drayton, Middx.

Road Surface Dressing Association
47 Victoria Street, London, S.W.1

J. W. Roberts Ltd.
Chorley New Road
Lostock, Horwich, Bolton

Roffey Park Institute
Horsham, Sussex

Rolls Royce Limited
Customer Training Centre
P.O. Box No. 31, Derby

Rootes Motors Ltd.
Humber Road, Stoke, Coventry

Rotaprint Ltd.
Honeypot Lane, London, N.W.9

Rover Sales & Service School
The Rover Co. Ltd.
Service Department, Solihull, Warwickshire

Royal Institute of Public Administration
24 Park Crescent, London, W.1

Royal Society for the Prevention of Accidents (Ro.S.P.A.)
Industrial Safety Division (London), Terminal House
52 Grosvenor Gardens, London, S.W.1

Royal Society for the Prevention of Accidents (Ro.S.P.A.)
Industrial Safety Division (Midlands)
Industrial Safety Training Centre
22 Summer Road, Acocks Green, Birmingham 27

Royal Society for the Prevention of Accidents (Ro.S.P.A.)
Manchester and District Construction Safety Group
321 Manchester Road, Clifton, Manchester

Rural Industries Bureau—See COSIRA

Ruston Bucyrus
P.O. Box 14, Lincoln

St. John Ambulance Association
10 Grosvenor Crescent, London, S.W.1

S.B.D. Construction Products Ltd.
Denham Way
Maple Cross, Rickmansworth, Herts.

Safety Training Ltd.
715 Worral Road
Worrall, Nr. Sheffield, Yorks.

Arthur Sanderson & Son Ltd.
Paperhanging Instruction School
Perivale, Greenford, Middx.

Saville (Tractors) Ltd.
Harvester House
Stratford-upon-Avon, Warwickshire

The Group Training Officer
Scaffolding Training Centre
Willow Lane, Mitcham, Surrey

*School of Applied Non-Destructive Testing
54 Princes Gate
Exhibition Road, London, S.E.7

*School of Welding Technology
54 Princes Gate
Exhibition Road, London, S.E.7

Scottish Industrial Safety Groups Advisory Council
17 Overtoun Road, Dalmuir, Glasgow

W. D. Scott & Son Ltd.
Regina House,
250 Old Marylebone Road, London, N.W.1

Anne Shaw Organisation Ltd.
Brook Lane, Alderley Edge, Cheshire

*See note on page 47

Shell Mex & B.P. Ltd.
Domestic Heating Centre
25 Bagley's Lane, London, S.W.6

Siebe Gorman & Co. Ltd.
Davis Road, Chessington, Surrey

Sight & Sound Education Limited
14 Argyll Street, London, W.1

Simms Motor Units Ltd.
Oak Lane, East Finchley
London, N.2

Simplex Electric Co. Ltd.
P.O. Box No. 2
Blythe Bridge, Stoke-on-Trent, Staffs.

Solvo-Metallurgical Ltd.
224 West Regent Street, Glasgow, C.2

South Western Gas Board
9a Quiet Street, Bath, Somerset

South of Scotland Electricity Board
(Edinburgh & Border Area)
130 George Street, Edinburgh, 2

Speedwriting International Centre
Avon House, Oxford Street, London, W.1

Sprayed Insulations Ltd.
Central House, Thomas Road, London, E.14

Stacatruc Ltd.
Saltley Trading Estate, Birmingham, 8

Stubbs Welding Ltd.
Scotland Road, Warrington, Lancs.

William Sugg & Co. Ltd.
Manor Royal, Crawley, Sussex

Sumlock Comptometer Ltd.
39 St. James Street, London, S.W.1

Sundridge Park Management Centre
Bromley, Kent

Survey Training Centre
17 High Street, Tring, Hertfordshire

Tack Organisation
Longmore Street, London, S.W.1

Tavistock Institute of Human Relations
3 Devonshire Street, London, W.1

Taylor Instrument Companies (Europe) Ltd.
Gunnels Wood, Stevenage, Herts.

William Temple College
Rugby

Timber Research & Development Association
The Building Centre
Store Street, London, W.C.1

Tokheim (U.K.) Ltd.
Flemington Road, Glenrothes, Fife

Torginol (U.K.) Ltd.
Gloucester Trading Estate,
Hucclecote, Gloucester

Type Easy Ltd.
43 Stoke Croft, Bristol, 1

J. Tyzack & Partners Ltd.
10 Hallam Street, London, W.1

Urwick Management Centre
Baylis House
Stoke Poges Lane, Slough, Bucks.

Value Control Ltd.
11 Kensington Church Street, London, W.8

Vauxhall Motors Ltd.
Luton, Beds.

Wall Paper Manufacturers Association
Sales Training College
Wadenhoe House, Wadenhoe, Nr. Peterborough

Wells Krautkramer Ultrasonic Testing School
Blackhorse Road, Letchworth, Herts.

West Bromwich, Smethwick and District Manufacturers Occupational Health Service Ltd.
82 High Street, West Bromwich, Staffs.

Whitlock Brothers,
Great Yeldham, Essex

Winget Ltd.
Rochester, Kent

The Women's Advisory Council on Solid Fuel
Ridge Cottage, Penrhos Road
Colwyn Bay, North Wales

World Service Training Centre (C.A.V.)
155 Merton Road, Wandsworth, London, S.W.18

Worthington & Company
Chadbury House
Chadbury, Evesham, Worcs.

Wolf Electric Tools Ltd.
Pioneers Works
Hanger Lane, London, W.5

Yarrow & Co. Ltd.
Scotstoun, Glasgow, W.4

Yorkshire Electricity Board
Scarcroft, Leeds

Note:

The British Welding Research Association and The Institute of Welding have now merged to form The Welding Institute. Enquiries concerning courses conducted by The School of Welding Technology, The School of Applied Non-Destructive Testing and The British Welding Research Association should be addressed to:

The Chief Training Officer
The Welding Institute,
Abington Hall,
Abington,
Cambridge.

CHARACTER BUILDING AND SIMILAR COURSES

13. For courses conducted by the following organisations 50% of the fee only may be claimed in accordance with paragraph 37 (c) of the scheme.

Brathay Hall
Westmorland

Drakes' Island Adventure Centre
Plymouth

Dockland Settlements
164 Romford Road
Stratford, London, E.15

T. S. 'Foudroyant'
Gosport, Hants

Hollowford
Castleton, via Sheffield S.30 2WB

Loch Eil Centre
Fort William, Inverness-shire

The National Association of Boys Clubs
17 Bedford Square, London, W.C.1
and constituent organisations

The National Association of Youth Clubs
30 Devonshire Street, London, W.1

Ocean Youth Club
1 Oak Street, Gosport, Hants

The Outward Bound Trust
73 Great Peter Street
Westminster, London, S.W.1

The Sail Training Association
Market Chambers
High Street, Petersfield, Hants

Yorkshire Dales Adventure Centre
Gildersheets
Giggleswick, Settle, Yorkshire

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MINISTRY OF LABOUR: GRANTS

1. This Appendix contains information on grants available to employers from the Ministry of Labour through the CITB, and also information on financial and other assistance available direct from the Ministry to firms in development areas. These grants are payable in addition to the CITB grants, but do not attract the CITB 20% supplementary grant.

GRANTS PAID THROUGH CITB

Grant to Offset the Impact of Selective Employment Tax

2. To offset the effects of the Selective Employment Tax on certain types of full-time off-the-job training or education the Ministry of Labour has agreed to make a grant to the CITB to enable the Board to increase its grants to employers of trainees who spend three months or longer on full-time off-the-job training or education courses. The trainees covered by this grant are:

(a) apprentices or trainees under a written service agreement undergoing full-time off-the-job training or education (e.g. on integrated courses or during periods of block release) in their first year or subsequently;

(b) industry based sandwich course students during periods of theoretical instruction, and

(c) students undergoing the university part of a 1:3:1 course who are being paid by the employer while at university.

3. **Rate of Grant.** The rate of grant will be 25s. per week for trainees of 18 and over and 12s. 6d. per week for trainees under 18.

4. **Conditions of Grant**

(a) The grant will be payable for periods of off-the-job training of 13 weeks or more. No grant will be paid for a part week falling at the beginning or end of a qualifying course, unless it includes a Monday when the full weekly grant will be payable.

(b) The grant will not be paid where there is a refund or premium under the Selective Employment Payments arrangements.

5. For details of how to obtain this grant please refer to Part F of the Scheme.

Grants for Additional Training Places and Additional Trainees

6. There are four different grants, one of which is available to employers in all parts of the country and the other three are available to employers in development areas only:

Running Costs Grant for Additional Training Places (Applicable to Companies in all Areas)

7. Employers who create additional training places on CITB approved off-the-job in-company courses may be eligible for a grant of 25% of the running costs associated with those places for a period of not more than five years. All categories of trainees except training officers, training supervisors, and instructors, are covered by this grant and the places must normally be in use for most of the training year. Such training places provided since 1st August, 1965 may attract these grants. The wages of trainees are not covered by this grant.

Capital Grant for Additional Semi-Skilled Training Places

8. This grant is intended to assist with the purchase of machinery and equipment required for additional off-the-job training places for non-craft operative trainees. For new items of machinery and equipment the rate of grant is 70% of the cost, and for secondhand machinery and equipment 50%. Costs of premises are not included.

9. **Note.** This grant was originally available to employers in all areas for a period of one year from 1st April, 1967. Its availability has been extended for development areas only.

Grants to Promote Craft and Technician Training (Development Areas only)

10. These grants have been introduced to assist employers in the development areas who provide additional off-the-job training facilities for apprentices and technicians, or otherwise increase the number of such trainees. The grants are limited to the following categories:

Apprentices
Technician Trainees
Commercial and Administrative Trainees
Clerical Trainees

To be eligible, these trainees must be following a course of training by day or block release supplemented with practical training of not less than three years and leading to recognition as a skilled craftsman or technician, or to equivalent commercial or administrative status. Grant is not paid for trainees who are undertaking training on courses leading to a degree or professional qualification. There are two alternative types of grant:—

(a) **Capital Grants**

A grant may be paid to assist with the cost of premises and equipment associated with the provision of additional training places. The grant will normally be 60% of the cost within a maximum agreed between the Board and the Ministry. Additional training places made available from 1st October, 1967 will qualify for grant on the understanding that they will be used for approved training for at least five years.

(b) **Per Capita Grant**

This part of the scheme will run in the first instance from 1st January, 1968 to 1st January, 1973. Annual grants of £100 will be paid for each additional trainee. The base line from which increases in the number of trainees will be measured during that period will be the number of trainees employed by a firm on 1st January, 1968 who have been under training for three months or more. Grant will then be due to any firms able to show on 1st January, 1969 an increase in the number of trainees who have been under training for three months or more. Increases at the 1st January in the following 4 years will be similarly measured. For the first year of the scheme an additional bonus payment of £50 per additional trainee will be paid to employers who increase the number of trainees with three months or more training between the base date of 1st January, 1968 and 31st July, 1968. (In effect this means that the last date for starting an apprentice so as to qualify for the additional bonus payment will have been 1st May, 1968.) These payments will be additional to any payments of £100 subsequently falling due to the same employers.

11. An employer will not be eligible for both the capital grant and the per capita grants for the same trainee.

12. Employers wishing to claim the grants described in paragraphs 6 to 10 above, should get in touch with their CITB area office for advice.

13. **Note.** Board of Trade development grants are not payable in addition to the capital grants described in paragraphs 8 and 10(a) of this Appendix.

MINISTRY GRANTS MADE DIRECT TO FIRMS IN DEVELOPMENT AREAS

14. The Ministry of Labour makes assistance available **direct** to firms in development areas to encourage the provision of additional jobs of reasonable permanence in these areas. This assistance includes cash grants to employers providing training for workers to fill new jobs, assistance with the tuition fees for employees sent on courses in management, supervisory and technical subjects, and cash grants towards the cost of accommodation rented temporarily for training purposes. For full details of these grants employers in development areas should apply to their local Ministry of Labour office.

APPENDIX 5

TRAINING RECORDS

1. The Board has decided that training records should be maintained which will answer the following questions about trainees at all levels, for whom grant is to be claimed:

(a) Who is being trained?
(b) What is he being trained to be?
(c) What training has he already had?
(d) What is the planned programme of study or instruction external to the firm, e.g. in college, training organisation, or at some other firm?
(e) What is the planned programme of study or instruction in the firm?
(f) How is the trainee progressing?

2. This information may be kept in any form which firms prefer provided it can be made easily available to the Board's representatives. Many firms in the industry will already be maintaining comprehensive training records and the Board does not wish to interfere with this.

3. To assist firms which have not previously kept training records, the Board has drawn up a simple form which, if completed regularly, will answer these questions, and this form will be available for issue to those employers who ask for it. The layout of the form is shown on pages 57 and 58.

APPENDIX 6

SUBSISTENCE AND TRAVELLING ALLOWANCES

SUBSISTENCE ALLOWANCE

1. Subsistence expenses necessarily paid by an employer may be reclaimed from the Board when an employee is obliged to live or stay overnight away from home in order to attend a course or some other approved training activity.

2. The grant will be the amount expended by the employer per day subject to maximum rates as shown in the following tables:

(a) where subsistence is claimed for attendance at day or block release courses attracting fixed scale grants under Part A of the scheme the subsistence will be related to the grant for the course as follows:

Rate of Grant for Course	*Overnight Subsistence Allowance*
£2 10s. a day	£1 5s.
£3 10s., £4 10s. and £5 10s. a day	£2 10s.

(b) where subsistence is claimed under Part A of the Scheme for students doing the industrial part of a sandwich course, for graduate trainees, for holders of H.N.D. or O.N.D., or for attendance at courses not attracting fixed scale grants or for attendance at other approved training activities, the maximum rates of subsistence will be as follows:

Salary Range as in paragraph 38(d) of the Grants Scheme	*Overnight Subsistence Allowance*
2	£1 5s.
3, 4, 5	£2 10s.
6, 7, 8, 9	£3 15s.
11, 13	£4 10s.

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3. Special approval will be required for any claim for training overseas or for post-graduate courses.

4. If travelling costs include any element of subsistence this should be claimed separately as subsistence.

5. No subsistence allowance will be granted when a course fee includes accommodation and meals.

TRAVELLING ALLOWANCE

6. Travelling expenses necessarily paid by an employer to an apprentice, a trainee or other employee attending a course or taking part in an approved training activity may be reclaimed from the Board in accordance with the following paragraphs.

7. When the employee is required to live away from home the cost of travel paid to the employee may be reclaimed up to the cost of second class return travel by public transport.

8. When the employee travels from his home daily to the course and back, the cost of travel paid to the employee may be reclaimed as in paragraph 7 except that the first 4/- a day is not grant-aided. Only the daily cost in excess of this first 4/- may be claimed. The maximum repayment by the Board is £1 per day (total cost to employer £1 4s. per day) without prior approval.

9. When private motor transport is used instead of public transport, an allowance of 4d. per mile may be claimed.

10. Repayment of travelling expenses on overseas courses will be considered individually on the basis set out in paragraph 36.

APPENDIX 7

TRAINING AIDS AND PROGRAMMED LEARNING

1. Grants for training aids and programmed learning may be claimed as follows:

Purchase or Hire of Equipment and Teaching Machines

2. Grants of 75% of the rent or hire or of the approved rate of depreciation, which is 20% of the cost, may be claimed.

Purchase or Hire of Films, Other Training Aids and Learning Programmes

3. Grants of 75% of the cost may be claimed.

Production of Learning Programmes

4. Grants will be available if the following conditions are fulfilled:

(a) A survey, approved in advance by the Board, to assess the suitability of programmed learning has been carried out. The survey report should include estimates of how many trainees will work through the programme in the next five years, the factors, such as technological change that will affect the life of the programme, the total cost of preparing the programme and alternative methods of instruction with cost comparisons.

(b) It can be confirmed by the Board's Training Division that there is a training need for the programme.

(c) The contents of the programme are approved in detail in advance by the Training Division.

(d) If required, the copyright is assigned to the Board. This requirement will normally apply, but may be waived if the programme is for the sole use of one firm on a matter not applicable to other firms or groups in the industry.

5. The following grants are available:

(a) Where the copyright is assigned to the Board, 100% of the cost of the survey and of producing the progamme.

(b) Where the Board does not require the copyright, 50% of the cost of the survey and of producing the programme.

(c) Where the survey results in no programme being produced, 50% of the cost of the survey.

No part of the salary of any person whose salary is grant-aided by the Board may be included in these costs.

Production of Films

6. Grants are not normally available for the production of training films, but in special circumstances, when it has been found after analysing the training problem that a film is the most suitable method of training and an appropriate film does not exist, the Board will consider giving grants. A company which intends to apply for a grant for the production of a training film should inform the Board before any costs which might be grant-aided have been incurred.

Other Conditions

7. The training aids or programmed learning must be part of a planned training scheme which has been approved by the Board although not necessarily grant-aided.

8. The purchase of teaching machines, films and equipment and the production of learning programmes and films must be approved in advance by the Board.

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GRANT CLAIM FORMS

To enable employers to know what information will be required when forwarding claims, the main headings of the claim forms are shown on this and the following pages. Explanatory notes are at page 56.

Part A—Interim Claim Form for period 1st August 1968 to 31st December 1968

Number of apprentices and trainees attending full day release or block release in the period	Number of graduates or holders of Higher National Diploma or Ordinary National Diploma under training in the period	Number of sandwich course students undergoing practical training during the period

Part A—Final Claim Form for Trainees attending Day or Block Release Courses

A	B	C	D	E	Training			Expenses			R
					G	I	M	N	P	Q	
Names and initials of trainee	Category	Appointment occupation or trade	Apprenticeship administering body	Title, stage and year of course or Examination. City and Guilds subject number, if any	Dates From To	Number of days attendance	Other Items £ s.	Number of nights subsistence (Block release students only)	Amount £ s.	Travel £ s.	Remarks Give reasons for all absences where they exceed 25% of possible attendance

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Part A—Final Claim Form for Graduate Trainees, Holders of Higher or Ordinary National Diplomas, and Sandwich Course Students

					Training			Expenses				
A	B	C	D	E	F	G	M	N	O	P	Q	R
Name and initials of trainee	Category	Appointment occupation or trade	Degree or Diploma attained and year attained, or being studied for	University or College attended	Reference number and date of CITB approval of programme	Dates From To	Other Items £ s.	Number of nights subsistence	Salary or wages range	Amount £ s.	Travel £ s.	Remarks

Part B—Claim Form

					Training							Expenses			
A	B	C	D	E	G	H	I	J	K	L	M	N	P	Q	R
Name and initials of trainee	Category	Appoint-ment occupa-tion or trade	Title or description of course or examination. City and Guilds subject number if any	Educational or training establishment or organisa-tion attended	Dates From To	Consolidated Grant	Number of days	Salary or wages range	Course and examination fees: training staff £ s. and safety	Course and examination fees: other staff £ s.	Other Items £ s.	Number of nights subsistence	Amount £ s.	Travel £ s.	Remarks

1404

Parts C and D—Claim Form

A	B	C	D	E	Training				Expenses			R
					G	I	J	M	N	P	Q	
Name and initials of trainee	Category	Appointment occupation or trade	Title or description of course	Reference number and date of CITB approval for course	Dates From To	Number of days	Salary or wages range	Other Items £ s.	Number of nights subsistence	Amount £ s.	Travel £ s.	Remarks

Part E—Claim Form

A	C	D	E	Training					Expenses			R
				G	I	J	K	M	N	P	Q	
Name and initials of trainee	Appointment occupation or trade	Particulars of claim for grant	Paragraph number in Grants Scheme	Dates From To	Number of days	Salary or wages range £ s.	Course and examination fees £ s.	Other Items £ s.	Number of nights subsistence	Amount £ s.	Travel £ s.	Remarks

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NOTES

Category

1. One of the following categories should be entered against the name of each trainee in Column B of the claim forms for Parts A, B, C and D.

M	Management and supervisory training (other than P, T or G below).
P	Professional training, and technical training at supervisory level.
T	Training and employment of training officers, training supervisors and instructors.
G	Training of graduates and/or holders of a National Diploma.
S	Practical training of sandwich course students.
A	Craft apprenticeship, general construction (excluding those at B).
B	Craft apprenticeship, mechanical and electrical services (including plumbing).
C	General construction operatives, other than craft apprenticeship.
D	Technical training below supervisory level.
E	Commercial and clerical training below supervisory level.

Number of Days

2. For final claims under Part A for trainees attending day or block release courses, the figure required will be the number of days each trainee actually attended college. For claims under Parts B, C, D and E, the figure required will be the number of days for which grant is claimed, and may include travelling time.

Salary or Wages

3. A table of salary ranges for claims under Parts B, C and D is given in paragraph 38(d) of the Scheme. For claims under Part E, the actual salary or wage paid will be required.

Consolidated Grant (Part B Claim Forms)

4. Column H of the Part B Claim Form is for use when a consolidated grant is claimed under paragraph 27(d) of the Scheme.

Subsistence

5. The number of nights spent away from home and the total amount paid in subsistence is required. Full details of subsistence allowances are shown in Appendix 6. In the Part A final claim form for graduate trainees, holders of National Diplomas and sandwich course students, the salary range is required in Column G to enable the appropriate subsistence allowance to be paid.

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CITB

Surname and initials of trainee in block capitals THOMPSON W. A.

Name of firm N J. Wilson & Co. Ltd. CITB Registration number of firm 1099017

Office record of training in the construction industry — Form TR1

Part A Personal details

Christian names in block capitals WALTER ALLAN

Full address 55, The Avenue
Elmbridge, Herts.

Telephone number Elmbridge 7692 Date of birth 27.1.51

Appointment/occupation/trade after completion of training
Carpenter and joiner

Administering body National Joint Apprenticeship and Industrial Training Commission of the National Joint Council for the Building Industry.

Craft or studentship registration number 12345

Period of training from 1.8.66 to 31.1.71

Probationary period *included in the above* completed on 31.1.67

Part B Previous training, qualifications obtained and examinations passed before present training period

Date	Qualification/examination	Other remarks
June 66	CSE in maths and woodwork	
August 66	1 day safety course for apprentices	At Elmbridge Technical College

SPECIMEN

Part C Programme of external training and education

List below your proposed programme of trainee's external study, or instruction and education

From (date)	to (date)	Course	College/organisation	Results	Other remarks
Sept. 66	July 69	C & G No. 80 Basic Craft. C & J	Elmbridge Technical College		
6.8.67.	2.9.67.	Outward Bound			Booking made

E. & O. LTD. 10-67. 63294.

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CITB

Part D Programme of in-company training

List below the main activities to be covered during training period	Enter a tick against the activities covered satisfactorily during the period under review											
	Date 30. 9.66.	31.10.66.	2.12.66.	30.12.66.	3. 2.67.							
1 Site clearance and setting out	✓											
2 Flooring												
3 Roofing					✓							
4 1st Fixings												
5 2nd Fixings												
6 Timber carcassing												
7 Window and door frames			✓	✓								
8 External cladding												
9 Prefabricated structure units												
10 Shuttering		✓										
11 On-site repairs and maintenance												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Part E Periodic reports by person responsible for training

Remarks A keen learner. Good work on site. College reports encouraging.

Signature J. Jones Appointment Training Officer Date 3.1.67.

Remarks

Signature Appointment Date

Remarks

Signature Appointment Date

Remarks

Signature Appointment Date

Remarks

Signature Appointment Date

Remarks

Signature Appointment Date

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NOTES

NOTES

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NOTES

CONSTRUCTION INDUSTRY TRAINING BOARD

GRANTS SCHEME 1968/69: BROADSHEET

Correction

The following correction should be made in the Broadsheet Summary enclosed in the 1968/69 Grants Scheme booklet:

Under Part C, In-Company Training, the figure of 1% in the grant for Management Development should be deleted and 0.1% substituted.

CONSTRUCTION INDUSTRY TRAINING BOARD

GRANTS SCHEME 1968/69

Amendments No. 1

The following amendments should be made to the 1968/69 Grants Scheme Booklet:

Page 31

Paragraph 4 include: 57 Electrical Technicians' Course (Intermediate & Final)

Page 42 delete Joint Training Committee for Local Authority Services, 41, Belgrave Square, London, S.W.1.

Page 43 include: Local Government Training Board, 93, Albert Embankment, London, S.E.1.

Page 43 include: Manchester and District Construction Safety Group, 321, Manchester Road, Clifton, Manchester.

Page 43 include: London Construction Safety Group, H.M. Government Training Centre, Bilton Way, Enfield, Middlesex.

Page 45 delete: Royal Society for the Prevention of Accidents (Ro.S.P.A.), Manchester and District Construction Safety Group, 321 Manchester Road, Clifton, Manchester.

Page 45 include: Scottish National Federation of Building Trades Employers, 13, Woodside Crescent, Glasgow, C.3.

Page 46 In the address of the Survey Training Centre delete: 17 High Street, and substitute: King Street.

GRANTS SCHEME 1968/69 - SUPPLEMENT

COURSES APPROVED FOR GRANTS

The following corrections should be made to Section II of the Supplement:

Page 45 delete: Joint Training Committee for Local Authorities Services (Manual Workers), and substitute: Local Government Training Board

Page 45 delete: National Federation of Building Trades Employers, Scottish Region (in association with CITB at Bridge of Allan), and substitute: Scottish National Federation of Building Trades Employers. Delete the word Basic from the title of the course under this heading.

Page 50 WORK STUDY. Under CITB Courses:

1. Against Work Study Practitioners Advanced Course delete 'days' and insert 'weeks'.
2. Against Work Study Practitioners Combined Course the duration should read 11 weeks not 6 weeks.

The following amendments should be made to Section III of the Supplement:

Page 57 delete: Joint Training Committee for Local Authority Services,
41, Belgrave Square, London, S.W.1.

Page 58 include. Local Government Training Board
93, Albert Embankment, London S.E.1.

Manchester and District Construction Safety Group,
321, Manchester Road, Clifton, Manchester.

Page 59 include: London Construction Safety Group,
H.M. Government Training Centre,
Bilton Way, Enfield, Middlesex.

Page 60 delete: Royal Society for the Prevention of Accidents (Ro. S.P.A.),
Manchester and District Construction Safety Group,
321, Manchester Road, Clifton, Manchester.

Page 60 include: Scottish National Federation of Building Trades Employers,
13, Woodside Crescent, Glasgow, C.3.

Page 61 In the address of the Survey Training Centre delete: 17 High Street and substitute: King Street.

Some of the corrections listed above have been made in the reprint of the Supplement dated July, 1968, but on page 60 of this reprint, the name Scottish National Federation of Building Trades Employ*ees* should be amended to read Scottish National Federation of Building Trades Employ*ers*.

CONSTRUCTION INDUSTRY TRAINING BOARD

GRANTS SCHEME 1968/69

Amendments No. 2

December, 1968

Part B: Variable Grants: Paragraph 28 (c)

The Board has agreed that the limit of £25 a week on the grant for wages of trainees attending plant operator courses at the Construction Industry Training Centre, Bircham Newton, should be removed.

Work Study Courses: Grants for Planned Supervised Practice

The Board has agreed that grants as set out below should be paid for the planned supervised practice associated with the Work Study Practitioners Basic course at the CITC Bircham Newton.

(a) 75% of the trainee's salary for the period up to a maximum of six weeks while undertaking planned practical work study exercises under the part-time supervision of a qualified work study practitioner, whether in his employer's firm or elsewhere.

(b) In cases where a qualified work study consultant has to be retained by a firm with CITB approval for the purpose of providing the supervision required, a grant of 50% of the daily consultant fee (maximum rate £36 per day = grant £18 per day) for up to one day per week for the maximum period of six weeks.

(c) No grants will be payable for the supervisory services of the firm's own qualified work study practitioners.

(d) Where arrangements have been made by CITB for the planned supervised practice of one employer's work study trainee(s) to be carried out at another firm's sites and under the supervision of that other firm's qualified work study staff, a grant may be claimed by the latter firm equivalent to one day's salary per week up to the maximum of six weeks (as per salary range 7, 8 or 9 in paragraph 38 (d) of the 1968/69 Grants Scheme).

Metrication Retraining

The Board has approved special grant arrangements for retraining in metrication, details of which will be circulated to employers as soon as possible.

VT 011 843
Grants Scheme 1969-70, Supplement. Courses Approved for Grants.

Construction Industry Training Board, London (England).
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Jul69 69p.

DESCRIPTORS - *VOCATIONAL EDUCATION; *MANUALS; *FINANCIAL SUPPORT; *INDUSTRIAL TRAINING; *PROGRAM PLANNING; TECHNICAL EDUCATION; ON THE JOB TRAINING; PRODUCTIVITY; TIME BLOCKS; REFERENCE MATERIALS; FOREIGN COUNTRIES
IDENTIFIERS - *GREAT BRITAIN

ABSTRACT - This booklet contains details of courses provided by other British organizations as referred to in Appendix 3 of "Grants Scheme 1969-70." These courses are approved for grant purposes and employers may, in many instances, receive grants which cover 100 percent of the salaries of trainees while attending a course, 75 percent of the course feed, and limited travel expenses. To assist the training program administrator the booklet suggests training time for courses and is divided into three sections which are as follows: (1) an alphabetical list of course subjects, (2) course titles listed by subject giving the organization, length of course, and cost if any, and (3) an alphabetical list of the names and addresses of the organizations. Related documents are available as VT 011 842 and VT 011 844, both in this issue. (JS)

VT 011 843

ED0 54390

CITB

Grants Scheme 1969-70

SUPPLEMENT

Courses Approved for Grants

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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Construction Industry Training Board

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Grants Scheme 1969-70 Supplement

Courses Approved for Grants

This booklet contains details of courses provided by the other organisations referred to in Appendix 3 of the Grants Scheme 1969/70.

These courses are approved by CITB for grant purposes and employers may claim grants under paragraphs 27 and 28 of the scheme, except in the case of certain courses marked with a dagger (†) for which grant is limited under paragraph 37(a). Grants under paragraphs 27 and 28 cover 100% of salaries or wages of trainees while attending a course and 75% of the course fee. 100% of the fees may be claimed for courses in safety training and for courses for training staff.

Grant under paragraph 37(a) is limited to a total of £25 plus travelling expenses in excess of £5. For certain of these courses the consolidated grant referred to in paragraph 27(d) of the scheme may be claimed as an optional alternative. The amount of this grant is shown against each course for which it is available.

In order to assist employers in selecting a suitable course to meet their training requirements the courses are grouped according to subject matter in categories. The booklet is divided into three sections as follows:

Section 1 An alphabetical list of course categories

Section 2 Course titles (and duration) listed by categories with the names of the organisations

Section 3 An alphabetical list of the names and addresses of the organisations

All courses listed in this booklet may also attract grant under earlier grant schemes.

Certain courses listed in earlier schemes have been omitted from this booklet. This is because they are no longer available or have changed their title. Claims in respect of these courses can, however, still be made.

Other courses will be approved from time to time and firms wishing to use courses not shown as approved should communicate with the Board in advance.

Construction Industry Training Board
Radnor House
London Road Norbury London S.W.16
Tel. 01–764 5060

July 1969

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Section 2 Course Titles

ACCOUNTANCY	**Association of Certified and Corporate Accountants**		
	Pre-examination revision courses	1 or 2 weeks	
	Weekend school	3 days	
	Foulks-Lynch & Co Ltd		
	Pre-examination revision lectures for the Final Part I Examination of the Institute of Chartered Accountants in England and Wales	2 weeks × 4 days per week	
	I.C.A. Final Part II intensive course	9 weeks	
	Revision course for the Association of Certified and Corporate Accountants Examinations	5 days	
	Institute of Chartered Accountants in England and Wales		
	Management information appreciation	3 days	£90
	Summer courses (for members only)	4 or 5 days	
	Auditing of computer systems	4 days	
	Institute of Cost and Works Accountants		
	† Weekend seminar for registered students	2 days	
	Worthington & Co		
	Courses leading to the Final Examinations of the Institute of Chartered Accountants Parts I and II	each 8 weeks + 1 week examination	
BAR BENDING AND STEEL FIXING	**CITB Courses**		
	(Held at the Construction Industry Training Centre)		
	Basic course	3 weeks	
	Bar-bending with an appreciation of steel-fixing	2 weeks	
	Bar-bending — advanced	1 week	
	Chargehand steelfixers	2 weeks	
	Chargehand bar-benders	2 weeks	
	Site bar-bending and steel fixing — advanced	1 week	
BRICKWORK	**CITB Course**		
	(Held at the Construction Industry Training Centre)		
	Maintenance and repair course — Brickwork	2 weeks	
	Pilkington Bros		
	Glass block fixing course	5 days	
BRIDGES	**British Railways Board Civil Engineering Training Centre**		
	Bridge examiners' course	4 weeks	

BUYING AND PURCHASING	**Advisory Service for the Building Industry**		
	Buying management	5 days	
	Buying	5 days	£94
	Construction Industry Advisory Service Ltd		
	Buying procedures	4 days	
	Institute of Purchasing and Supply		
	An introduction to practical buying	4 days	£61
	Buyers' refresher seminar	4 days	£80
	† Purchasing in the building and civil engineering industry	2 days	
CARPENTRY AND JOINERY	**CITB Courses**		
	(Held at the Construction Industry Training Centre)		
	Maintenance and repair course — Carpentry	2 weeks	
	Formwork carpentry course Parts I, II and III	each 4 weeks	
	Council for Small Industries in Rural Areas (CoSIRA)		
	Woodworking machinery course	3 days	
	Elementary woodcarving course	4 days	
	P. C. Henderson Ltd		
	Sliding door gear control	3 days	
	E. Hill Aldam & Co Ltd		
	Course on sliding door equipment	4 days	
	Newsum Timber Engineering Ltd		
	Dimpter finger jointing machine course	4 or 5 days	
CEILINGS	**Armstrong Cork Co Ltd**		
	Estimating for ceilings	3 days	£29
	Ceiling tile installers' course	4 days	
	Ceiling supervisors course	3 days	
	British Gypsum Ltd		
	The Paraclip system of suspended ceilings and roof linings	5 days	
	Timber framed plasterboard ceilings, including hand jointing techniques	5 days	
	S.B.D. Construction (formerly Nutex Ceilings Ltd)		
	Training course	1 to 2 weeks according to experience	
CEMENT AND CONCRETE	**Cement and Concrete Association**		
	Advanced concrete technology (for C & GLI Certificate)	5 weeks and 3 days	£460

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CEMENT AND CONCRETE (cont'd)

Cement and Concrete Association (cont'd)		
Admixtures for concrete	3 days	
Aggregates for concrete — (Course for aggregate producers)	1 week	£97
An introduction to the production and use of ready-mixed concrete	3 days	
Cement stabilised materials for roads and airfields	3 days	
Concrete blocks for manufacturers	3 days	
Concrete construction for gangers	1 week	£77
Concrete construction for gangers employed by local authorities	1 week	£77
Concrete construction for general foremen and clerks of works	1 week	£81
Concrete construction for local government engineers and surveyors	1 week	£84
Concrete construction for quantity surveyors	1 week	£84
Concrete construction for builders	3 days	
Concrete for engineers	1 week	£89
Concrete mix design	1 week	£97
Quality control of concrete	1 week	£97
Concrete roads and cement-stabilized bases for engineers	1 week	£92
Concrete roads and cement-stabilized bases for general foremen, clerks of works and highway superintendents	1 week	£79
Concrete technology (Supervisory level) (for C & GLI Certificate)	4 weeks	
Concrete floor finishes	2 days	
Concrete construction on the farm	3 days	
Concrete construction — An introductory course for site supervisors	1 week	
Concrete for laboratory technicians	1 week	
Concrete practice (for C & GLI Certificate)	3 weeks	
Concrete construction for site engineers	1 week	
Concrete construction for resident engineers and site agents	1 week	
Concrete surface finishes	3 days	
Concrete blocks for technical representatives	1 week	
Concrete blocks for works managers	1 week	
Concrete in modern architecture	1 week	
Concrete construction for keymen	1 week	
Concrete blockwork for builders	2 days	
Concrete testing techniques	1 week	
Concrete products	1 week	£97
Concrete production for directors and senior management in the ready-mixed concrete industry	1 week	
Concrete production for ready-mixed concrete plant managers	3 days	

CEMENT AND CONCRETE (cont'd)	**Cement and Concrete Association (cont'd)**		
	Concrete production and sales for representatives in the ready-mixed concrete industry	3 days	
	Concrete production for ready-mixed concrete batchermen and mixer operators	2 days	
	Concrete technology related to the production of ready-mixed concrete— (Advanced and Intermediate levels)	1 week each	
	Course for concrete-mixer drivers	3 days	
	Construction of concrete foundations	1 week	
	Design of reinforced and pre-stressed concrete bridge decks (I)	1 week	£97
	Design of reinforced and pre-stressed concrete bridge decks (II)	1 week	£97
	Design of concrete foundations	1 week	£87
	Design of concrete water-retaining structures	1 week	
	Erection of pre-cast concrete	3 days	
	Formwork construction and practice	1 week	
	Formwork design for engineers	1 week	£97
	Formwork planning and design (for C & GLI Certificate)	4 weeks	
	Hydraulically pressed kerbs and flags	3 days	
	Introduction to formwork	1 week	
	Introduction to concrete for buyers	1 week	
	Limit state design	1 week	
	Moulds for pre-cast concrete	3 days	
	Precast concrete construction for architects and engineers	3 days	
	Pre-stressed concrete design and construction	1 week	
	Erection of precast concrete for erection supervisors, etc.	3 days	£53
	Pumping concrete	3 days	
	Practical concreting for builders	2 days	£35
	Precast concrete production	1 week	
	Reinforced concrete detailing	3 weeks	
	Reinforced and pre-stressed concrete design for engineers	4 weeks	£350
	Structural lightweight concrete	1 week	
	Structure and form	1 week	
	Structural precast concrete design	1 week	
	Mixconcrete Technical Services		
	Concrete practice/technology	2 days	
	Rapid Metal Developments (or R. M. Douglas)		
	Formwork course	3 days	
CLERICAL AND COMMERCIAL	**Addressograph Multigraph Ltd**		
	Vari-typer E24 Model course	5 days	
	Multilith machine course	2 weeks	

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CLERICAL AND COMMERCIAL (cont'd)

B.O.W. Secretariat	
Course for office supervisors	3 days
Courses for audio-typists	1 week
Burroughs Accounting Machines Ltd	
Accounting machine instruction	1 to 4 weeks
Commercial Calculating College	
Comptometer calculator course	3 weeks
Friden Ltd	
Flexowriter training course	3 days
General Post Office Recruitment and Training	
Initial training course	5 days
P.B.X. operators' advanced training course (London and Manchester)	3 days
P.B.X. operators' training course	2 days
Gestetner Ltd	
Duplicating course (Model 201)	2 weeks
Gestetner operating training programme (Model 200)	5 days
Goddards Secretarial Training College	
Shorthand and typing	2½ days per week
Hartwell House	
Course for personal secretaries	2 weeks
Hollister Private Commercial College	
Shorthand course	6 months — 1 day per week
Industrial Society	
†Telephonists' and telephonists'/receptionists' course	2 days
Institute of Office Management	
Senior private secretaries	5 days
Form design	5 days
Week-end residential course for office supervisors	3 days
Keyboard Training Holdings Ltd	
The training of in-put machine operators	1 or 2 weeks
Marketing & Sales Service Ltd	
Telephonists'/receptionists' course	3 days
Extension users' course	2 days
P.E. Consulting Group Ltd	
Productivity in the office	1 week
Pitmans College	
Shorthand (only) course	2 hours per day
Shorthand/typewriting course	3 hours per day

CLERICAL AND COMMERCIAL (cont'd)

Rotaprint Ltd
Rotaprint operators' course — 5 days

W. D. Scott & Co Ltd
Clerical work improvement programme — 2 weeks

Sight and Sound Education Ltd
Intensive course in touch-typing —
Three courses of 12 one-hour sessions —
each course equivalent to 2 days instruction

Speedwriting International Centre
Speedwriting — five half-days per week for 8 weeks
OR — four evenings per week for 16 weeks

Sumlock Comptometer Ltd
Evening diploma course in comptometer operating — 2 evenings per week for 12 months

Diploma course — full time	13 to 15 weeks
Primary course — full time	4 to 5 weeks
Sumlomatic course — full time	2 to 3 weeks
Anita training course	1 week
Anita refresher course	1 week

Three Tees Training Ltd
Basic telex course — 2 to 7 days

Type Easy Ltd
Typing and shorthand courses — various

CHARACTER BUILDING AND SIMILAR COURSES

Courses arranged by the following organisations attract grant under paragraph 37(c) of the Grants Scheme

Brathay Hall, Westmorland
Carberry Tower, Musselburgh, Scotland
Drake's Island Adventure Centre, Plymouth
Dockland Settlements, 164 Romford Road, Stratford, E.15
T.S. Foudroyant, Gosport, Hants.
Hollowford, Castleton, via Sheffield
Lock Eil Centre, Fort William, Inverness-shire
The National Association of Boys Clubs,
17 Bedford Square, London, W.C.1, and constituent organisations
The National Association of Youth Clubs,
30 Devonshire Street, W.1
Ocean Youth Club, 1 Oak Street, Gosport, Hants.
The Outward Bound Trust, 73 Gt. Peter Street, Westminster, S.W.1
The Sail Training Association,
Market Chambers, High Street, Petersfield, Hants.
Yorkshire Dales Adventure Centre,
Gildersleets, Giggleswick, Settle, Yorks.
The Scottish Churches Council,
Scottish Churches House, Dunblane, Perthshire
Y.W.C.A. of Great Britain
Y.W.C.A. National Office,
Hampden House, 2 Weymouth Street, London, WIN 4AX

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COMMUNICATION

Advisory Service for the Building Industry

Communication	5 days

Burton Manor College

Art of communication	5 days

Construction Industry Advisory Service Ltd

Management communications	5 days

O.T.M.A.

Management communications	5 days

Roffey Park Institute

Communication in industry and commerce	5 days

COMPUTERS

Advisory Service for the Building Industry

Computers	5 days

British Olivetti Ltd

Computer course for customers	4 days

Cranfield School of Management

Data processing and computer studies	3 weeks

De La Rue Bull Machines Ltd

Time Sharing Fortran course	5 days

Friden Ltd

Programming course for Friden 5610 data processor	10 days

Honeywell E.D.P. Division

Easicoder course	2 weeks
Operating courses	1 week
Appreciation courses	1 week
Cobol B programming	2 weeks
Cobol D programming	2 weeks

Institute of Chartered Accountants in England and Wales

Systems analysis appreciation course	3 and 4 days
Electronic data processing	4 days

Institute of Chartered Accountants of Scotland

Introductory computer courses	3 days
Introduction to systems analysis	4 days

Institute of Office Management

Computer systems (an introduction for O & M staff)	1 week

International Business Machines (IBM)

All courses of 2 or more days' duration

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COMPUTERS (cont'd)

International Computers Ltd (ICL)

All courses of 2 or more days duration
Executive and management courses at Hedsor Park
Systems and application courses at Bradenham Manor
Programming, software, D.P. management and operations courses at Newlands House
Programming and computer operators' courses at Radley House

International Computing Services Ltd (ICSL)

Languages — Algol & Fortran	3/4 days	
Application — PERT (Time and resources)	1 week	
†Remote terminal course	2 days	

N.C.R. Careers and Education Centre

500 Series computer programming	3 weeks or 3 weeks 3 days	£212
500 Series appreciation/specification course	1 week	
500 Series advanced programming course	1 week	

National Coal Board Computer Services

Fortran course for senior engineers	5 days	

National Federation of Builders' & Plumbers' Merchants (in conjunction with National Computer Centre)

Computer appreciation course	3 days	

Organisation and Methods Training Council

Systems analysis and design course	4 weeks	
Basic data processing course	2 weeks	

P.E. Consulting Group Ltd

Computers — A service to management	3 days	£95

Scientific Control Systems Ltd

Management in a computer department	5 days	
Management appreciation of programming	3 days	
Management introduction to computers	3 days	£81
Fortran	4 days	

Urwick Management Centre

Computer project management course	5 days	
Computer systems analysis course	3 weeks	

Yarrow & Co Ltd

Computer training course	3 weeks	

CONTROL ENGINEERING

A.C.E. Training Centre

Courses in instrumentation and automatic control—

Course A — Appreciation course	2 weeks	
Course E — Apprentices' course	2 weeks	

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CONTROL ENGINEERING (cont'd)

AIRMEC — AEI Ltd

N410 DC drive and tool depth control courses (Basic and advanced)	5 days each

Edwards High Vacuum Ltd

General vacuum course	5 days
Practical maintenance	4 days

Elliot Automation Technical Services

Standard instrumentation course A	1 week
Standard instrumentation course B	1 week
Boiler house instrumentation course	1 week

Elliot Automation Control Valves Ltd (Fisher Governor Division)

Automatic control equipment	5 days

Ferranti Ltd
Ferranti Automatic Systems Division

Process control	4 days

Foxboro-Yoxall Ltd Training Centre

Introductory course for pneumatic instrumentation	2 weeks
Introductory course for electronic instrumentation	2 weeks

Furniture Industry Research Association

Industrial engineering	3 weeks

Honeywell E.D.P. Division

Industrial instrument maintenance course	3 weeks
Electronic instrument maintenance course	1 week

Johnsons Control Systems Ltd

Course for Johnsons control systems	5 days

Kent Instruments Ltd

Solid state measuring and control systems course	5 days

Martonair Ltd

Service course in pneumatics	5 days
Course in applied pneumatics	5 days

Maxam Power Ltd

Courses A and E Standard pneumatics — Technical appreciation	4 days or 4×1 day

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CONTROL ENGINEERING (cont'd)	**Maxam Power Ltd (con't)**		
	Courses B and F		
	Standard pneumatics — Service and application	4 days or 4×1 day	
	Advanced pneumatics	3 days	
	Satchwell Control Systems Ltd		
	Satchwell control courses	2 or 3 days	
	Simplex Electric Co Ltd		
	Static control seminar	3 days	
	Taylor Instrument Co (Europe) Ltd		
	Basic electronics	5 days	
	Electronic Quick-Scan A	5 days	
	Fulscope A	5 days	
	Fulscope B	5 days	
	Pneumatic Quick-Scan A and C	5 days	
	Transcope A	5 days	
	Transcope B	5 days	
	Value Controls Ltd		
	Value analysis engineering control	5 days	
COSTING	**Electrical Contractors' Association**		
	Method, measurement and costing (Course No. 7)	1 week	
	Timber Research and Development Association		
	Costing for the timber trade	4 days	
CRITICAL PATH AND NETWORK ANALYSIS	**Advisory Service for the Building Industry**		
	Network analysis course	5 days	£107
	College of Production Technology		
	Critical path analysis for the building Industry	3 days	
	Critical path analysis	5 days	
	Cranfield School of Management		
	Network analysis	1 week	
	Electrical Contractors' Association		
	Network analysis (Course No. 2)	1 week	
	London Borough Management Service Unit		
	Network analysis — Practitioners course for senior staff	4 days	
	Management Studies Centre		
	Planning and control by critical path and network methods	3 days	£95

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CRITICAL PATH AND NETWORK ANALYSIS (cont'd)	**P.E. Consulting Group Ltd**		
	Network analysis	3 days	£78
	Polycon Group Building Industry Consultants		
	Factoplan	3 days	
	Scientific Control Systems Ltd		
	Network techniques (Sponsored by the Federation of Civil Engineering Contractors)	5 days	
	Scottish National Federation of Building Trade Employers		
	Network analysis and critical path planning	3 days	
DESIGN AND DISPLAY	**Council of Industrial Design**		
	All courses appropriate to the activities of the company and the trainee	3 to 5 days	
	The National Federation of Builders' and Plumbers' Merchants		
	Window and showroom display course	3 days	
DIVING	**Siebe Gorman & Co Ltd**		
	Aqualung and surface demand apparatus	5 days	
	Police aqualung course	5 days	
	Standard helmet and flexible dress apparatus	5 days	
	Under-water cutting	5 days	
	Under-water welding	5 days	
DOMESTIC EQUIPMENT	**Fisher-Bendix Ltd**		
	Bendix service course (Domestic)	1 week	
	Bendix service course (Commercial)	1 week	
	Hoover Ltd		
	Hoover service courses	2 to 5 days	
	Hygena Ltd		
	Hygena dealers training course	2 days	
	The National Institute of Hardware		
	Domestic hardware	3 days	
	North Thames Gas Board Training Centre		
	Servicing of instantaneous water heaters of all types	3 days	£33
	Smith & Wellstood (Manufacturing) Ltd		
	Esse cooker course — Solid and oil fuel	2 weeks	

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DRAUGHTSMEN	**Engineering Employers West of England Association**		
	Design and drawing office management	2 weeks	£208 members £217 non-members
	Murex Welding Processes Ltd		
	Course for designers, draughtsmen and supervisors	10 days	
ELECTRICAL	**CITB Course**		
	(Held at the Construction Industry Training Centre)		
	Maintenance and repair course — Electrical	2 weeks	
	R. A. Lister & Co Ltd		
	Electrical generating course	5 days	
ELECTRIC CABLES	**North of Scotland Hydro-Electric Board (Dundee Area)**		
	Cable jointing	2 weeks	
	Pirelli General Cables Ltd		
	Cable jointing up to 11 kV	2 weeks	
	Cable jointing — low voltage	2 weeks	
	Courses arranged by regional Electricity Boards		
ESTIMATING	**Advisory Service for the Building Industry**		
	Estimating	5 days	
	Joinery estimating	5 days	
	Armstrong Cork Co Ltd		
	Estimating for ceilings	3 days	£29
	Construction Industry Advisory Service Ltd		
	Estimating and tendering procedures	5 days	
	Council for Small Industries in Rural Areas (CoSIRA)		
	† Preliminary estimating course	2 days	
	† Advanced estimating course	2 days	
	† Estimating: work study course	2 days	
	† Project planning course	2 days	
	Electrical Contractors' Association of Scotland		
	Estimating and finance seminar	3 days	
FIRST AID	**British Red Cross Society**		
	Instruction to certified first-aid courses and examinations — normally eight to eleven two-hour sessions		

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FIRST AID (cont'd)	**British Safety Council**		
	First aid course	3 days	
	St. John's Ambulance Association		
	First aid classes	about 12 to 15 hours	
	St. Andrew's Ambulance Association		
	First aid course	12 to 15 hours	
	West Bromwich, Smethwick and District Manufacturers' Occupational Health Service Ltd		
	First aid course — Six lectures of 2 hours and 2-hour examination		
FLOORING	**Armstrong Cork Co Ltd**		
	Floorlayers course —		
	Part I	3 days	£25—3 days
	Part II	2, 3 or 5 days	£41—5 days
	Bulgomme Silence, Northern France		
	Floorlaying course	1 week	
	Carson-Paripan Ltd		
	Floorlaying course	3 days	
	Gerland Ltd		
	Gerflex floorlaying course	3 to 5 days	
	Nairn Williamson Ltd		
	Floorlaying course	1 week	
	Torginol (U.K.) Ltd		
	Floorlaying course	4 days	£39
GAS PIPE LAYING, GAS FITTING AND TECHNOLOGY	**The Bryan Donkin Co Ltd**		
	Governor fitting	5 days	
	Calor Gas (Distribution) Co Ltd		
	L.P.G. utilisation Parts I and II	3 days	
	The Gas Council		
	Natural gas conversion course	4 days	
	North Western Gas Board		
	Main and service layers' course	8 days	
	North Thames Gas Board		
	Course for operatives of approved central heating installers	2 days	
	Southern Gas Board		
	Natural gas appliances for contractors	2 days	

HEATING

Allied Ironfounders Ltd, Ketley		
Aga fitters' course	2 weeks	
Allied Ironfounders Ltd, Chesham		
†Sales technical course	2 days	
Installer service course	2 days	
British Oil Burners Ltd		
Oil-firing instruction course	5 days	
Calor Gas Ltd		
Comet heater course	3 days	
Coal Utilisation Council		
Approved appliance installers' course	5 days or 1 day per week for 5 weeks	£59
Approved appliance distributors' refresher course	2 days	
Approved appliance installers' refresher course	2 days	
Appliance trade course or appliance distributors' course	4 days	
Central heating merchants' showroom course	4 days	
Central heating merchants' technical course	4 days	
Coal trade correspondence course		
Coal trade course	5 days	
Domestic heating engineers' course	4 or 5 days	
Warm air heating course	3 days	
Ideal Standard Ltd		
Distributor/merchant technical sales course (D/TS)	5 days	£73
Warm air design course W.A/D	5 days	£73
Gas appliance, service and fault finding course (GA/SF)	3 days	£43
Hydronic design course (H/D)	5 days	
International Janitor Ltd		
Gas and warm air	3 days	
General course	3 days	
Oil course	3 days	
Johnson & Starley Ltd		
Residential warm air design course	3 days	
Lennox Heating Co Ltd		
Warm air control, heating, design installation	2, 3 or 4 days	
National Industrial Fuel Efficiency Service		
Oil firing course	3 days	

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HEATING (cont'd)	**Nu-Way School of Oil-Firing**		
	'A' training course (Domestic)	3 days	£25
	Oil-firing training course 'B'	3 days	£28
	Thomas Potterton Ltd		
	Comprehensive course	5 days	£73
	Gas training course — including natural gas	3 days	£41
	Oil training course	3 days	£41
	Warm air training course	3 days	
	Small bore design training course	3 days	
	Distributor/merchant sales/technical course	3 and 5 days	
	Service supervisors' training course	5 days	
	Redfyre Ltd		
	Centramatic oil-fired boilers	3 days	
	Shell Mex and B.P. Ltd		
	Introductory oil-fired heating	5 days	£51
	Introductory heating design	5 days	£46
	Oil burner courses Nos. 1, 2 and 3	5 days each	£51 each course
	Heating design — Parts I and II	5 days each	£51 each part
	Business management —Appointed installers' principals	4 days	£44
	William Sugg & Co Ltd		
	Halcyon domestic warm air heating	3 days	
HUMAN RELATIONS	**Advisory Service for the Building Industry**		
	Handling people	5 days	£99
	Construction Industry Advisory Service Ltd		
	Dynamics of management — Management of people	5 days	
	Anne Shaw Organisation		
	Sensitivity training	1 week	
	Tavistock Institute of Human Relations		
	Study groups (T. group training)	10 evenings each of 1½ hours	
HYDRAULIC ENGINEERING	**Hydraulics Research Station**		
	Course for overseas' engineers	5 or 10 days	
	Sperry Rand Ltd		
	Hydraulic equipment familiarisation	4 days	
	Hydraulic system design	4 days	
	Hydraulic servo components	5 days	
	Mobile hydraulic equipment	2 days	
INDUSTRIAL RELATIONS	**Associated Industrial Consultants**		
	Industrial and human relations	5 days	

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INDUSTRIAL RELATIONS (cont'd)	**Electrical Contractors' Association**		
	Industrial relations for management (Course No. 4)	1 week	
	Industrial Society		
	Framework of industrial relations	3 days	
	The management of industrial relations	3 days	
	† Industrial law	2 days	
	Institute of Personnel Management		
	Industrial relations training laboratory	5 days	
	Management Studies Centre		
	Management and labour (Industrial relations and personnel management)	3 days	£96
	National Federation of Building Trades Employers (London Region)		
	† Working rule agreement	2 days	
	Roffey Park Institute		
	Labour relations	5 days	
INSTRUCTING, TEACHING, LECTURING	**CITB Courses**		
	Instructors' courses	2 weeks	
	B.A.C.I.E.		
	Techniques of instruction Parts 1, 2, 3 and 4	5 days each	£97 members £105 non-members
	British Oxygen Co Ltd		
	Oxy-acetylene/metal-arc course for instructors responsible for apprenticeship training (with previous experience of both processes)	2 weeks	
	Oxy-acetylene/metal-arc course for instructors (with no previous experience of either process)	4 weeks	
	British Welding Research Association		
	Basic principles of welding for instructors	2 weeks	
	Institute of Supervisory Management		
	Supervisory education and training techniques for training officers	5 days	
	Instructor Training Associates		
	Instructional techniques	3 to 5 days	
	Principles and techniques of instruction	10 days	
	Production Engineering Research Association		
	Techniques of instruction	10 days	
	Instructional techniques for supervisors	5 days	

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INSULATION	**J. W. Roberts Ltd**	
	Asbestos spray course	10 days
	Sprayed Insulations Ltd	
	Training spray operatives	10 days
IRONMONGERY: FIXTURES AND FITTINGS (including Locks/Tools etc.)	**Council of Industrial Design**	
	All courses appropriate to the activities of the company and the trainee	
	Guild of Architectural Ironmongers	
	Residential course	5 days
	National Institute of Hardware	
	Builders' hardware	3 days
	Lock course	3 days
	Plumbers' course	3 days
	Tools course	3 days
	Garden requisites course	3 days
	D.I.Y. course	3 days
LANGUAGES	**Berlitz School of Languages**	
	Crash courses	1, 2, 3 and 4 weeks
	Private lectures (day or evening)	45-minute lessons
	Cleaver-Hume Language Laboratory	
	French, German, Spanish and Italian	20, 40, 60 and 120 hours
	Commerce and Industry's Language Laboratory	
	French, German, Spanish and Italian 60×50 minute laboratory sessions plus 24×30 min. tutorial sessions	
	Institute of Directors	
	Conversation course (Standard)	4 hours per day for 3 weeks
	Conversation course (Advanced)	4 hours per day for 3 weeks
	Conversation course (Short)	4 hours per day for 2 weeks
	Conversation course (Extended)	4 hours per day for 4 weeks
	Booster refresher course	5×½ day
	Language Studies Ltd	
	French, German, Spanish and Italian	minimum of 20×1½ hour sessions
LEAD	**Lead Development Association (in conjunction with technical colleges)**	
	Leadburning and sheet lead fabrication	3 days

LETTER AND REPORT WRITING	**Samuel Barron & Partners**		
	Effective writing course	3 days	£53
	Report writing course	3 days	£53
	Gordon Bell & Partners		
	Letter writing course	3 days	£53
	OTMA		
	Letter and report writing	3 days	£57
	Technical report writing	3 days	
	† Business letter writing	2 days	
	Production Engineering Research Association		
	Successful writing and speaking	5 days	
	Tack Organisation		
	† Effective writing	2 days	
LIBRARY	**Association of Special Libraries Information Bureaux**		
	Senior introductory course to special library and information work	10 days	
	Junior introductory course to special library and information work	4 days	
MANAGEMENT — MISCELLANEOUS	**Advisory Service for the Building Industry**		
	Management development	5 days	
	Ashridge Management College		
	Marketing knowledge for managers	1 week	£106
	Management in evolution	1 week	
	Burton Manor College		
	Nature of management — Part I	2 weeks	
	Part II	1 week	
	Co-operative College		
	Course in co-operative management practice— Part A	2 weeks	
	Part B	2 weeks	
	Electrical Contractors' Association		
	RIBA Form of Contract	3 days	
	Electrical Contractors' Association of Scotland (in conjunction with Strathclyde University)		
	Aspects of management	10 evenings	
	Heating and Ventilating Contractors' Association		
	Specialist management course (Mechanics)	1 week	
	Specialist management course (Dynamics)	1 week	
	Industrial and Commercial Techniques		
	Modern techniques of construction management	3 days	

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MANAGEMENT — MISCELLANEOUS (cont'd)

The Industrial Society		
Effective leadership in industry	5 days	
Modern management	3 weeks	
Institute of Purchasing and Supply		
Seminar on the management of purchasing and stores departments	3 days	£67
Management Studies Centre		
Management and labour (Industrial relations and personnel management)	3 days	£96
Mathematics for management	3 days	
National Federation of Builders' and Plumbers' Merchants		
Management course	4 days	
National Federation of Building Trades Employers		
The builder and his contract	3 days	
The National Institute of Hardware		
Management course	4 days	
Polycon Group Building Industry Consultants		
Factoplan	3 days	
Production Engineering Research Association		
Planning for managers	5 days	
Management techniques	5 days	
Radio and Television Retailers Association (with Longmans Consultancy Services)		
Business management for the radio, television and electrical retailer	3 days	
The Scottish Federation of Building Trades' Employers		
† Modern management techniques	2 days	
Sundridge Park Management Centre		
Effective sales management	1 week	
Tack Organisation		
† Leadership in management	2 days	
Timber Research and Development Association		
Production management	4 days	
Yard management	4 days	
Management techniques for the timber trade	7 days	

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MANAGEMENT — MISCELLANEOUS (cont'd)

Urwick Management Centre		
Conditions of contract in construction management	3 days	
Management in research and development	1 week	

MANAGEMENT — TOP

Administrative Staff College		
Course of studies (Main general management course)	11 weeks	£1263
Ten-year conference	3 days	
Advanced Management Programme International		
Advanced management programme	6 weeks	
Advisory Service for the Building Industry		
Buying management	5 days	
Company organisation and control	3 days	
Decision making	5 days	£119
† Motivation, incentives and productivity	2 days	
Ashridge Management College		
Advanced management course	3 weeks	£364
General management course	4 weeks	£485
General management course	8 weeks	£970
Senior managers	3 weeks	£364
The directors' week	1 week	
Gordon Bell and Partners		
Executives course	1 week	£104
British Institute of Management		
Integrated management development	5 days	
College of Production Technology		
Top management conference	3 days	
Cranfield School of Management		
Management services course	10 weeks	
Modern management techniques	1 week	£104
David Frost and Associates		
General management by the case discussion method	5 days	
Glacier Institute of Management		
Finance for the non-accountant	3 days	
Senior management course	2 weeks	
London Graduate School of Business Studies		
Executive development programme	12 weeks	
Senior executive programme	6 weeks	

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MANAGEMENT — TOP (cont'd)	**National Federation of Builders' and Plumbers' Merchants**		
	Senior management course	5 days	
	Sundridge Park Management Centre		
	Development of executives — Residential	1 week	
	General management — Residential	3 weeks	£398
	John Tyzack & Partners (Training) Ltd		
	Management tutorials — 3 seminars	5 days each	
	Urwick Management Centre		
	General management	6 weeks	£963
	General management survey in the construction industry	1 week	£143
	*General management survey in civil engineering	1 week	£143
	* Senior management in civil engineering	2 weeks	£298
	Advanced management	4 weeks	
	*Sponsored by the Federation of Civil Engineering Contractors		
MANAGEMENT — MIDDLE	**CITB Course**		
	Contracts management course at various venues	approx. 3 weeks	
	Advisory Service for the Building Industry		
	Incentives	5 days	
	British Institute of Management		
	Modern management	5 days	£157 members £165 non-members
	British Railways Board (Work Study Training Centre)		
	Middle management techniques	2 weeks	
	Engineering Employers West of England Association		
	Design and drawing office management	2 weeks	
	Heating and Ventilating Contractors' Association		
	General management course (Instructional)	2 weeks	£228
	General management course (Appreciation)	1 week	£115
	† Management course — Contract matters	2 days	
	The Industrial Society		
	Successful management in industry	5 days	
	National Federation of Builders' and Plumbers' Merchants		
	Middle management	1 week	

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MANAGEMENT — MIDDLE (cont'd)	**Production Engineering Research Association**		
	Problem solving, decision making, creativity	5 days	
	Provincial Councils for Local Authorities in the South West		
	Senior officers supervising manual workers	4 days	
	Roffey Park Institute		
	Management — Human aspects	1 week	
	Sundridge Park Management Centre		
	Development of executives — Residential	1 week	£118
	William Temple College		
	Responsibility in industrial relations	2 weeks	
MANAGEMENT — JUNIOR	**Advisory Service for the Building Industry**		
	Junior management staff	5 days	
	Ashridge Management College		
	Introduction to management	1 week	£106
	Management course for trainees	6 weeks	£671
	Younger managers	2 weeks	£202
	Gordon Bell and Partners		
	Training for management	1 week	
	Electrical Contractors' Association		
	Basic management course (Course No. 3)	2×1 week	
	Glacier Institute of Management		
	First-level management course	1 week	£99
	Industrial Society		
	The methods of supervisory and management training	5 days	
	Managing people (for junior and trainee managers)	3 days	
	OTMA		
	Introductory management	8 days	
	Roffey Park Institute		
	Management — Human aspects	1 week	
	Urwick Management Centre		
	Management for the young executive	4 weeks	£542
MANAGEMENT — APPRECIATION	**Advisory Service for the Building Industry**		
	Management, general appreciation	5 days	£104

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MANAGEMENT — APPRECIATION (cont'd)	**Heating and Ventilating Contractors' Association**		
	General management course (Appreciation)	1 week	
	Royal Institute of Public Administration		
	Management appreciation course (for building managers)	5 days	
MANAGEMENT — FINANCIAL	**CITB Courses** (Held at various venues)		
	Financial management (Building contractors' course)	3 weeks	
	Financial management course (for mechanical and electrical services engineering contractors)	3 weeks	
	Capital structure module	3 days	
	Capital budgeting module	2 days	
	Management ratios module	2 days	
	Advisory Service for the Building Industry		
	Finance — Residential	5 days	£104
	Ashridge Management College		
	Financial knowledge for managers	1 week	£121
	Financial knowledge for managers— follow-up course	1 week	£121
	Financial planning and control	1 week	
	The manager and the accountant	1 week	£106
	Introduction to management accounting	1 week	
	Associated Industrial Consultants		
	Management accounting	1 week	
	British Institute of Management		
	Long range business planning for profit and growth	9×1 day	
	College of Production Technology		
	Financial management — Non-residential	1 week	
	— Residential	2 weeks	
	Financial management for the construction industry	3 days	
	Electrical Contractors' Association		
	Management accounting (Course No. 5)	1 week	
	Glacier Institute of Management		
	Finance for the non-accountant	3 days	
	Heating and Ventilating Contractors' Association		
	Management course — Financial controls and tendering	3 days	

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MANAGEMENT — FINANCIAL (cont'd)	**Institute of Chartered Accountants in England and Wales**		
	Management information appreciation	3 days	£90
	Institute of Chartered Accountants of Scotland		
	An appreciation of management techniques	5 days	
	National Federation of Builders' and Plumbers' Merchants		
	Management accountancy	4 days	
	P.E. Consulting Group Ltd		
	Modern financial management	2 weeks	£261
	Production Engineering Research Association		
	Financial management for non-financial managers	5 days	
	Sundridge Park Management Centre		
	Profit management — Residential	1 week	£118
	Tack Organisation		
	Accounting explained	3 days	
	Urwick Management Centre		
	Finance for the non-financial executive	1 week	£161
MANAGEMENT — OFFICE	**Ashridge Management College**		
	Office management	1 week	£101
	Institute of Chartered Accountants in England and Wales		
	Controlling administrative overheads (Efficiency in the office)	3 days	
MANAGEMENT — PERSONNEL	**Industrial Society**		
	Effective personnel records system	3 days	
	Personnel administration	5 days	
	Managing staff resources	3 days	
	Institute of Personnel Management		
	Interviewing techniques laboratory	5 days	
	Personnel management in the smaller companies	1 day per week for 5 weeks, or 5 days	
	Selecting the right candidate	3 days	£59 members; £63 non-members
	Selection testing	5 days	£98 members; £104 non-members
	The work of the personnel department	5 days	£79 members; £85 non-members

MANAGEMENT — PERSONNEL (cont'd)	**Institute of Personnel Management (con'td)**		
	Job evaluation	3 days	
	Job analysis	3 days	
	The computer and the personnel manager	3 days	
	The law and the personnel manager	3 days	
	Management Studies Centre		
	Management and labour (Industrial relations and personnel management)	3 days	£96
	National Institute of Industrial Psychology		
	Intelligence testing	7 days	£130 members £145 non-members
	Interviewing	2 weeks	£196 members £221 non-members
	Introductory course	1 week	£92 members £103 non-members
	Tests for the selection of engineering apprentices	3 days	
MANAGEMENT — SITE AND WORKS	**CITB Course**		
	(Held at various colleges of technology)		
	Site management	3 weeks	
	Advisory Service for the Building Industry		
	Joinery management	5 days	
	Operational management	5 days	
	Plant management	5 days	
	Site control	5 days	£99
	Progressive site management — 3 stages	5 days each	£99 each stage
	Construction Industry Advisory Service Ltd		
	Site management Parts I and II	5 days each	
	Cranfield School of Management		
	Material handling and plant layout	2 weeks	
	Electrical Contractors' Association		
	Senior management (Course No. 10)	2×1 week	
	Industrial and Commercial Techniques		
	Modern techniques of construction management	3 days	
	Institute of Supervisory Management		
	Management of technical resources	4 days in 2 periods	
	Management Studies Centre Ltd		
	Improving building and construction site efficiency	3 days	£96
	National Federation of Building Trades Employers — London Region		
	Refresher course for site managers of national contractors	1 week	£98

MANAGEMENT — SITE AND WORKS (cont'd)	**Sundridge Park Management Centre**		
	Works management — Residential	2 weeks	£228
	Timber Research and Development Association		
	Materials handling and yard layout	4 days	
	Production management	4 days	
	Yard management	4 days	
	Urwick Management Centre		
	Production management in civil engineering	3 weeks	£366
	Site management	5 weeks	£614
MANAGEMENT — SMALL BUSINESS	**CITB Courses** (Held at various venues)		
	Principals of small firms	1 week	
	Management modules for smaller firms		
	Planning and control of maintenance and repair works	3 days	
	Basic estimating for builders	3 days	
	Financial management	3 days	
	Planning and controlling small contracts	3 days	
	Legal and insurance aspects	3 days	
	Estimating and costing	3 days	
	Office organisation and methods	3 days	
	Advisory Service for the Building Industry		
	Management for smaller firms	3 days	£62 residential £65 non-residential
	Ashridge Management College		
	Management in the smaller enterprise	1 week	£106
	Construction Industry Advisory Service Ltd		
	Management for the smaller builder	4 days	
	Institute of Personnel Management		
	Personnel management in the smaller companies	1 day per week for 5 weeks', or 5 days	
	National Federation of Building Trades Employers		
	† Small works management	2 days	
	Scottish National Federation of Building Trade Employers		
	Management for the smaller firm	5 days	
MARKETING/SALES/ EXPORT	**Advisory Service for the Building Industry**		
	Marketing management	5 days	

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MARKETING/SALES/ EXPORT (cont'd)

Ashridge Management College		
Industrial marketing	1 week	£106
Marketing knowledge for managers	1 week	£106
Marketing course	3 weeks	
Field sales management course	1 week	
Introduction to marketing	1 week	£106
Marketing project seminars for the construction industry	4 + 3 days	
Asphalt Coated Macadam Association (ACMA)		
† Marketing of flexible materials	2 days	
J. C. Bamford (Excavators) Ltd		
†Sales training course	2 days	
Sales training course	4 or 5 days	
Bosch Ltd		
Bosch dealers representatives' courses	3 to 5 days	
Business Intelligence Services Ltd		
Field sales management course	5 days	
Coal Utilisation Council		
Central heating merchants' showroom course	4 days	
Central heating merchants' technical course	4 days	
Appliance trade course (also known as appliance distributors' course)	4 days	
College of the Institute of Marketing		
Effective field sales organisation	5 days	
Fundamentals of industrial marketing	5 days	
Advertising, sales promotion and merchandising	5 days	
Selling more industrial goods	5 days	
Industrial market research	5 days	
Construction Industry Advisory Service Ltd		
Marketing for housebuilders	5 days	
J. & J. Denholm, Partners Ltd		
Effective selling course	3 days	
Dexion Ltd		
† Dexion training course for distributor salesmen	2 days	
Export Practice Associates		
† Course in export documentation and finance	2 days	
M. G. Howitt & Associates Ltd		
Selling to architects	3 days	

MARKETING/SALES/ EXPORT (cont'd)

Industrial Training Foundation	
Personal relations in selling and marketing (PRISM)	3 days
Marketing & Manpower International Ltd	
Controlling an industrial sales force	3 days
National Coal Board	
† Elements of salesmanship	2 days
National Federation of Builders' and Plumbers' Merchants	
Sales telephoning and sales letter writing	3 days
Course for outside sales representatives	3 days
Showroom and trade counter salesmen	3 days
National Federation of Building Trades Employers	
Project marketing seminar for housebuilders	4+3 days
National Institute of Hardware	
Representatives' course	4 days
Autumn training school	3 days
Spring training school	3 days
National Marketing Council	
International marketing course (Held in U.K.)	4 weeks
North Thames Gas Board Training Centre	
Course for authorised dealers' representatives	3 days
James North & Son	
Protective clothing — Product knowledge course	5 days
Pilkington Bros. Ltd.	
Merchant representatives' sales course	2 weeks
Thomas Potterton Ltd	
Distributor/merchant/sales technical course	3 days
Sundridge Park Management Centre	
Effective sales management	1 week
Scientific marketing	2 weeks
Sales Concept Ltd	
Techniques of selling	3 days or 8 evenings
Stanley Bridges Ltd	
Industrial power tools — Product knowledge course	2 days
Sales Consultants Ltd	
† Develop and control salesmen	2 days

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MARKETING/SALES/ EXPORT (cont'd)	**Tack Organisation**		
	Marketing and sales management	5 days	£138
	Sales training course	3 days	£69
	† Telephone selling	[illegible] days	
	Field sales management	3 days	
	Timber Research Development Association		
	Management training course for sales directors and managers	3×2 days	
	Branch managers' training course	2×2 days	
	Sales training course	3×2 days	
	Indoor salesmen's training course	2×2 days	
	Ucan Products Ltd		
	UCAN product knowledge sales course	2 weeks	
	Wall Paper Manufacturers' Ltd		
	Representatives' course	5 days	
	Retail managers' course	4 days	
	Wolf Electric Tools Ltd		
	Wolf sales course	3 days	
MASONRY (including Monumental Masonry)	**The Orton Trust**		
	Various courses, e.g. gilding, lettering, repair and restoration of stonework		
METHOD STUDY (O & M)	**Associated Industrial Consultants**		
	Method time measurement course	3 weeks	
	Organisation and methods	1 week	£134
	British Productivity Council		
	O & M appreciation	5 days	
	Cranfield School of Management		
	Method study	4 weeks	
	O & M (Administrative work study)	6 weeks	
	Method time measurement (MTM. 1)	3 weeks	
	Method time measurement (MTM. 2)	2 weeks	
	Institute of Office Management		
	Organisation and methods	3 weeks	
	Organisation and methods — Day release	14 days	
	Organisation and methods — Introductory	1 week	
	Institute of Office Management (Norwich Branch)		
	Practical organisation and methods	13 evenings	
	National Federation of Builders' and Plumbers' Merchants		
	Method study course	2 weeks	

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METHOD STUDY (O & M) (cont'd)	**Organisation & Methods Training Council**		
	Organisation and methods course Part I and Part II	2 weeks each part	
	Peat, Marwick, Mitchell & Co		
	Organisation and methods	2 weeks	
MOTOR AND ENGINE MAINTENANCE	**B.M.C. Services Ltd**		
	Various courses	4 to 5 days	
	Crypton Equipment Ltd		
	Operators' training course	1 week	
	Engine testing course	1 week	
	Coventry Climax Engines		
	Coventry Climax engine course	5 days	
	Cummins Engine Co Ltd		
	Cummins engine courses	3 or 5 days	
	Fodens Ltd		
	Chassis maintenance course	1 week	
	Engine maintenance course	1 week	
	Ford Motor Co Ltd — Chelmsford		
	Various courses	2 or more days	£8. 10. per day
	Ford Motors — Slough		
	All training courses totalling 2 days or more		
	General Motors Ltd		
	Various courses	3 to 5 days	
	Girling Ltd, Technical School		
	General maintenance and servicing courses	5 days	
	Leyland Motor Corporation		
	Leyland and Albion commercial vehicles services training — Comprehensive course	5 days	£49
	R. A. Lister & Co Ltd		
	Engine 'A' course	5 days	£49
	Joseph Lucas Ltd		
	Car and light commercial	2 weeks	
	Fault diagnosis	1 week	
	A.C. equipment	2 days	
	Perkins Engines Ltd		
	Engine service courses	3 to 5 days	
	Fuel injection courses	3 to 5 days	
	Petters Ltd		
	Diesel engine course	5 days	
	Compressor course	5 days	

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MOTOR AND ENGINE MAINTENANCE (cont'd)	**Rolls Royce Ltd**	
	Diesel engine 'C' range engineers' course	5 days
	Rootes Motors Ltd	
	Commercial vehicle brake course	3 days
	Rover Co Ltd	
	Automatic Model 35	5 days
	2000 Car SC & TC	5 days
	Land Rover engine	5 days
	Land Rover transmission	5 days
	Simms Motor Units Ltd	
	Fuel injection theory course	3 days
	Vauxhall Motors	
	Various mechanical courses	5 days
	World Service Training Centre (C.A.V.) Ltd	
	C.A.V. engine users' fuel-injection equipment course	5 days
	Workshop course on distributor-type pumps	5 days
	Workshop course on in-line equipment	5 days
	Service course for commercial vehicle electricians	5 days
NON-DESTRUCTIVE TESTING, (Radiographic and ultrasonic)	**Atomic Energy Research Establishment**	
	Non-destructive testing appreciation course	5 days
	Kodak School of Industrial & Engineering Radiography	
	Lloyds approved course in casting and welding radiography	4 weeks
	Surveyors and engineers course in radiography	1½ weeks
	School of Applied Non-destructive Testing	
	Interpretation of weld radiographs	2 weeks
	Non-destructive methods and techniques	1 week
	Practical ultrasonic weld examination	2 weeks
	Solvol Metallurgical Ltd	
	Non-destructive testing	4 days
	Wells-Krautkramer Ultrasonic Testing School	
	Principles of ultrasonic testing and measuring	2 weeks
	Ultrasonics basic training (pipelines)	1 week
PAINTING	**CITB Course** (Held at the Construction Industry Training Centre)	
	Painting — Industrial course	3 weeks

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PAINTING (cont'd)	**Binks-Bullows Training School**		
	Spray painting course	5 days	
	The Devilbiss Co Ltd		
	Airless spray painting	2 days	£22
	Hot spray course	2 days	£22
	Spray painting	4 days	£35
	Maintenance course	2 days	£22
	Sissons Bros Ltd		
	Spray painting course	2 days	
PENSIONS AND INSURANCE	**Chartered Insurance Institute**		
	Pensions course	10 days	
	Course for supervisors	4 days	
PLANNING	**CITB Courses**		
	(Held at the Construction Industry Training Centre)		
	Planning appreciation course	4 days	
	Planning specialist course		
	Part I	2 weeks	
	Part II	1 week	
	Advisory Service for the Building Industry		
	Company organisation and control	3 days	
	Planning appreciation	5 days	£102
	Planning training	4 weeks	£447
	Associated Industrial Consultants		
	Management planning and controls	3 weeks	
	Cranfield School of Management		
	Production planning and control	3 weeks	£223
	P.E. Consulting Group Ltd		
	Planning and control of production — Production management	1 or 2 weeks	
	Production Engineering Research Association		
	Planning for managers	5 days	
	Tack Organisation		
	Profit planning techniques	3 days	
PLANT OPERATION AND MAINTENANCE	**CITB Courses**		
	(Held at the Construction Industry Training Centre)		
	Mobile crane (Lorry mounted and self-propelled)	2 weeks	£115
	Tower crane	2 weeks	£115
	Crawler tractor (dozer, scraper and side boom)	2 weeks	£115
	Digger (loader/backhoe)	2 weeks	£115

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PLANT OPERATION AND MAINTENANCE (cont'd)

CITB Courses (cont'd)		
Hydraulic excavator (360° crawler and wheeled)	2 weeks	£115
Mobile crane (crawler) course	2 weeks	£115
Crawler excavator (dragline) course (Advanced)	2 weeks	£115
Loader (crawler loader, drott wheeled shovel) course	2 weeks	£115
Paving machines operators — basic course for drivers and screwsmen	2 weeks	
Paving machines supervisors' and foremen's course	1 week	
Road roller course	1 week	£53
Grader course	2 weeks	
John Allen & Son Ltd		
22 Grove Allen crane course	1 week	
Atlas Copco (G.B.) Ltd		
Service training courses for portable compressors, etc.	2 to 4 days	
Aveling Barford Ltd		
Road roller maintenance course	5 days	
J. C. Bamford (Excavators) Ltd		
Service training course	5 days	
Operator training course	3 and 4 days	£37—3 days £51—4 days
Benford Ltd		
Concrete machinery fitters' course	3 days to 3 weeks	
British Crane and Excavators Corporation Ltd		
Courses of instruction for operation and maintenance	5 days	£63
Broom & Wade Ltd		
Contractors' plant equipment maintenance course	3 days	£35
Industrial compressor course	3 days	
Bosch Ltd		
Bosch mechanics' repairs courses	3 to 10 days	
Caterpillar Distributors:		
Bowmaker Plant Ltd H. Leverton & Co Ltd Caledonian Tractors Ltd		
Various service training courses	5 days	
Chaseside Engineering Co Ltd		
Training course for Chaseside rubber-tyred loading shovels	5 days	

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PLANT OPERATION AND MAINTENANCE (cont'd)

Clark Equipment Ltd	
Service training courses	3 to 5 days
Conveyancer Fork Lift Trucks Ltd	
Fork lift truck course	5 days
Eaton Yale and Towne Inc.	
Fork lift truck and loader shovel service courses	2 to 4 days
Ford Motor Co Ltd	
Industrial excavator/loader hydraulics course	4 days
Industrial general course	5 days
Excavator/loader operators' course	4 days
General Motors (Scotland) Ltd (Trade name — 'Terex')	
Crawler tractor course	5 days
Loader course	5 days
Rear dump course	5 days
Scraper course	5 days
Alfred Herbert Ltd	
Setter/operator, electrical and mechanical maintenance courses on Herbert lathes and drills	2 to 5 days
Hicksons Timber Impregnation Co (G.B.) Ltd	
Tanalith plant operators' course	3 days
Holman Brothers Ltd	
Various service courses on Holman equipment	3 to 10 days
Hydraulic Machinery (G.B.) Ltd	
Hy-Mac service training courses	5 days
The Hymatic Engineering Group	
Hydrovane service training course (stationery)	5 days
Hydrovane service training course (portable)	5 days
International Harvester Co Ltd	
International Harvester customers' plant maintenance course	5 days
J.D. Tractors Ltd	
Service training course	5 days

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PLANT OPERATION AND MAINTENANCE (cont'd)

Jones Cranes Ltd		
Driving, adjustments and running maintenance course	3 days	
Maintenance mechanics' course	5 days	
Advanced maintenance mechanics' course	10 days	
Kango Electric Hammers		
Kango general maintenance course	3 days	
Lincoln Electric Co Ltd		
Maintenance on Lincoln SAE 300	3 days	
Joseph Lucas Ltd		
Tractor course	1 week	
Massey Ferguson (U.K.) Ltd		
Demonstration course	5 days	
Tractor/digger/loader operators' course	4 days	
Crawler operators' course	4 or 5 days	
Tractor/digger/loader service course	2 weeks	
Tractor/digger/loader hydraulic service course	1 week	
Crawler service courses (244–3366)	1 or 2 weeks	
500 loader and dozer	1 week	
350–450 tracked excavator	1 week	
33–44 four-wheeled drive loaders	1 week	
Mitchell Construction Kinnear Moodie Group Ltd		
Small plant and tools course	5 days	
N.C.K. — Rapier Ltd (Newton Chambers & Company Ltd)		
Excavator maintenance course	5 to 10 days	
Poclain Ltd		
Operator training course	5 days	
Maintenance course in France	5 days	
Priestman Construction Equipment		
Service training course	5 days	£49
Production Engineering Research Association		
Planned maintenance	5 days	
Ruston Bucyrus		
Various servicing and maintenance courses	5 days	
Saville (Tractors) Ltd		
Maintenance course	3 days	

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PLANT OPERATION AND MAINTENANCE (cont'd)	**Stacatruc Ltd**		
	Service training courses	4 or 5 days	
	Whitlock Bros		
	Service instructional courses —		
	Excavators	5 days	£44
	7T crane operator-mechanics' course	3 days	
	Winget Ltd		
	Maintenance for Winget machinery	5 to 10 days	
PLASTERING AND PLASTERBOARD TECHNIQUES	**Artex Products (Manufacturing) Ltd**		
	Hand application course	2 weeks	
	Spray application course	1 week	
	British Gypsum Ltd		
	Gypklith wood wool slabs	3 days	£28
	Gyproc metal stud partition including hand jointing techniques	5 days	£49
	Jointing plasterboards by hand methods	3 days	£28
	Jointing plasterboards by mechanical methods (Ames mechanical jointing)	5 days	£49
	Laminated partition, hand jointing techniques	5 days	£49
	The Paraclip system of suspended ceilings and roof linings	5 days	£49
	Paramount demountable partition	3 days	£28
	Paramount dry partition including hand jointing techniques	5 days	£49
	Timber-framed plasterboard ceilings, including hand jointing techniques	5 days	£49
	Course in plasterboard dry lining techniques (Thistlebond)	5 days	£49
	Mechanical Drywall Ltd		
	Dry-lining course — KM taping or NECCO systems	5 days	
PLASTICS	**Council for Small Industries in Rural Areas (CoSIRA)**		
	Courses in reinforced plastics	2 and 3 days	
	Polyplan Ltd		
	Study and instruction course on plastics in building design and construction	4 days	
PRODUCTION AND COST CONTROL	**Advisory Service for the Building Industry**		
	Production control	5 days	
	Associated Industrial Consultants		
	Production control	1 week	

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PRODUCTION AND COST CONTROL (cont'd)	**Joint Industry Board for the Electrical Contracting Industry (in conjunction with the Construction Industry Training Board)**		
	Productivity training course	3 weeks + 46 days project	
	National Building Agency (London, Manchester, Newcastle, Scotland)		
	† Line of balance	2 days	
	National Building Agency (Scotland)		
	† Production control techniques	2 days	
	Production Engineering Research Association		
	Design for higher productivity	5 days	
	Inspection and product quality assurance Parts I and II	5 days each part	
	Low cost automation	5 days	
	Value engineering	5 days	
	Improving the economics of production	5 days	
	Production control in action	5 days	
	Modern production methods	5 days	
	Introduction to numerical control	5 days	
	Young engineers	15 days	
	Production estimating	5 days	
	Royal Institute of Public Administration		
	Ways to greater productivity	4 days	
	Tack Organisation		
	Value engineering	3 days	
	Urwick Management Centre		
	Production planning and control	2 weeks	
PROGRAMMED LEARNING AND VISUAL AIDS	**Bristol Tutor Group**		
	Professional programme writers' course	1 month + 5 post-course visits	
PUBLIC SPEAKING	**Samuel Barron and Partners**		
	Effective speaking course	3 days	£53
	Gordon Bell and Partners		
	The speaking course for directors and senior management	3 days	£81
	Scientists' short course	1 week	
	Speaking course	3 days	
	The British Institute of Management		
	Effective speaking for managers	3 days	
	The Economic League		
	Effective speaking course	3 days	

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PUBLIC SPEAKING (cont'd)	**Industrial Society**	
	Speaking successfully in business and in public	8 weekly sessions
	Discussion leading and chairmanship	3 days
	Institute of Directors	
	Effective speaking course	6 evening lectures
	Production Engineering Research Association	
	Successful writing and speaking	5 days
	Tack Organisation	
	Effective speaking	3 days
QUARRYING	**The Institute of Quarrying**	
	Short course in quarry practice	3 days
RADIO AND TELEVISION	**Decca Radio and Television Ltd**	
	Introduction to colour TV course	3 days
READING	**Institute of Directors**	
	Quick reading course	2 evenings per week over 5 weeks
	Production Engineering Research Association	
	† Quicker reading	2 days
REFRIGERATION AND AIR CONDITIONING	**Climate Equipment Ltd**	
	Carlyle technical development programme in air conditioning and refrigeration	17 evening lectures or 8 days
	Ductwork (Engineering Services) Ltd	
	Carlyle technical development programme in air conditioning and refrigeration	16 evenings
	Frigidaire	
	Training programme; commercial course	3 weeks
	Fuel Efficiency Co Ltd	
	Carlyle technical development programme in air conditioning and refrigeration	18 evenings
	Kelvinator Ltd	
	Kelvinator service course	2 days
	LEC Refrigeration	
	Refrigeration servicing course	3 days
	Refrigeration mechanics' course	13 days
	Petters Ltd	
	Transport refrigeration course	5 days

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REFRIGERATION AND AIR CONDITIONING (cont'd)	**Powell Duffryn Engineering Co Ltd**		
	Carlyle technical development programme in air conditioning and refrigeration	28 evenings	
RESEARCH	**Management Courses Ltd**		
	Operational research	3 days	
	Scientific Control Systems Ltd		
	Operational research techniques	9 weeks	
	Survey of operational research	5 days	
	Urwick Management Centre		
	Management in research and development	1 week	
ROAD CONSTRUCTION (including Paving)	**Cement and Concrete Association**		
	Concrete roads and cement stabilised bases for engineers	5 days	
	Concrete roads and cement stabilised bases for general foremen, clerks of works and highway superintendents	5 days	
	Road Research Laboratory		
	Flexible roads; materials and construction	5 days	
	Pavement design and drainage	4 days	
	Road construction in tropical countries	5 days	
	The application of soil mechanics to road construction	5 days	
	Road Surface Dressing Association		
	Course of instruction for foremen	3 days	£39
ROOFING AND TILING	**CITB Course**		
	(Held at the Construction Industry Training Centre)		
	Roofer/tiler course in the maintenance, repairs and renovations field	2 weeks	
	British Uralite Ltd		
	Nuralite-Formica training course	5 days	
	The Flintkote Co Ltd		
	Flintkote Monoform system training course	5 days	
SAFETY	**Atomic Energy Research Association**		
	Radiological protection	5 days	
	Burton Manor College		
	Electrical safety in industry for foremen and supervising electricians	5 days	
	Federation of Civil Engineering Contractors		
	Various courses offered by the regions and areas of FCEC in association with the CITB		

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SAFETY (cont'd)

Fire Protection Association

The regular and advanced courses	5 days each course

The Forest Industrial Accident Prevention Group

Power press safety course	2 days
Training in electrical safety	2 days
Safety in the use of industrial lifting appliances	2 days

Heating and Ventilating Contractors' Association

Safety course for foremen/chargehands	2 days

Lancashire County Fire Brigade

The industrial course	1 day
The residential course	5 days

Mastic Asphalt Employers' Federation

Accident prevention course for the asphalt and roofing industries	1 day

National Construction Safety Training Council

Safety training courses at the following Member Training Centres for the Building and Civil Engineering Industries:

- Eastern Federation of Building Trade Employers
- London Construction Safety Groups
- Merseyside and North West Safety Centre
- Scottish Building Safety Group
- Yorkshire Safety Centre

National Federation of Building Trade Employers

Various courses offered by the areas and regions of NFBTE in association with the CITB

National Federation of Building Trade Employers — Safety Division

(in conjunction with the Federation of Civil Engineering Contractors)

The following mobile safety van courses:

General site safety (Civil engineering)	¼ day
General site safety II	¼ day
Site management (Safety policy)	¼ day
Site management (Scaffolding)	¼ day
Site management (Lifting equipment)	¼ day
Site management (Mechanical aids)	¼ day
Site management (Excavations)	¼ day

The above courses attract a consolidated grant only of £2. 15. 0. per employee.

Production Engineering Research Association

Safety and the supervisor	5 days

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SAFETY (cont'd)	**Provincial Councils for Local Authority Services in the South West**	
	Safety officers' course	4 days
	Road Research Laboratory	
	Traffic and safety course	3 or 5 days
	Royal Society for the Prevention of Accidents	
	Courses arranged by the various regions of RoSPA and associated groups including the following:	
	Construction (building) safety training course	1 week
	Accident prevention for industrial supervisors	3 days
	Manual handling and lifting	5 days
	Defensive driving course	½ day
	Scottish Industrial Safety Groups Advisory Council	
	Weekend residential study conference	
	Surrey Fire Brigade	
	Industrial fire course	1 day
	Yorkshire Electricity Board	
	Electrical safety in industry	4 days
SAW MAINTENANCE	**Forest Products Research Laboratory**	
	Saw maintenance	10 days
SCAFFOLDING	**CITB Courses**	
	(Held at the Construction Industry Training Centre and the Scaffolding Training Centre, Mitcham)	
	Scaffolder's labourer	2 weeks
	Scaffolder (Parts I and II)	2 weeks each part
	Advanced scaffolders	1 week
	Chargehand scaffolder	2 weeks
	System scaffolding	2 days
	General foremen's scaffolding appreciation	2 days
	Scaffolding supervisors	2 weeks
	Kwiform Ltd	
	Kwik stage scaffolding training course	3 days
SECURITY	**Industrial Police and Security Association**	
	Basic training course	3 days
	Intermediate training course	3 days
	Biennial conference	3 days
SELECTION AND RECRUITMENT	**Gordon Bell and Partners**	
	Effective interview course	3 days
	Industrial Society	
	Interviewing — Managers/supervisors	3 days
	Interviewing — Personnel/staff	3 days
	† Employee recruitment and retention	2 days

SELECTION AND RECRUITMENT (cont'd)	**Institute of Personnel Management**		
	Personnel records and recruitment	3 days	
	Interviewing techniques laboratory	5 days	
	Selecting the right candidate	3 days	£59 members £63 non-members
	Selection testing	5 days	£98 members £104 non-members
	Salary administration course	5 days	
	National Institute of Industrial Psychology		
	Course on intelligence testing	7 days	
	Course on interviewing	2 weeks	
	Introductory course	1 week	
	Tests for the selection of engineering apprentices	3 days	
	Roffey Park Institute		
	Selection, appraisal and development	5 days	
STATISTICS	**Associated Industrial Consultants**		
	Statistics	1 week	
	Cranfield School of Management		
	Practical business statistics	4 weeks	
STORES	**Institute of Purchasing and Supply**		
	Seminar for stores and material controllers	4 days	
	Seminar on the management of purchasing and stores departments	3 days	£67
	Management Studies Centre Ltd		
	Scientific stock control	5 days	
SUPERVISORY	**CITB Courses**		
	(Held at the Construction Industry Training Centre)		
	Travelling supervisors of small firms courses	1 week	
	supervisory modules		
	Management — Planning	1 week	
	Plant dept. supervisors	1 week	
	Communication and report writing	1 week	
	Technical — Levelling and setting out	2 weeks	
	Plant utilisation	1 week	
	Trade — Trowel trades (Appreciation)	1 week	
	Trowel trades	1 week	
	Wood trades	1 week	
	(Held at various venues)		
	Basic supervision course	1 week	
	General supervision course	2 weeks	
	Battle of Britain House		
	Supervisors of manual workers employed by local authorities	5 days	
	Builders' general foremen	5 days	

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SUPERVISORY (cont'd)

Burton Manor College

Advanced supervision	5 days
Supervisory management	2 weeks
Introduction to supervision	5 days

Chartered Insurance Institute

Course for supervisors	4 days

College of Production Technology

Foremen's course	5 days

Electrical Contractors' Association (in conjunction with S.W. London College)

ECA site and visiting foremen's course	1 week

Heating Ventilating and Domestic Engineers National Joint Industrial Council

(in conjunction with technical colleges)

Site organisation and administration suitable for fitters	10 to 12 days

Heating & Ventilating Contractors' Association

Foremanship course	5 days

Industrial and Commercial Speakers' Bureau

Leadership on the job	3 days
† Supervisors in action	2 days

Industrial Society

Effective leadership in industry	5 days
The effective supervisor	5 days
Methods of supervisory and management training	5 days
Senior supervision	3 days
Successful supervision	5 days
† Supervisors and shop stewards	2 days
Tutorial course for women in responsible positions	5 days
Basic supervision	3 days

Industrial Training Foundation

Supervisors' training course	12×½ day

Institute of Supervisory Management

Supervisory education and training techniques for training officers	5 days

Lincoln Electric Company Ltd

Specialised supervisory course	5 days

London Borough Management Service Unit

Work study appreciation for supervisors and foremen	3 days

SUPERVISORY (cont'd)

Murex Welding Processes Ltd

Courses for designers, draughtsmen and supervisors	10 days

National Federation of Building Trades Employers (London Region)

† Taking charge for the first time	1 day

National Federation of Building Trades Employers (Liverpool Region)

† Weekend course for builders' general foremen at Burton Manor Residential College, Cheshire	2 days

National Federation of Building Trades Employers (Southern Region)

† Weekend courses for general foremen	2 days

National Federation of Builders' and Plumbers' Merchants

Foremen — Supervisors	5 days

OTMA

Supervisory course	5 days

Pendley Residential Centre of Adult Education

Foremen's and supervisors' course	4 days

Production Engineering Research Association

Foremenship and supervision	5 days
Problem solving, decision making and creativity	5 days
Safety and the supervisor	5 days
Development of supervisors	5 days
Women supervisors	5 days

Provincial Councils for Local Authorities' Services in the South West

Course for gangers on road work	4 days
Foremen's course	4 days
Foremen's follow-up course	4 days

Road Surface Dressing Association

Course of instruction for foremen	3 days	£39

Roffey Park Institute

Senior supervision	5 days

Regional Council for Local Authority Services

Eastern District Provincial Councils
The East Midlands Provincial Councils
Essex and Hertfordshire Provincial Councils
Greater London Joint Council
The North Eastern Provincial Councils

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SUPERVISORY (cont'd)	**Regional Councils for Local Authority Services (cont'd)**	
	The Southern Home Counties Provincial Councils	
	South Wales Provincial Councils	
	The West Midlands Provincial Councils	
	The Yorkshire Provincial Councils	
	Courses for supervisors of manual workers	4 or 5 days
	Details available from Local Government Training Board	
	School of Welding Technology	
	Welding course for works supervisory staff	5 days
	Scottish National Federation of Building Trades Employers	
	Training course for foremen	5 days
	† Refresher course for foremen	2 days
	William Temple College	
	Responsibility in industrial relations	2 weeks
SURVEYING (Land and quantity)	**Advisory Service for the Building Industry**	
	Surveying (Quantity)	5 days
	Construction Industry Advisory Service Ltd	
	Surveying procedures (Quantity)	5 days
	Precise Surveys Ltd — The Survey Centre	
	Elementary surveying and levelling	5 days
	Surveying and levelling	2 weeks
	Surveying and setting out for civil engineering graduates	3 weeks
	General surveying and setting out	4 weeks
	Scottish National Federation of Building Trade Employers	
	Setting-out and use of levelling instruments	3 days
	Survey Training Centre	
	Land surveying (Course 1)	4 weeks
	Basic setting-out techniques (Course 2)	2 weeks
	Setting-out techniques for experienced site engineers (Course 3)	1 week
	Basic instrument course (Course 4)	1 week
	Earthworks and levelling (Course 5)	2 weeks
	Setting-out made simple (Course 6)	4 weeks
	Highway setting-out (Course 7)	3 weeks
	Levelling (Course 8)	3 days
	Advanced setting-out (Course 9)	2 weeks
TAXATION	**College of Production Technology**	
	Taxation course	3 days
	Institute of Chartered Accountants in England and Wales	
	Current tax practice	3 days

TENDERING	**Advisory Service for the Building Industry**		
	Tendering	5 days	£104
	Electrical Contractors' Association (in conjunction with SW London College)		
	Measurement for accounts — Tendering and estimating — Basic appreciation (Course No. 6)	1 week	
	Measurement for accounts (QS) — Senior course (Course No. 8)	1 week	
	Tendering and estimating — Senior course (Course No. 9)	1 week	
	Institute of Purchasing and Supply		
	The negotiation and letting of constructional and engineering contracts	3 days	
THATCHING	**Council for Small Industries in Rural Areas (CoSIRA)**		
	Apprentices' courses	2 weeks	
	Mastermen and journeymen courses	1 week	
	Estimating and measurement course	3 days	
TIMBER AND FOREST PRODUCTS	**The Forest Products Research Laboratory**		
	Control of insects and rot in buildings	3 days	£39
	Courses on seasoning and kiln operation	5 days	£68
	Wood technology	4 days	£54
	FPRL stress grading	4 days	£48
	Hicksons Timber Impregnation Co (Great Britain) Ltd		
	Tanalith plant operators' course	3 days	
	"Vac-Vac" plant operator course	2 days	
	Richardson and Starling		
	Remedial timber treatment course — Theory and practical	13 weeks	
	Remedial timber treatment course — Theory only	5 days	
	Timber Research and Development Association		
	Costing for the timber trade	5 days	
	Elements of building construction	3 days	
	Hardwood	5 days	
	Management techniques for the timber trade	7 days	
	Materials handling and yard layout	5 days	
	Particle board, wood chipboard and flaxboard	4 days	
	Plywood	5 days	
	Production management	5 days	
	Softwood	5 days	
	Timber and building regulations	3 days	£63

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TIMBER AND FOREST PRODUCTS (cont'd)	**Timber Research and Development Association (cont'd)**		
	Timber frame construction	3 days	£69
	Work study	5 days	
	Yard management	5 days	
	Sales managers	3×2 days	
	Sales training course	3×2 days	
	Indoor salesmen's training course	2×2 days	
	Timber and building	5 days	
	Visual stress grading certification course — Intermediate	3×1 week	
	Timber Research and Development Association (with University of Warwick)		
	† Timber design	2 days	
TIMBERMEN	**CITB Course**		
	(Held at the Construction Industry Training Centre)		
	Basic timbering course	2 weeks	
TRADE UNION	**Industrial Society**		
	Shop stewards' course	3 days	
	† Supervisors and shop stewards	2 days	
TRAINING OFFICERS	**CITB Courses**		
	(Held at various venues)		
	Training officers' course	9 weeks	
	The principles and practices of systematic training — For senior executives with responsibility for training	3 days	
	BACIE		
	Training for skills (formerly Background to apprenticeship training)	1 week	£88, members; £96, non-members
	Training for supervisors	1 week	£83, members; £91, non-members
	Training for the office	1 week	£102, members; £110, non-members
	Institute of Supervisory Management		
	Supervisory education and training techniques for training officers	5 days	
TRANSPORT	**Blox Services Ltd**		
	Heavy goods vehicle drivers' course	5 days	
	British School of Motoring		
	Rigid truck course	1 week	
	Articulated truck course	1 week	
	Rigid truck conversion course	2 days	
	Articulated truck conversion course	2 days	

TRANSPORT (cont'd)	**E.G.W. Management Ltd**		
	† Transport management	2 days	
	Freight Transport Association		
	The Transport Act 1968	3 days	
	Guardian Business Services		
	Road haulage transport managers' course	3×2 days (at weekends) or 5 days	
	S. Jones (Garages) Ltd		
	Heavy goods vehicle drivers' course	5½ days (Mon-Sat. noon)	
	McVeigh Transport Ltd		
	Heavy goods vehicle drivers' course	5 days	
	National Federation of Builders' and Plumbers' Merchants		
	Transport course A	3 days	
	Transport course B	3 days	
	Combined course	4 days	
	Petters Ltd		
	Transport refrigeration course	5 days	
	Road Transport Industry Training Board		
	Fork lift truck drivers' course	2 weeks	
	Fork lift truck driving instructors' course	2 weeks	
	Heavy goods vehicle driving instructors' course	2 weeks	
WALLPAPER AND PAPERHANGING	**Council of Industrial Design**		
	All courses appropriate to the activities of the company and the trainee concerned		
	Arthur Sanderson & Son Ltd Paperhanging Instruction School		
	The craftsman's course	5 days	£37
	The follow-up course	5 days	£37
	The learners' course	5 days	£37
	The Wall Paper Manufacturers' Ltd		
	Representatives' course	5 days	
	Retail managers' course	4 days	
WELDING	**Anglian Industrial Gases Ltd**		
	Bronze welding for plumbers	4 to 8 weeks	
	Manual arc-welding courses	1 to 8 weeks	
	Oxy-acetylene welding courses	2 to 8 weeks	
	Oxygen cutting courses	2 days plus	
	Pipe-line welding courses	4 weeks	

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WELDING (cont'd)

British Oxygen Co Ltd		
Manual arc-welding courses	1 to 4 weeks	
Oxy-acetylene welding courses	2 to 8 weeks	
Oxygen cutting courses	3 days plus	
Semi-automatic and fully automatic welding courses	1 week	
Special courses	2 to 4 weeks	
Welding equipment maintenance courses	3 days	
Crompton Parkinson Ltd		
Stud-welding operator/maintenance course	3 or 4 days	
Eutectic Welding Co Ltd		
Maintenance and repair welding techniques	2 to 5 days	
Lincoln Electric Co Ltd		
CO_2 welding course	1 week	£74
General welding course	3 weeks	£235
Conventional pipe welding course	2 weeks	£165
Stove pipe welding course	2 weeks	£165
Submerged-arc welding course	1 week	£74
Specialised supervising course	1 week	
Murex Welding Processes Ltd		
Course for designers, draughtsmen and supervisors	10 days	
Course for operators	10 days	
Practical School of Welding		
Various oxy-acetylene and arc-welding courses	1 to 4 weeks	
Stubbs Welding Ltd		
Practical maintenance welding	5 days	
The Welding Institute School of Welding Technology		
Advanced course for welding engineers	1 week	
Automatic and mechanised welding (Steels)	1 week	
Basic principles of welding for instructors	2 weeks	
CO_2 welding	2 weeks	
Defects in welds	1 week	
Gas shielded welding of aluminium	2 weeks	
Gas shielded welding of copper and nickel	2 weeks	
Gas shielded welding of ferrous pipes	2 weeks	
Introduction to gas shielded welding	1 week	
Materials for welded construction	3 weeks	
Pulsed arc welding	1 week	
Refresher course for instructors	1 week	
Special TIG welding techniques	1 week	
Welding course for works supervisory staff	1 week	
Welding design — Key knowledge for the draughtsman	2 days	

WELDING (cont'd)

The Welding Institute
School of Welding Technology (cont'd)

Welding equipment for electrical technicians	4 days	
Welding process technology	3 weeks	
Welding for technical management	3 days	

WORK STUDY

CITB Courses
(Held at the CITC Work Study School)

Work study appreciation (Management course)	5 days	
Work study appreciation (Supervision course)	5 days	
Work study practititioners' basic course	6 weeks + 4 weeks planned experience	
Work study practitioners' advanced course	5 weeks	
Work study practitioners' combined course	11 weeks + 4 weeks planned experience	

Advisory Service for the Building Industry

Work study appreciation	5 days	£90, Residential £94, non-residential
Work study training	7 weeks	£656

Associated Industrial Consultants

Measurement and evaluation	2 weeks	

British Productivity Council

Work study appreciation course	5 days	
Work measurement appreciation course	3 days	

Cranfield School of Management

O & M (Administrative work study)	6 weeks	
Senior work study officers' course	10 weeks	£800

Local Government Training Board (Southern Home Counties Provincial Council)

Work study appreciation for supervisors and middle management	4 days	

London Borough Management Service Unit

Work study appreciation for supervisors and foremen	3 days	

Harry Mitchell and Partners

Work study course	4 weeks	

P.E. Consulting Group Ltd

Work study and management course	4 weeks	£427

Production Engineering Research Association

Work study for senior practitioners	5 days	
Introduction to work study	5 days	
Course for practitioners in work study	8 weeks	

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WORK STUDY (cont'd)	**Royal Institute of Public Administration**		
	Work study appreciation course	5 days	
	Timber Research Development Association		
	Work study	4 days	
	Urwick Management Centre		
	Work study in the construction industry	3 weeks	£312
MISCELLANEOUS	**British Ceramic Tile Council Ltd**		
	Ceramic tile fixers' training course	2 days	
	Building Research Station		
	Research seminars	2 or 3 days	
	Boulton and Paul Ltd		
	Pre-flexed beam design course	3 days	
	Contractors' Mechanical Plant Engineers		
	CMPE annual seminar	3 days	
	Council of Industrial Design		
	All courses appropriate to the activities of the company and the trainee concerned		
	Dexion Ltd		
	Dexion contracts design course	2 weeks	
	Fibre Building Board Organisation		
	Basic course	3 days	
	M. G. Howitt and Associates Ltd		
	† Design and production of technical literature for the construction industry	2 days	
	Industrial Society		
	Apprentice conferences	5 days	
	Discussion leading and chairmanship	3 days	
	Conference for young trainees	5 days	
	Institute of Municipal Building Management		
	† Annual weekend study school	2 days	
	The Institution of Production Engineers		
	Summer school (Theme and title of course altered each year)	4 days	
	Mackamax Aluminium Ltd		
	Kawneer system (Shop fitting) training course	5 days	

MISCELLANEOUS (cont'd)

Provincial Council for Local Authorities' Services in the South West	
Building inspectors' courses	4 days
Course on housing maintenance	4 days
Pye Thermal Bonders Ltd	
R.F. heating course	2 days
The Women's Advisory Council on Solid Fuel	
W.A.C.S.F. proficiency course	13 weeks for 1 day per week

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Section 3
Names and Addresses of Organisations

A.C.E. Training Centre
Maxim Road
Crayford, Kent

Addressograph Multigraph Ltd
Varityper Division
5/7 Acton Park Industrial Estate
The Vale
Acton, London W.3

Administrative Staff College
Greenlands
Henley-on-Thames, Oxon

Advanced Management Programmes International
8 Hill Street
London W.1

Advisory Service for the Building Industry
39 Devonshire Street
London W.1

The Devilbiss Co Ltd
Ringwood Road
Bournemouth

Airmec-AEI Ltd
Coronation Road
High Wycombe, Bucks

John Allen and Son Ltd
Cowley, Oxford

Allied Ironfounders Ltd
Aga Works
Ketley, Shropshire

Allied Ironfounders Ltd
Nashleigh Works, Nashleigh Hill
Chesham, Bucks

Anglian Industrial Gases Ltd
Hall Road
Norwich, NOR 54B

Armstrong Cork Ltd
Woodgrange House, Woodgrange Avenue
Kenton, Middlesex

Artex Products (Manufacturing) Ltd
Artex Avenue
Newhaven, Sussex

Ashridge Management College
Berkhamstead, Herts

Asphalt and Coated Macadam Association Ltd
(ACMA)
25 Lower Belgrave Street
London S.W.1

Association of Certified & Corporate Accountants
22 Bedford Square
London W.C.1

Associated Industrial Consultants
Knightsbridge House
197 Knightsbridge
London W.C.1

Association of Special Libraries & Information
Bureaux
3 Belgrave Square
London S.W.1

Atlas Copco (Great Britain) Ltd
Maylands Avenue
Hemel Hempstead, Herts

Atomic Energy Research Association
Wantage Research Laboratory
Wantage, Berks

Atomic Energy Research Establishment
Post-Graduate Education Centre
Harwell, Didcot, Berks

Aveling Barford Ltd
Invicta Works
Grantham, Lincs

B.A.C.I.E.
16 Park Crescent
Regents Park, London W.1

J. C. Bamford (Excavators) Ltd
Rocester Services Ltd
Rocester, Staffs

Samuel Barron & Partners
8 Cavendish Place
London W.1

Battle of Britain House
Ducks Hill Road
Northwood, Middlesex

Gordon Bell & Partners
20 Hand Court
High Holborn, London W.C.1

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Benford Ltd
Warwick

Berlitz School of Languages
321 Oxford Street
London W.1

Binks-Bullows Training School
Brownhills, Staffs

Blox Services Ltd
131 Fountain Road
Tooting, London S.W.17

B.M.C. Service Ltd
Longbridge, Birmingham
and also at Cowley, Oxford

B.O.W. Secretariat
5Z Artillery Mansions
75 Victoria Street
London S.W.1

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IDENTIFIERS - *GREAT BRITAIN

ABSTRACT - As in previous years this current manual encourages and offers support for training activities and innovations in training programs which enhance performance, productivity, and profitability. Included in the manual are a list of sound training principles, the general conditions for financial aid, and procedures to follow in obtaining grants. Arranged in five parts the major sections of the manual cover: (1) Fixed Scale Grants, (2) Variable Grants for External Courses, (3) Grants for In-Company Training, (4) Grants for Group Training, and (5) Special Grants. The appendixes provide the training program administrator with further information on training records, travelling allowances, grant claims, and administration of apprenticeship schemes. Related documents are available as VT 011 842 and VT 011 843, both in this issue. (JS)

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Foreword

by the Chairman of CITB, Sir Norman Longley, CBE, FIOB

This, the fifth Grants Scheme to be introduced by CITB, continues to reflect the policy of progress in the advancement of training by an evolutionary process rather than by radical transformation. Many sectors of the construction industry have a long history of active interest in training; it has therefore always been considered important by the Board to recognise the genuine strength of attachment to these long-standing interests and to achieve change only with the full co-operation of the industry. During these past five years it has been a privilege to be Chairman of the Construction Industry Training Board whose efforts are reflected in its training and grant policy and particularly in the Grants Scheme, 1969/70.

While keeping within the broad policy and framework of recent years, the Grants Scheme, 1969/70, provides for major innovations and for further advances in training. Most important are the grants supporting the extension of the new pattern of training for operative skills and those now to be paid on an experimental basis for practical training given on-the-job to craft apprentices and technician trainees when the training is sound and systematic.

The modifications and additions reflect the Board's policy of encouraging employers in the industry to adopt sound training practices and to be themselves the active sources of training improvement in co-operation with and supported by the CITB advisory services. Direct provision of training continues for activities for which central facilities are considered to be the most effective and economical method—witness the specialist training and studies centres that have been developed at Bircham Newton.

My Board presents this improved Grants Scheme for 1969/70 to the construction industry in the belief that it will provide continuing encouragement and support for training activities which will enhance performance, productivity and profitability. Training and grant policy will continue to be kept under constant review with the object of ensuring that they develop as effective instruments in the achievement of the Board's objectives. In doing this the Board will remain fully conscious that levy paying employers wish to be assured that training in the industry is being improved and that this is being achieved at the minimum cost.

Finally, I wish to express thanks on the Board's behalf for the interest in, and support for its work which has come from many people and organisations particularly employers, trade unionists, educationists and the Press.

Norman Longley

Chairman

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Principles of Sound Training

Training is concerned with the development of people and their work performance. Experience has shown that, if training is to be effective, it has to be soundly based and organised in accordance with certain well-tried principles. These are:

(*a*) top management, where ultimate responsibility for sound training rests, should be seen to be actively concerned in the training policies and programmes of its firm.

(*b*) training policies and programmes should be based on a survey and analysis of the firm's training needs and priorities, present and future.

(*c*) training programmes should be designed to teach individuals what they will be required to know and to do in their jobs in order to attain and maintain high standards of quality and performance.

(*d*) with these aims in view training programmes should be built up systematically from careful analyses of the skills, knowledge and attitudes involved.

(*e*) training for young people should initially be broadly based, with subsequent training geared to specific requirements, and should include associated further education integrated with the training programme.

(*f*) training is at once a specialism and a part of everyday management; every manager with subordinate staff has a responsibility to develop that staff: only if this is generally accepted will training come fully alive.

(*g*) training policies, surveys, and programmes, concerned as they are with people and their performance at work, need to be reviewed regularly to accord with changes and new thinking.

(*h*) training policies and programmes must be justified in terms of cost effectiveness.

To comply with these principles, the Board recommends that every firm should endeavour as far as possible to plan its training systematically on the following lines:

(*a*) a member of management should be nominated to be responsible for training, recommending policies and ensuring that they are implemented.

(*b*) a survey should be carried out to determine who should be trained how the training should be organised, and to what standards it should be given.

(*c*) job descriptions should be written down to identify and describe in broad terms each job for which training is required.

(*d*) job specifications should be prepared from first-hand observation of experienced individuals at work and should be based upon careful analyses of what the trainees will be required to do; the knowledge required to do it; the tools, materials and equipment used; and the standards of quality, safety and performance to be achieved.

(*e*) a syllabus should be prepared and a training programme drawn up

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to include provision for periods of related planned experience on-the-job, and associated further education as and where appropriate.

(*f*) training plans and programmes should be drawn up in accordance with recommendations approved by the CITB.

(*g*) programmes should include provision for guiding individual trainees in the choice of training for skills to suit their abilities and capabilities.

(*h*) training should be given only by instructors who have been taught how to instruct, i.e. how to pass on effectively the skills and knowledge they possess.

(*j*) records should be kept of the progress of each trainee throughout his training programme.

(*k*) assessments of progress in performance should be built into the training programmes to confirm achievement of progress, to assist trainees to overcome difficulties encountered, and to ensure that the standards described in the job specifications are attained.

(*m*) an evaluation of the training plan should be carried out from time to time to ensure that it is kept up-to-date, and that it is giving a satisfactory return for the money, time and effort expended on it.

The CITB believes that much training is most effective when conducted under systematic conditions off-the-job. It accepts that for certain operations this kind of instruction may be too difficult to set up, or too expensive to be justified, and that properly planned and controlled training on-the-job may therefore be necessary. All training, however, whether it is given off or on the job, or by a combination of both methods, should be systematic and based on a carefully prepared programme aimed at specific standards.

The CITB believes that it is only by adopting these principles and putting them into effect that training can make its effective contribution to industrial efficiency and the betterment of earnings.

Notes:

(*a*) Part of the service of CITB to the construction industry is the preparation and provision of basic job specifications, task analyses and recommended training programmes for a wide-ranging variety of operations. These are sometimes prepared and provided in co-operation with the appropriate specialist employer or trade association.

(*b*) In the course of the diagnostic and development work for the preparation of training recommendations, CITB personnel always ensure the proper consultation with the employer or trade associations, the trades unions, the educational authorities, or other pertinent bodies.

General Conditions of Grant

1 Grants announced in this scheme will be payable only in connection with training taking place during the training year 1st August 1969 to 31st July 1970 and only to employers who have paid their levy.

2 All training must be related to the trainee's present or future work in the construction industry.

3 Grants for young trainees undergoing a substantial period of training will be payable only if they are given day release, or the equivalent by block release, where appropriate part-time courses are available. For the time being this will be interpreted as applying to trainees who are undergoing training for a period normally of at least twelve months, and who have not reached their eighteenth birthday. By day release the Board means at least one full day per week during normal working hours.

4 (*a*) Employers claiming grant must be able to satisfy the Board that a suitably planned programme of training is being followed for each category of employee for whom grant is being claimed, or that arrangements are being made to draw up and implement such a programme.

(*b*) Where appropriate, safety must be an integral part of training; arrangements should also be made for instruction in health and welfare and in relevant legislation.

(*c*) Details of training programmes must be open to inspection by the Board's representatives.

(*d*) Where the employer does not take steps to comply with the Board's requirements or where the Board is not satisfied that adequate training is being given, grants may be withheld or reduced.

5 The training of all employees for whom grant will be claimed must be recorded, and the records must be open to inspection by the Board's representatives. Advice on the keeping of training records is given in Appendix 5.

6 (*a*) When claiming grants employers will have to certify that during the periods of training they have paid the trainee salary or wages at not less than the normal rate.

(*b*) Where a local education authority provides assistance towards the travelling expenses incurred by trainees in connection with course attendance, or towards the maintenance of trainees on block or sandwich courses, or where a student normally resident in Scotland is eligible for an award under the Students' Allowance Scheme administered by the Scottish Education Department, the Board will expect firms or students to make application for such assistance, and for repayment of, or exemption from, fees if there is provision for this.

7 No approval expressed by the Board in connection with any course or condition in the following scheme will be valid or recognised by the Board unless it is in writing and signed by an authorised officer of the Board.

8 In all matters relating to the interpretation of this scheme the Board's decision is final.

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Part A Fixed Scale Grants

Purpose

9 To encourage an employer to ensure that his apprentices and other trainees are properly trained, including attendance at day or block release courses for further education and training.

General

10 (*a*) Trainees who attend part-time courses covered by Part A of the Grants Scheme and who do other training may also attract grants under other parts of the Scheme.

(*b*) **Application for places in technical colleges** It is especially important that as much advance notice as possible is given to technical colleges of places required, and particularly of any proposals by a firm or firms which differ substantially from previous practice, e.g., a large increase in numbers or a request for block release instead of day release. Colleges will gladly advise on the availability of suitable courses.

(*c*) Details of grants for pre-craft courses and full-time craft-level training courses are given in paragraphs 29-32 of Part B of the Scheme (see page 12).

Grants for apprentices or trainees on basic craft courses

Scale of grant

11 (*a*) **Rate** Where an apprentice or trainee attends an approved part-time course (or courses) by day or block release, the rate of grant will be £2 10. for each day's actual attendance.

(*b*) **Subsistence and travelling allowances** See Appendix 6.

Conditions

12 (*a*) **Attendance** For the final grant claim for the training year the CITB will require a certificate of attendance from the college showing possible and actual attendance in days or hours and the standard number of hours in one day's attendance. Grant will be paid only for those days on which the trainee actually attends the course. If absences which cannot be satisfactorily explained exceed 25%, i.e. one day in four, of possible attendance, no grant will be paid. Sickness, but not normally annual holidays, will be accepted as a reason for being unable to attend. Employers should ensure that technical colleges inform them promptly of any absences. In the exceptional case of no certificate of attendance being received within three months of the completion of the session, employers should contact CITB area staff.

(*b*) **Registration** Before an employer will qualify for this grant an apprentice or trainee must be registered with one of the administering bodies listed in Appendix 1, except as provided in paragraphs 13(*c*) and (*d*) on page 8.

(*c*) **Payment of wages** In claiming grant the employer must certify that he has paid the apprentice or trainee not less than the full appropriate rate of wages for days or periods of release, and has paid any connected examination fees if this is not in conflict with current apprenticeship agreements.

(*d*) **Duration** The CITB will not normally grant aid for more than four years an apprentice or trainee following a basic craft course.

(*e*) **Courses** The course must be among those listed at Appendix 2A, or subsequently approved by the CITB.

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Notes

13 (*a*) Grants will be payable under paragraphs 11 and 12 for apprentices or trainees who start their further education course after one or two terms.

(*b*) Where an apprentice or trainee is engaged but remains on probation, any claim for grant may relate back to the time when he began his training and further education, provided that an indenture or written service agreement is entered into within twelve months. When it can be shown that a probationary apprentice or trainee is unsuitable for indenturing, grants may be claimed for the probationary period or any part of it.

(*c*) Fixed scale grants in respect of apprentices and trainees following trades not covered by any of the administering bodies in Appendix 1 will be payable in accordance with the conditions of paragraphs 12(*a*), (*c*), (*d*) and (*e*). (See also note 13(*d*).)

(*d*) A variable grant will be payable to an employer for releasing a trainee to a day or block release course when the trainee is too old to be indentured as an apprentice. The conditions of paragraphs 12(*a*) and (*e*), 27, and 28(*b*) will apply.

(*e*) While the Board does not relate fixed scale grant to evening class attendance, because such attendances are outside the time for which the employer pays, it wishes to encourage attendance at those evening classes which are an integral part of a day or block release course. Attention is drawn to the obligation of indentured apprentices to attend all sections of their appropriate courses. (See Appendix 6 for subsistence and travelling allowances.)

(*f*) Where it is necessary for an employer to release an apprentice or trainee early to enable him to attend an evening class, the employer may claim the actual wages paid for normal working hours lost.

(*g*) When the apprentice or trainee cannot attend a course by day release, because the nearest technical college with a suitable course is more than 1½ hours' travelling time in each direction from the apprentice's or trainee's home or place of residence, and when no alternative block release course is available, then the employer may claim a grant of such amount as the Board may determine provided he advises the Board of the circumstances before 1st October 1969.

(*h*) Where it can be shown to be desirable for his future employment in the construction industry an apprentice or trainee may attract fixed scale grants for attending more than one course in one training year.

Grants for other trainees attending part-time courses

Scale of grant

14 Where a trainee attends an approved part-time course (or courses) by day or block release, grants will be payable at the following rates:

(*a*) Courses in Appendix 2B (*for example, the Certificate in Office Studies*) £2 10s. a day.

(*b*) Courses in Appendix 2D (*for example, the General Course in Construction, all years of advanced craft courses, technicians' courses, and courses for National Certificates*) £4 10s. a day.

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(*c*) Courses in Appendix 2E (*for example, the Certificate of Supplementary Studies to the Higher National Certificate and part-time courses at a higher academic level than the Higher National Certificate such as courses leading to certain professional qualifications*) £5 10s. a day.

15 Other courses of a standard acceptable to the Board may be approved from time to time.

16 Travelling allowances See Appendix 6.

17 Subsistence allowances See Appendix 6.

Conditions

18 (*a*) **Attendance** The requirements of paragraph 12(*a*) will apply.

(*b*) **Payment** The employer must certify that he has paid the trainee not less than his usual rate of wages for days or periods of release, and has paid any connected examination fees if this is not in conflict with current service agreements.

(*c*) The Board is in favour of formal service agreements for trainees at technician level and above, and in certain training recommendations requires them as a condition of grant. A claim for grant in the case of a trainee without a formal service agreement must normally be accompanied by a certificate from the employer that he has begun the trainee's employment and training by 1st October 1969 and will continue it until at least the end of the training year 31st July 1970. Where the employment and training of a trainee starts after 1st October 1969, the employer must certify that the training will continue for at least 12 months.

Notes

19 (*a*) Grants will be payable under paragraphs 14 to 18 for trainees who start their further education course after one or two terms.

(*b*) The provisions of paragraph 13(*e*), (*f*) and (*h*) will apply.

(*c*) An employer may claim variable grants instead of fixed scale grants for releasing trainees to day or block release courses if the trainee is 21 or older. The conditions in paragraphs 12(*a*), 27, and 28(*b*) will apply, and the course must be among those listed in Appendices 2B to E.

(*d*) Where a course lasts for one half-day a week it will qualify for a fixed scale grant at half the normal daily rate, provided it is approved by the HMI and there is no alternative to it.

Other fixed scale grants—graduate and diploma trainees

Purpose

20 To assist an employer with the costs of training a graduate, or the holder of a Higher or Ordinary National Diploma, during his initial employment in the industry before he is fully effective.

Graduate trainees

21 (*a*) Grant will be at the rate of £30 per month for graduates during their first two years in the industry. For graduates who have not yet reached the age of 30 and who are studying for their first professional qualification while being trained, the duration of the grant may be extended to a maximum of three years, which need not be continuous.

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(*b*) As an alternative, for any given period grants may be claimed for approved courses under Parts B and C.

(*c*) Subsistence and travelling allowances may be claimed in accordance with Appendix 6.

Conditions

22 (*a*) For the purpose of this grant, the term graduate means the holder of a university degree or a degree of the Council for National Academic Awards, a Diploma in Technology, or an equivalent qualification recognised by the Board.

(*b*) The grant will be payable only if the employer can certify that the graduate is following a systematic practical training scheme aimed at familiarising him with work in the construction industry for his first years in the industry after graduation.

(*c*) The training must follow a planned and recorded training programme which has been approved by CITB. The employer is advised to obtain this approval before training starts, so that when grant is claimed there is no delay in payment. Copies of a proposed programme covering a minimum period of one year should be submitted to the appropriate CITB area office.

(*d*) Where a graduate trainee serves with more than one employer during the period covered by the grant, proportional grants will be paid.

(*e*) The grant may be paid to the main employer in respect of periods during which the trainee is transferred to another firm for the purpose of furthering his training or experience.

H.N.D. and O.N.D.

23 (*a*) **Higher National Diploma** Employers of holders of a Higher National Diploma may claim grants on the basis of paragraphs 20 and 21, and subject to the conditions of paragraphs 22(*b*), (*c*), (*d*) and (*e*), excepting that grant will be £21 a month and for each trainee the maximum duration of the grant will be 24 months.

(*b*) **Ordinary National Diploma** Employers of holders of an Ordinary National Diploma may claim a grant of £9 a month under similar conditions for up to 12 months.

Sandwich course—industrial part

24 An employer may claim grant for providing students with the industrial training forming an integral and essential part of a sandwich course leading to an Ordinary National Diploma or a Higher National Diploma, or any of those qualifications mentioned in Appendix 2F. Both college-based and industry-based students will attract these grants.

Note: Grants for other industrial training attachments including vacation training are shown in paragraphs 84 to 86.

Scale of grant

25 (*a*) A monthly allowance of £51 for each month of industrial training given. The grant may be paid to the main employer for periods during which a trainee is temporarily transferred to another firm for the purpose of furthering his experience.

(*b*) As an alternative to the grant of £51 a month, grants may be claimed under Part B (External Courses), or Part C (In-Company Training), for any given period.

(*c*) Subsistence and travelling allowances will be payable as shown in Appendix 6.

(*d*) The Department of Employment and Productivity also gives grants in

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addition to the CITB grants; these grants are restricted to courses which started in the three academic years 1965/6 to 1967/8. For courses leading to a degree of a technological university or an award of the Council for National Academic Awards, the grant is at the rate of £80 a year, and for Higher National Diploma courses at the rate of £60 a year, for the first 12 months in industry, whether in one or two periods. These grants will be payable through the CITB after they have been agreed by the Department. Claims can normally be accepted by the Department only if they are received by the CITB within six months of the end of the first twelve months of industrial training of the course.

Note Grants under paragraphs 23 to 25, and their training requirements, are being reviewed in relation to the general grant of £150 a year for technician trainees at paragraph 65(*b*). It is possible that paragraphs 23 to 25 will be modified in the Grants Scheme 1970/71. Any changes made will not, however, apply to those trainees for whom grants are claimed under paragraphs 23 to 25 in this or preceding grant schemes if this would mean a lower grant being paid to an employer.

Supplementary grant All employers who claim grant under Part A will be paid a supplementary grant of 20% of the grant payable, including subsistence and travelling allowances.

How to claim grants For details of how to claim grants please refer to page 27.

Experimental applications of the new plan of training for operatives Special consolidated grants have been introduced for the experimental applications of the new plan of training for operatives, including the related planned experience. Employers requiring further details should apply to CITB regional or area offices.

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Part B Variable Grants for External Courses

Purpose

26 To encourage firms to send their employees on courses to increase their effectiveness. It is therefore essential that the course is carefully chosen to meet the needs of the employee for his work in the firm and for his own development. CITB area offices will advise on the suitability of a course for a particular employee.

Scale of grant

27 (*a*) **Wages and salaries** Grants will be paid in accordance with the scales shown in paragraph 38(*d*).

(*b*) **Fees** 75% of fees (and residential charges when included) will be paid for courses and examinations where the Board has approved the establishment, the course and fee. (See paragraphs 33 and 35)

(*c*) **Subsistence and travelling allowances** See Appendix 6.

(*d*) **Consolidated grant** As an optional alternative the CITB offers, for certain courses, lump-sum grants, broadly equivalent to variable grants except that they do not cover travelling expenses which should be claimed separately. For details see the list of approved courses referred to in paragraph 7 of Appendix 3.

Conditions

28 (*a*) The course must be approved by the Board (see Appendix 3). Further details may be obtained from the Board on request. Other courses will be approved from time to time, and firms wishing to use courses which are not shown as approved are invited to communicate with the Board.

(*b*) Claims for these grants must be supported by detailed statements of the cost to the employer. The Board will call for certificates from firms' auditors on a sample of claims selected at random. Where an auditor's certificate is called for, the auditor's fee for preparing the certificate may be reclaimed from the Board. (This payment will not attract the 20% supplementary grant.)

Pre-craft courses

29 Approved part-time pre-craft courses intended to bring young apprentices up to the standard required for entry to a craft course will be eligible for grant under paragraphs 27 and 28. The attendance requirements at paragraph 12(*a*) will apply. Grant for wages will be at the rate for salary range 2, i.e. £2 a day.

Full-time craft-level training courses

30 Certain public educational establishments and Government Training Centres provide full-time craft-level training courses. If the trainees are in employment these courses will attract grant under the general provisions in paragraphs 27 and 28 if the courses and the fees have been approved by the CITB. These courses will not normally last for less than six months or more than one year, but the Board will consider proposals outside these limits.

31 Grants for these courses will be subject to the following further conditions:

(*a*) Grants will be paid in accordance with paragraph 38(*d*), and will be based on a rate of wages not exceeding the level fixed by the appropriate joint negotiating machinery. For apprentices, grant will be at the rate for salary range 2, i.e. £2 a day.

(*b*) At least these wages must have been paid to the employee during attendance at the course.

(*c*) Where appropriate, paragraphs 12(*b*) and 13(*b*) will apply.

(*d*) Grants under paragraph 30 will not be awarded for pre-apprenticeship courses.

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32 Note The charge made by local education authorities for the industrial training element of first-year full-time apprenticeship courses amounts to about £290 a year.

Courses for training staff

33 The Board particularly wishes to encourage a greater proficiency in training in the construction industry. Employers releasing training staff, or those scheduled to become training staff, to attend approved courses for training officers, supervisors and instructors at major establishments, may claim grant as in paragraphs 27 and 28, except that 100% of the fee will be paid by the Board.

34 Condition The Board reserves the right to refuse payment of this grant for training officers' courses if it is not satisfied that the trainee is suitably qualified or experienced. Employers intending to send trainees on courses for training officers should therefore submit to the Board in advance, details of their qualifications and experience.

Courses in safety training

35 The Board recognises that safety training is of particular importance to the construction industry, and employers releasing employees for courses of training approved by the Board may claim grant at the higher rate as in paragraph 33. These grants may also be claimed for safety officers of safety groups approved by the Board.

Construction Safety Training Units A consolidated grant of £2 15s. will be paid for each trainee who attends a course run by one of these units. Details of these courses can be obtained from CITB area offices.

Training overseas

36 Courses in other countries may be eligible for grants when it can be shown that similar training is not available in the UK and the Board is satisfied that the course is suitable in every respect for the trainee's work in the firm and for his own development. Grants for these courses will be payable under paragraphs 27 and 28, with the proviso that grant for return fares and travel in the country concerned will not exceed half the cost. Grants for training overseas will not be paid unless the prior approval of the Board has been obtained. Grant will not be paid for study tours and overseas attachments.

Other courses

37 Certain types of course will attract grants as follows:

(*a*) **Short courses and seminars** The Board will not normally approve for grant under paragraphs 27 and 28 courses lasting less than two days. This limitation will not apply to approved courses in safety training and metrication. Courses lasting two days must be held on consecutive days. Courses lasting three days and more, need not be held on consecutive days, but each day must be an integral part of the same course. Salaries or wages will only be grant-aided for attendance on normal working days, or when the trainee is paid additionally for attendance on Saturdays.

Note For external courses lasting two days in fields other than operative training, the total grant for wages/salaries, fees, and subsistence, payable under paragraph 27 will be limited to a maximum for the two days of £25 per person attending. Travelling allowances under Appendix 6 will not be paid unless the amount of the claim exceeds £5. Where the claim exceeds £5, the amount in excess of £5 will be paid.

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(*b*) **Evening classes** Courses of six or more approved evening classes will be eligible for grants towards the cost of fees and travel under paragraphs 27 and 28. No grant will be payable for wages or salaries for attendance at evening classes. Where, however, it is necessary for an employer to release an apprentice or trainee early to enable him to attend an evening class, the employer may claim the actual wages paid for normal working hours lost. These grants are not given for courses available by day or block release unless the trainee is 21 or older.

(*c*) **Character building and similar courses** Although, in general, the Board offers grants only for courses directly related to an employee's present or future employment in the construction industry, it acknowledges the indirect value of certain other courses, such as Outward Bound and those covered by the Duke of Edinburgh's Award Scheme. For approved courses of this type the grant will not exceed 50% of the fee, and grant may not be claimed for any other expenses. The courses already approved by the Board are shown in Appendix 3.

Notes

38 (*a*) Trainees attending part-time courses for which grants may be claimed under Part A of the Scheme may in addition attract variable grants for attendance at courses approved under Part B.

(*b*) The attention of employers is drawn to paragraphs 13(*d*) and 19(*c*) in Part A which state the circumstances in which variable grants instead of fixed scale grants may be payable for attendance at the part-time courses approved under Part A.

(*c*) Grants in accordance with Part B of the scheme will be paid for trainees attending in-company training schemes or group training schemes approved by the Board under Parts C or D of the scheme, respectively.

(*d*) **Wages and salaries — scales of grant** Wages and salaries will be reimbursed under paragraphs 27(*a*) at a fixed rate per day dependent on the salary range of the employee, as follows:

Annual salary	*Average weekly salary*	*Salary range*	*Grant per normal working day*
Up to £349	Up to £7	2	£2
£350 — £499	£7 0 1 — £10	3	£3
£500 — £699	£10 0 1 — £13	4	£4
£700 — £899	£13 0 1 — £17	5	£5
£900 — £1,149	£17 0 1 — £22	6	£6
£1,150 — £1,399	£22 0 1 — £27	7	£7
£1,400 — £1,649	£27 0 1 — £32	8	£8
£1,650 — £1,849	£32 0 1 — £36	9	£9
£1,850 — £2,049	£36 0 1 — £40	10	£10
£2,050 — £2,349	£40 0 1 — £45	11	£11
£2,350 — £2,599	£45 0 1 — £50	12	£12
£2,600 — £2,999	£50 0 1 — £58	14	£14
£3,000 — £3,999	£58 0 1 — £77	16	£16
£4,000 and over	Over £77	18	£18
			(max. £90 per week)

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For employees paid at an hourly rate the salary range may be based on the average total of weekly wage and bonus for the twelve weeks immediately before attending the course, or the actual period in employment, whichever is the shorter.

Supplementary grant

All employers who claim grant under Part B will be paid a supplementary grant of 20% of the grant payable, including subsistence and travelling allowances.

How to claim grants

For details of how to claim grants please refer to page 27.

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Part C Grants for In-company Training

Purpose

39 To encourage employers to develop their own training schemes when this is the most efficient way of meeting the training needs of the firm, and to employ suitable training staff. The Principles of Sound Training on pages 4 and 5 apply particularly to this Part of the Grants Scheme.

Surveys of training needs

General

40 The first step towards a soundly based training scheme is a survey of training needs of a firm, or a department within a firm.

41 This will indicate which categories of employee require training and in what priority. Carrying out a survey is one of the duties of a firm's training officer or a group training officer.

42 Notes relating to surveys of training needs, aimed at training staff (and a less detailed edition of the notes for others who are interested), have been produced by the CITB and are available from CITB area offices.

Grant

43 The Board will assist firms and employer and trade associations with the cost of approved surveys of training needs. For those firms without a training officer and those firms whose training officer is, for some special reason agreed by the CITB, precluded from carrying out the survey, grant aid of 75% of a consultant's daily fee for the duration of the survey will be paid.

Conditions of grant

44 (*a*) Prior approval for the survey must be obtained from the CITB

(*b*) When seeking this approval an outline of the survey proposals, its costs and duration, and the qualifications of the consultant carrying out the survey should be forwarded to the appropriate CITB area office.

(*c*) A copy of the survey report is required before grant is paid.

Training staff

Scale of grant

45 **Full-time training officers** For training officers who are engaged full-time on training duties the Board will pay grant to the extent of 50% of their salaries. Additional grant will be paid, calculated on the experience, qualifications and specialised training of the training officer up to a maximum of 90% of salary. Intermediate levels of grant between 50% and 90% will be established by CITB on the basis of the Training Officers' Points Scheme. Details of this scheme are available in CITB area offices.

46 **Part-time training officers** Grant will be paid for part-time training officers on the same scale and calculated by the same method as for a full-time training officer. It will be paid for the proportion of time spent on training duties, provided this is not less than 30% of the total working time.

47 **Instructors** Grant will be paid for instructors for the time they spend on training duties. This grant will amount to between 50% and 90% of the instructor's salary calculated on the experience and qualifications of the instructor and the specialised training he has undertaken. The intermediate levels of grant between 50% and 90% will be established by the CITB on the basis of an Instructors' Points Scheme. Grants are also available for full-time site instructors responsible for the planned

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experience of apprentices who must have been trained initially off-the-job on an approved course run in-company or by a training group.

48 Travelling and subsistence allowances Details of travelling and subsistence allowances are given in Appendix 6 except that a mileage allowance of 8d a mile for private motor transport instead of the cost of second class travel by public transport may be claimed for training staff travelling on duty.

49 Clerical assistance To help with the cost of clerical assistance for training staff, one third of the grant payable for training staff salaries, excluding travelling and subsistence allowances, may be claimed.

50 Casual lecturers A firm requiring members of its staff to assist by giving occasional lectures on any of the firm's courses which are approved by the CITB for grant purposes may claim 100% of their salaries or wages for the time during which they are so employed. This grant is also available for staff concerned with approved courses in other firms or establishments (see paragraph 82).

Off-the-job training courses

Requirements

51 To grant aid a course, the CITB needs to be satisfied that certain basic training practices have been followed. These are:

(*a*) the need for a particular course is the result of an assessment of the training requirements of the trainees concerned (from this the aim of the course is defined);

(*b*) the course content is based on what individuals will be required to know and do in their jobs;

(*c*) the training is documented by a syllabus and programme;

(*d*) the instructional staff are themselves trained to instruct;

(*e*) validation of the efficiency of the training is obtained so that future courses can be improved.

52 The application form for the approval of an in-company course is a special questionnaire obtainable from CITB area offices.

53 Approval of a course for grant should be sought before the course is run.

54 Course duration The CITB will not normally approve for grant, courses lasting less than two days. The conditions in paragraph 37(*a*) will apply.

55 Evening courses Courses held in the evening must last for at least six sessions with a minimum training time of 12 hours. No grant will be payable for wages or salaries for attendance at evening classes. Where, however, it is necessary for an employer to release an apprentice or trainee early to enable him to attend an evening class, the employer may claim the actual wages paid for normal working hours lost.

Grants

56 (*a*) **Grants for trainees** Wages and salaries will be grant aided in accordance with paragraph 38. Travelling and subsistence will be grant aided in accordance with Appendix 6.

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(*b*) **Grants for casual lecturers**
These are specified in paragraph 50.

(*c*) **Grants for consultants** Where the use of consultants' services has been approved by the CITB the grant will be 75% of the consultants' daily fees and expenses. Where applicable, the consultants' course preparation time may be included, up to a maximum of three consultant days.

(*d*) **Grants for training accommodation** Grants cover accommodation used exclusively for training. When it is so used for more than six months of the year grant will be payable towards the total annual cost. If the accommodation is used for training for less than six months of the year, grants will cover the period for which it is so used. Grants are as follows:

(i) 75% of the rent or hire,
or
75% of the approved rate of depreciation of the accommodation used for training. (Rates of depreciation are between 5% and 20% per annum, depending on the life of the building, calculated on original cost).

(ii) where applicable, a grant is also payable towards the interest on the agreed cost of constructing or renovating accommodation devoted full time to training.

(iii) 75% of the appropriate overhead costs, including general and water rates, lighting, heating, cleaning, fire insurance and maintenance of the accommodation.

(*e*) **Grants for training aids, equipment and furniture** 75% of the cost of hire or depreciation will be grant aided. Where an item is purchased, depreciation will be at an annual rate of 20% for training aids and equipment, and of 10% for furniture. These items should normally be hired unless it is more economical to purchase.

(*f*) **Grants for materials used in training** These cover expendable materials such as timber and cement. 75% of the cost may be claimed.

Conditions

57 (*a*) The Board may call for auditor's certificates in support of claims for grants for in-company training schemes on the lines of paragraph 28(*b*).

(*b*) In claiming grant for an off-the-job training scheme, an employer must provide a statement either giving the value of any output used or sold, or certifying that the training does not result in saleable or useable products. The value of any output used or sold will be deducted from the allowable costs on which the grant will be based.

(*c*) The CITB reserves the right to inspect the training scheme at any time.

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Grants from the Department of Employment and Productivity

58 The Board will pass on to employers the grants which may be claimed from the Department covering 25% of the current costs associated with additional off-the-job training places. Such training places provided since 1st August 1965 may attract these grants. Other grants are available from the Department for employers in development areas. For further details of these grants, which are payable in addition to the CITB grants, please refer to Appendix 4.

On-the-job training schemes

59 Where specialised sections of the construction industry are, in general, unable to take advantage of the Grants Scheme because:

(*a*) no off-the-job external training facilities are available;

(*b*) no CITB training recommendations for their special activity have been published;

(*c*) circumstances are such as to make basic off-the-job training uneconomic;

the CITB will, through its industrial committees, consider proposals for special training schemes based on the Principles of Sound Training (page 4).

60 On scrutinising these schemes the Board will consider whether to offer firms adopting them an interim grant as a stop-gap measure until suitable training recommendations and, where possible, off-the-job training facilities have been developed.

Grants

61 Grants will be paid under paragraph 47 of the Scheme for instructors, including approved supervisors and competent operatives who are taken off their normal work. For operatives under training, grant will be related to the CITB training staff's estimate of the period of training required and a training value will be allotted to each operation.

62 Grants up to a maximum of £100 will normally be paid for each operation or stage in which the operative is trained; the industrial committees will advise the Board of any special circumstances which may necessitate the payment of grants outside this scale. During the 1969/70 training year the industrial committees will apply the Principles of Sound Training (page 4) with reasonable flexibility.

63 Employers must be able to show that a trainee has been under training for his job for the first time and is not already an experienced worker who has been instructed in the same job in another firm of the same or an allied trade.

Approved specialist on-the-job training schemes

64 Details of grants for approved specialist on-the-job training schemes may be obtained from CITB area offices. It should be noted that where training is given by a full-time trained instructor the grant per operative trained will be increased by 25% provided that the CITB is satisfied there is a continuous need for such an instructor.

Other approved on-the-job training schemes

65 Grants have also been approved on an experimental basis for the year 1969/70 for industrial training given on-the-job to the following categories of trainees, subject to certain conditions being fulfilled.

(*a*) **Craft apprentices**

On-the-job training and planned experience of craft apprentices in the building and mechanical engineering services sectors. } *£100 for the* **first** *year only*

On-the-job training and planned experience of craft apprentices in the electrical engineering services sector. } *£100 for the* **third** *year only*

Note: These grants are not payable for trainees. attending or who have attended full-time integrated craft courses or basic craft courses held under the new plan of training for operatives.

(*b*) **Technician Trainees**

A standard annual grant of £150 will be paid for technician trainees who follow a programme of on-the-job training and planned experience approved by the Board.

Further details of these grants and the conditions governing their payment may be obtained from CITB regional and area offices (See Appendix 7). Employers wishing to claim these grants must notify a CITB area office not later than 31st December 1969.

66 Training recommendations The following training recommendations have been published:

Scaffolding
The Training of Training Officers
Mechanical Engineering Services — Technologists
Maintenance and Repair of Construction Plant
Thermal Insulation Practice
Building Technicians

For the first three recommendations, grant is in accordance with the general provisions of the Grants Scheme. Special grants for the other recommendations are as follows:

Maintenance and Repair of Construction Plant	£1. 10. 0. per week for planned experience
Thermal Insulation Practice:	
(*a*) Off-the-job course	£427. 0. 0.
(*b*) On-the-job course	£384. 0. 0.
(*c*) City and Guilds Course No. 374..	£572. 0. 0.
(**Note:** Includes grants for planned experience)	
Building Technicians	£150. 0. 0. a year (see paragraph 65b)

Production of films

67 Grants are not normally available for the production of training films. A company intending to apply for a grant should inform the CITB before any cost has been incurred which may attract grant.

Programmed learning

68 Grants are available for the use and development of learning programmes. Interested firms should contact the CITB. 80% of the salaries of programme writers may be grant aided.

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Management Development

69 The Board wishes to encourage the initiation of management development activities covering all grades of management and supervision. While recognising that action taken by firms in initiating management development activities must be related to the needs and circumstances of individual firms, the Board has laid down the following initial minimum requirements:

(*a*) A senior executive in each firm must hold, and be known to hold, clear responsibility for planning, carrying out and reviewing all aspects of management training and development appropriate to that firm.

(*b*) An estimate must be made by the firm of its present and future requirements for management and supervision manpower.

(*c*) Management job descriptions must be prepared initially for the more important posts, and be available for inspection.

(*d*) An appraisal scheme must be prepared and initiated calling for assessment of performance of managers and supervisors at appropriate intervals, with suitable records of the assessments.

(*e*) Records must be established containing evidence of necessary training assignments and progress of performance.

(*f*) Evidence must be provided to show that programmes of training and development have been initiated in consequence of the foregoing.

Scale of grant

70 A grant of 0·1% of the firm's annual assessable emoluments on which the levy is calculated will be paid in each year for a period of three years.

Condition

71 To qualify for this grant, firms will have to satisfy the Board that the minimum initial requirements in paragraph 69 have been fulfilled.

Notes

72 (*a*) This grant may be claimed in addition to the grants available under other parts of the scheme for management and supervisory training.

(*b*) An employer who has initiated these management development activities before this Grants Scheme becomes effective will not forfeit the grant on that account.

(*c*) Firms wishing to claim this grant should apply to the Board's area staffs for further advice.

Work study courses
Grants for planned supervised practice

73 The following grants may be claimed for trainees undertaking the planned supervised practice associated with the Work Study Practitioners' Basic Course at the CITC Bircham Newton.

(*a*) 75% of the trainee's salary for the period to a maximum of six weeks while undertaking planned practical work study exercises under the part-time supervision of a qualified work study practitioner, whether in his employer's firm or elsewhere.

(*b*) Where, with CITB approval, a qualified work study consultant has to be retained by a firm for the purpose of providing the supervision required, a grant of 50% of the daily consultant fee for up to one day per week for the maximum period of six weeks.

(*c*) Where arrangements have been made by the CITB for the planned supervised practice of one employer's work study trainee(s) to be carried out at another firm's sites and under the supervision of that other firm's qualified work study staff, a grant may be claimed by the latter firm equivalent to one day's salary per week up to the

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maximum of six weeks, as per salary range 8, 9, 10 or 11 in paragraph 38(*d*).

Note: No grants will be payable for the supervisory services of the firm's own qualified work study practitioners.

Supplementary grant

All employers who claim grant under Part C will be paid a supplementary grant of 20% of the grant payable, including subsistence and travelling allowances.

How to claim grants

For details of how to claim grants please refer to page 27.

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Part D Grants for Group Training

Purpose

74 The Board is most anxious to encourage groups of firms in as many localities as possible to form non-profit-making training associations to organise group training schemes on their behalf. These schemes will provide for members of the group, training facilities which would normally only be possible in a really large firm.

Grant claims by firms

75 Firms which are members of a training group should claim grants directly from the CITB for their employees on day or block release, according to the regulations for fixed scale grants (Part A). They should also claim directly the variable grants for attendance at courses external to both the firm and the group (Part B). If they have their own training staff and in-company training schemes they should claim grants under Part C. For trainees attending off-the-job courses run by the group, they should claim grants in accordance with Part B.

Grant claims by associations

76 An association formed to organise the group training scheme, if approved in advance by the Board, may claim grant directly from the Board on the lines of grant announced in Part C (in-company training), except grants for trainees under paragraph 38 and Appendix 6, which will be claimed by the individual firm. Part E grants should be claimed as appropriate depending on whether they apply to the group as a whole or to the individual firms.

77 In certain cases CITB may make special grant arrangements with group training associations to permit flexible and economic use to be made of resources, especially when these can be shared.

Scale of grant

78 (*a*) The scale of grant for this training year will be the same as specified. in Part C except that grants for group training staff will be between 75% and 100% of salaries or wages depending on qualifications and experience. Subsistence allowances will be as shown in Appendix 6. The rent of approved office accommodation for the group training staff will also be reimbursed by the Board.

(*b*) The Board will consider applications for development grants and/or loans up to a maximum of £2,500 for each newly-formed group training association to assist with initial development costs.

Conditions

79 The same conditions as for in-company training schemes apply. In addition, it is a condition of grant which is being paid direct to a group training association that:

(*a*) a majority of the firms which are members of the group are within the scope of the CITB and have paid their levy to this Board. (Other firms may belong to other industries, e.g. shipbuilding.)

(*b*) the group training association has been registered with the CITB.

(*c*) association membership is open to firms paying levy to the CITB.

(*d*) because of the possible variation in grant between 75% and 100%, appointments of training staff are made in consultation with CITB.

Supplementary grant

A supplementary grant of 20% of the grants payable under Part D, including subsistence and travelling allowances, will be paid. (The development grant/loan facilities under paragraph 78(*b*) will not qualify for the supplementary grant.)

How to claim grants

For details of how to claim grants please refer to page 27.

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Part E Special Grants

Training within industry scheme

80 The TWI Scheme of the Department of Employment and Productivity is aimed at developing skills in supervision. Courses can be taken on-site or at employment exchange premises and will qualify for the appropriate grants under paragraphs 27 and 56 (*d*), (*e*) and (*f*).

Exchange visits and attachments — industrial educational establishments

81 Firms may reclaim the costs directly incurred in receiving members of staff from universities, technical colleges and other major establishments of further education with a view to improving educational courses. (Entertainment expenses are not covered.) The costs incurred in receiving the trainee training staff of other firms or of the CITB on approved training attachments or attachments for project work may also be claimed.

82 Firms releasing members of their staff from their normal duties to conduct or assist in courses in other firms or establishments which are approved by the CITB for grant aid purposes, may claim 100% of the salaries or wages payable over the working time for which they are released.

Correspondence courses

83 An employer who has borne the cost of a correspondence course for a craft apprentice or trainee and can show that, for the purpose in view, no suitable alternative exists and that the correspondence course has been used within a programme of training approved by the Board may claim 75% of the fees paid to a correspondence college and 75% of the cost of necessary text books.

Industrial attachments

84 (*a*) **Grant**

Employers providing industrial training for a student on attachment to their firm may claim a grant of £5 per week and travelling expenses. Subsistence may be claimed as shown in Appendix 6.

(*b*) **Conditions**

i The student must be pursuing or preparing for a degree, diploma (e.g. HND & OND) or other course approved by the CITB, to which training in the construction industry will be complementary, or must be a student of a profession associated with the industry.

ii The attachment period must last a minimum of six weeks.

iii The training must follow a training programme approved by the CITB. Firms should submit programmes to the CITB for approval prior to the attachment. The programme should show the main training activities and the periods spent on them, and who will supervise the training.

iv The student must be in receipt of wages from the employer for the training period.

85 A grant of £5 per week may be claimed by an employer who gives industrial training to students who have been given a deferred place at a university. The grant will be paid for periods of training up to a maximum of 12 months. The conditions shown in paragraph 84 also apply.

Notes

86 (*a*) Grants for industrial attachments will not be payable for periods for which a local education authority or other award has been given.

(*b*) Grants for the industrial part of a sandwich course are shown in paragraphs 24 and 25.

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Apprentice competitions

International Apprentice Competition

87 The CITB will pay grant to employers who nominate apprentices for selection for the International Apprentice Competition, and also to those employers whose apprentices are selected to take part in the Competition.

(*a*) for apprentices taking part in the initial regional tests the CITB will pay the full cost of the nomination fee, travel and necessary accommodation and half the cost of wages.

(*b*) for apprentices attending the one-day final tests and interviews, the CITB will pay the full cost of travel and necessary accommodation and half the cost of wages.

(*c*) for competitors during the fortnight of the competition, the CITB will pay the full cost of wages.

Apprentices' Competition, Building Exhibition at Olympia

88 Employers of apprentices entering the biennial competition at the Building Exhibition may claim the cost of travel and necessary accommodation and half the cost of wages.

Other competitions

89 Grants will be available to employers of apprentices and other trainees who enter or who have won an award in other technical competitions approved by the Board from time to time. The grants will normally be the cost of travel and necessary accommodation and half the cost of wages or salaries.

Note

90 The CITB is examining the principle of grant-aiding competitions with a view to deciding whether grants should be continued in the 1970/71 grant year.

DEP grants for development areas

91 Employers in development areas are reminded that training grants may be available direct from the Department of Employment and Productivity, in addition to the grants obtainable from CITB. Full details are available from local offices of the DEP (see Appendix 4, paragraph 10).

Research

92 Firms contemplating projects for research into training methods are invited to forward their proposals to the Board which will consider whether they can be grant-aided.

Post-graduate courses

93 The Science Research Council is the central government agency for the award of post-graduate studentships and fellowships in the areas of science not covered by other research councils and for the whole of technology including the construction industry.

94 Where the terms of a Science Research Council award permit an employer to top-up the trainee's salary without any reduction in the size of the award, the element of topping-up by the employer may be reclaimed from the CITB up to a maximum of £1,000 per annum. Where no Science Research Council or other award has been given, approved post-graduate courses of similar standing may be eligible for an equivalent grant from the CITB (after taking account of the 20% supplementary grant), and also the grant for the topping-up of salary.

95 Employers wishing to claim grants for post-graduate courses should seek the prior approval of the Board in good time, as each case will need

careful scrutiny before a decision can be made on whether a CITB grant can be given.

Re-training at the Construction Industry Training Centre

96 Unemployed persons wishing to attend a course at the Construction Industry Training Centre may be allocated a place if the course is not fully booked for employees of firms paying levy to the Board and if the entry requirements to the course are satisfied. Such trainees will be grant-aided directly by the Board to the extent of 75% of the full economic fee charged to employers who have not paid levy to the Board; e.g. for a course costing £80 to employers not on the register (£60 to those on the register) the charge to the trainee would be £20. Reasonable travelling expenses for one journey to and from the Centre will be paid. The same facilities are available to pre-release servicemen, and applications from other individuals will also be considered.

Grants for metrication

97 In general, the normal provisions of the CITB Grants Scheme will apply, subject to the following modifications:

(*a*) a consolidated grant of £3 per day, to cover tuition fees and local travel, will apply to approved external courses and to those in-company courses based on CITB management and supervisory courses material.

(*b*) the requirements of paragraph 37(*a*) relating to the minimum duration of courses will not apply to metrication courses; therefore grant can be claimed for approved courses lasting less than two days. An evening course will be counted as $\frac{1}{4}$ day.

(*c*) claims against salary will be in accordance with the Grants Scheme, paragraph 38(*d*), with the proviso that a pro rata payment will be made for periods of less than two days, i.e. $\frac{1}{2}$, 1 and $1\frac{1}{2}$ days. (Claims for salary are not admissible for evening classes).

Notes

98 (*a*) Approval must be obtained from the CITB prior to beginning grant-aided re-training for metrication in any form.

(*b*) Where it is considered necessary for staff to attend courses, arranged in-company or at local colleges or other centres, it is important that advice on their suitability is sought from CITB area office at least four weeks before the course starts. Full details of the course should be given when advice is sought.

(*c*) Proposed courses should be designed and directed especially to the needs of the construction industry.

(*d*) Grants will be payable only for courses approved by the CITB. These will include courses in which the CITB management and supervisory courses material MMT/6, SS/1 and SS/2 is used, and the courses are run as advised.

(*e*) Grants will not be available for the purchase of CITB metrication learning texts, as CITB levy payers are charged prime costs only.

(*f*) Claim form C 25 is obtainable on request from CITB, Radnor House.

Supplementary grant

All employers who claim grant under Part E will be paid a supplementary grant of 20% of the grant payable, including subsistence and travelling allowances.

How to claim grants

For details of how to claim grants please refer to page 27.

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How to Claim Grants

Forms for claiming grants

99 To enable employers to know what information will be required when forwarding claims, facsimiles of the claim forms mentioned below are shown in Appendix 8.

Interim claims
Fixed scale grants: Part A

100 From 1st January 1970 an INTERIM grant on account of the total grant due for the training year may be claimed by an employer. A claim form (see page 50) will be provided on which an employer will certify the number of apprentices/trainees attending day or block release courses, of graduate trainees, of holders of HND or OND, and of sandwich course students in his employment. A payment of £40 for each of these trainees will be made. Attendance certificates are not required with this interim claim.

All other claims

101 A general purpose claim form (see page 50) will be provided at the end of the training year, and will be available after 1st January 1970 on request. This claim form will have space for up to fourteen trainees and can be used for claims for grants under all parts of the Grants Scheme. College attendance certificates are required with FINAL claims which relate to day or block release courses.

102 Where the general purpose claim form is not suitable, larger claim forms may be used, and the following procedures will apply.

Part A
Fixed scale grants

103 A FINAL claim form for the whole training year 1969/70 (see page 51) will be available towards the end of the training year for the employer to enter in it all details required to support a claim for grant under Part A of the Scheme so far as it relates to attendance at day or block release courses. College attendance certificates are required with this claim form and as soon as these become available claims may be submitted. Claim for grant to offset the effects of Selective Employment Tax may be made in the 'Other Items' column for apprentices or trainees on block release courses under the conditions given in Appendix 4. The date of birth must be given in the 'Remarks' column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

104 A separate final claim form (see page 51) will be available, on request, on which an employer may claim grants for sandwich course students doing the industrial part of a sandwich course, for graduate trainees, and for holders of HND or OND. Claim for grant to offset the effects of S.E.T. may be made in the 'Other Items' column for the college part of sandwich courses and for certain university courses, under the conditions given in Appendix 4. The date of birth must be given in the 'Remarks' column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

105 Any interim grants of £40 per trainee already paid to an employer will be deducted from the final grant calculated for the whole training year.

Part B
Variable grants for external courses

106 From 1st January 1970 a claim form marked Parts B and E (see page 51) will be available, on request, on which an employer may claim grant under Part B of the Scheme on the basis of expenditure incurred for courses completed. Further claims may be lodged, as convenient, for courses completed during the remainder of the training year. Claim for grant to offset the effects of S.E.T. may be made in the 'Other Items'

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column for apprentices or trainees on full-time courses under the conditions given in Appendix 4. The date of birth must be given in the 'Remarks' column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

Part C
Grants for in-company training

107 From 1st January 1970 a claim form marked 'Parts C and D' (see page 52) will be available, on request, on which an employer may claim grants on the basis of expenditure incurred (salaries, wages, subsistence and travel) for internal courses completed. Further claims may be lodged, as convenient, for courses completed during the remainder of the training year. Claim for grant to offset the effects of S.E.T. may be made in the 'Other Items' column for trainees attending full-time off-the-job training courses under the conditions given in Appendix 4. The date of birth must be given in the 'Remarks' column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

108 Claims for grant under paragraphs 56(*d*), (*e*) and (*f*) of the Scheme may be incorporated in the claim form marked 'Parts C and D', or may be listed separately and attached to the claim form.

109 Claims for grant for training staff do not require a claim form. The grant is paid as a result of the employer lodging a completed questionnaire for each member of his training staff.

110 Firms wishing to claim the grant for Management Development described in paragraphs 69 to 72 of the Scheme should apply to the Board's area staffs for advice.

Part D
Grants for group training schemes

111 From 1st January 1970 a claim form marked 'Parts C and D' (see page 52) will be available, on request, on which an employer may claim grants on the basis of expenditure incurred (salaries, wages, subsistence and travel) for completed courses run by a group training association. Further claims may be lodged as convenient for courses completed during the remainder of the training year. Claim for grant to offset the effects of S.E.T. may be made in the 'Other Items' column for trainees attending full-time off-the-job training courses under the conditions given in Appendix 4. The date of birth must be given in the 'Remarks' column for each trainee for whom the grant to offset the effects of S.E.T. is claimed.

112 Claims for which payment is to be made direct to a group training association (see paragraphs 75 to 78 of the Scheme) will be paid quarterly and in a manner agreed between an association and the Board.

Part E
Special grants

113 From 1st January 1970 a claim form marked 'Parts B and E' (see page 51) will be available, on request, on which an employer may claim grants under this part of the Scheme.

Time limit for claiming grants

114 Interim claims for fixed scale grants under Part A of the Scheme should not be lodged after 30th June 1970.

115 It will not normally be possible for final grant claims for the training year 1969/70 to be accepted after 31st March 1971. If, due to unforeseen circumstances, a firm is unable to claim grant by that date, it should give brief details of the reason to the Board before the closing date in order to obtain acceptance of a claim by an agreed later date.

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Appendix 1 Bodies Administering Apprenticeship Schemes

To qualify for grant under Part A certain trainees must be registered with one of the organisations listed below. See paragraph 12(*b*). Applications for registration of apprentices/trainees should be addressed as follows:

Building (England and Wales)

National Joint Apprenticeship and Industrial Training Commission of the National Joint Council for the Building Industry
F. W. Beazley, Esq., MBE, Clerk to the Council,
The National Joint Council for the Building Industry,
11 Weymouth Street, London, W.1. Tel. 01–580 1740.

Building (Scotland)

Scottish Building Apprenticeship and Training Council
R. Hyslop, Esq., Registrar,
Scottish Building Apprenticeship and Training Council,
13 Woodside Crescent, Glasgow, C.3.
Tel. Douglas 7144 (041–Dou–7144)

Civil Engineering

Civil Engineering Construction Conciliation Board for Great Britain
T. N. C. Garfit, Esq., Employers' Secretary,
Civil Engineering Construction Conciliation Board for Great Britain,
Romney House, Tufton Street, London, S.W.1. Tel. 01–222 2544.

Electrical Contracting (England and Wales)

Joint Industry Board for the Electrical Contracting Industry
G. T. King, Esq., CEng, AMICE, AMIMunE, Barrister-at-Law,
Director,
Joint Industry Board for the Electrical Contracting Industry,
Kingswood House, 47–51 Sidcup Hill, Sidcup, Kent.
Tel. 01–302 0031.

Electrical Contracting (Scotland)

Joint Apprenticeship Council for the Electrical Contracting Industry in Scotland
Jas. Smellie, Esq., CIEE, General Secretary,
The Electrical Contractors' Association of Scotland,
23 Heriot Row, Edinburgh, 3. Tel. 031–225 7221/2/3.

Felt Roofing

†National Joint Council for the Felt Roofing Contracting Industry
R. L. Mills, Esq., Employers' Secretary,
The Felt Roofing Contractors' Advisory Board,
Victoria House, Southampton Row, London, W.C.1.
Tel. 01–405 0670.

Glazing

†National Joint Council for the Glazing Trades
L. F. Brett, Esq., FCIS, National Secretary,
The Flat Glass Association, 6 Mount Row, London, W.1.
Tel. 01–629 8334/5.

† Registration is effected in conjunction with the National Joint Council for the Building Industry.

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Glass Processing	National Joint Council for the Glass Processing Industry L. F. Brett, Esq., FCIS, National Secretary, The Flat Glass Association, 6 Mount Row, London, W.1. Tel. 01–629 8334/5.
Heating and Ventilating	National Joint Industrial Council for Heating, Ventilating and Domestic Engineers Miss L. M. Conway, MBE, Secretary, Heating, Ventilating and Domestic Engineers' National Joint Industrial Council, Coastal Chambers, 172 Buckingham Palace Road, London, S.W.1. Tel. 01-730 8245.
Mastic Asphalting	†National Joint Council for the Mastic Asphalt Industry D. R. Walker, Esq., FCCS, Secretary, Mastic Asphalt Employers' Federation, 75 Victoria Street, London, S.W.1. Tel. 01–222 7159.
Monumental Masonry	National Joint Council for the Monumental Industry for England and Wales Mrs. N. White, General Secretary, The National Association of Master Monumental Masons, 242 Abbey House, 2 Victoria Street, London, S.W.1. Tel. 01–222 6088.
Plumbing (England and Wales)	†Plumbing Trades National Apprenticeship Council A. E. Soones, Esq., MRPA, Hon.MIP, Hon. Secretary and Treasurer, The Plumbing Trades National Apprenticeship Council, 15 Abbeville Road, Clapham, London, S.W.4. Tel. 01–673 8811/2.
Plumbing (Scotland)	Scottish National Apprenticeship Board for the Plumbing Industry in Scotland W. Todd Soutar, Esq., B Com, LLB, BSc.(Econ), General Secretary, The Scottish Plumbing Employers' Federation, 2 Walker Street, Edinburgh, 3. Tel. 031–225 6842/3.
Refractory Users	Joint Apprenticeship Committee of the Amalgamated Union of Building Trade Workers of Great Britain and Ireland and the Refractory Users' Federation A. P. Hughes, Esq., Secretary, The Refractory Users' Federation, 21 Devonshire Street, London, W.1. Tel. 01–935 0281/01–486 2371.
Terrazzo Mosaic Work	National Joint Council for the Terrazzo Mosaic Industry W. Strachan Esq., MA, LLB, Secretary, The National Federation of Terrazzo Mosaic Specialists, 19–20 Leicester Square, London, W.C 2. Tel. 01–839 6508.
Thermal Insulation Contracting	National Joint Council for the Thermal Insulation Contracting Industry C. W. Allen, Esq., FCCS, FRSA, Secretary, The Thermal Insulation Contractors' Association, Alderman House, 37 Soho Square, London, W.1. Tel. 01–437 6588.

† Registration is effected in conjunction with the National Joint Council for the Building Industry.

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Appendix 2 Courses Approved for Grant

The courses listed in Appendices 2A to 2F are approved for payment of grants under earlier grants schemes.

Appendix 2A

Basic craft courses—Rate of grant £2. 10s. per day

(Grants for these courses are payable under paragraphs 11 to 13 of Part A)

1 The City and Guilds Craft Certificate Courses in the following subjects:

260 Agricultural Mechanics' Work
82 Brickwork
103A Cabinet Making
80 Carpentry and Joinery
347 Electrical Craft Practice
51A Electrical Installation Craft Practice (Course A)
51B Electrical Installation Work (Course B Certificate) (under 18 years)
47 Electronics Servicing
360 Fabrication Engineering Craft Practice
176 Fabrication of Steelwork
13 Gas Fitting (Intermediate Certificate)
334 Glazing
103D Hand and Spray Polishing (Intermediate Certificate)
337 Heating and Ventilating Engineering Fitting Craft Practice
81 Machine Woodworking
83 Masonry
92 Mastic Asphalt Work
193 Mechanical Engineering Craft Practice (Parts I and II)
169 Motor Vehicle Electricians' Certificate
168 Motor Vehicle Mechanics' Work (Parts I and II)
85 Painters' and Decorators' Work
61 Pattern-making
84 Plasterers' Work
86 Plumbers' Work
48 Radio and Television Servicing
429 Refrigeration Practice — Installation Service
99 Roadwork
96 Roof Slating, Tiling and Cement Work
66 Sheet Metal Work
183 Ship Joinery
374 Thermal Insulation Craft Practice
103C Upholstery
294 Vehicle Body Building (Years 1 to 3)
335 Wall and Floor Tiling
323 Welding Craft Practice
74 Welding (Ordinary Certificate)

2 Equivalent courses to those listed in paragraph 1 leading to the examinations conducted by the following regional examining bodies:

East Midlands Education Union
Northern Counties Technical Examination Council
Union of Educational Institutions
Union of Lancashire & Cheshire Institutes
Welsh Joint Education Committee
Yorkshire Council for Further Education

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3 Built-up Felt Roofing Course at Riversdale Technical College, Liverpool (Block Release)
Fireplace Building Course at Glasgow College of Building
Floorlaying Course (including Terrazzo) (Trowel Trades) at Glasgow College of Building
Monumental Masonry at Aberdeen Technical College (Years 1 and 2)
Shopfitting Course at Southend College of Technology (Years 1 to 3)
Terrazzo Apprentices' Course at Hall Green Technical College, Birmingham (Block Release)

Appendix 2B

Courses—Rate of grant £2. 10s. per day

(Grants for these courses are payable under paragraphs 14 to 19 of Part A)

Office studies

1 The Certificate of Office Studies.

2 The following courses of the Scottish Council for Commercial, Administrative and Professional Education:
- Audio Typewriting
- Business Machine Operators' Certificate
- Junior Secretarial Certificate
- Secretarial Certificate
- Scottish Certificate in Office Studies

3 Courses by day or block release leading to the qualifications of the following regional and other examining bodies:
- East Midlands Educational Union
- London Chamber of Commerce
- Northern Counties Technical Examination Council
- Royal Society of Arts
- Union of Educational Institutions
- Union of Lancashire and Cheshire Institutes
- Welsh Joint Education Committee
- Yorkshire Council of Further Education

Other courses

4 The following City and Guilds Courses:
- 134 Certificate in Retailing
- 903 Electrical Wholesaling Course
- 325 Graphic Reproduction (Years 1 to 3)
- 215 Lithographic Printing (Years 1 to 3)
- 418 Maintenance and Repair of Construction Plant (Years 1 and 2)
- 188 Solid Fuel Production Distribution and Utilization (2 Years)
- 296 Vehicle Painting and Industrial Finish (Years 1 to 3)

5 Basic Design Course at West Sussex College of Art
Certificate in Interior Design at Birmingham College of Art (Years 1 to 3)
Certificate in Decoration at Brixton School of Building (Years 1 and 2)
Draughtsmen's and Tracers' Course at Wigan & District Mining and Technical College (2 Years)
Floorlaying Course (Dry-laid decorative) at Glasgow College of Building
Graphic Arts Stage 1 at Foley College of Art, Stourbridge
Toolroom Technicians' Course at Highbury Technical College, Cosham (3 Years)
Tracing Course at Garretts Green Technical College (Years 1 and 2)

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Tracing Course at Springburn College of Engineering
Trainee Bar-Benders' and Steelfixers' Course at Riversdale Technical College
Urban Blacksmiths' Course at Herefordshire Technical College

6 Courses leading to the following examinations:
The Certificate in Storekeeping of the Institute of Purchasing and Supply
The Institute of Corn and Agricultural Merchants — Part I Examination
The Institute of the Motor Industry — Section A — Parts I and II Examinations
The National Federation of Builders' and Plumbers' Merchants — Diploma Examinations (Year 1)
The National Institute of Hardware — Diploma Examinations (Year 1)

Appendix 2C

Courses listed in Appendix 2C of earlier grants schemes are now contained in Appendix 2D

Appendix 2D

Courses—Rate of grant £4. 10s. per day

(Grants for these courses are payable under paragraphs 14 to 19 of Part A)

1 The City and Guilds Craft Courses detailed in Appendix 2A at Advanced Craft, Final Certificate and Full Technological Certificate level, where applicable

Technicians' and other courses

2 The following City and Guilds Courses:

320	Advanced Certificate for Computer Personnel
261	Agricultural Engineering Technicians' Certificate
291/292	Building Crafts and Extension Courses
89	Builders' Quantities (Parts I and II)
319	Certificate for Computer Personnel
163	Certificate in Retail Management Principles
110	Concrete Technology (Supervisory level)
314	Construction Technicians' Certificate
51B	Electrical Installation Work (Course B) (Over 18 years of age)
51C	Electrical Installation Work (Course C)
451	Electrical Installation Technicians' Course
57	Electrical Technicians' Course and endorsement subjects
324	Fabrication and Welding Engineering Technicians' Course
95	Formwork for Concrete Construction
356	Formwork Planning and Technology
97	Furnace Brickwork
313	General Course in Construction
287	General Course in Engineering
246	General Course in Science
98	General Foremanship Studies in Relation to the Building Industry
325	Graphic Reproduction (Years 4 and 5)
338	Heating and Ventilating Engineering Pipe Welding
257	Heating and Ventilating Engineering Fitter/Welders' (Metal-Arc)
339	Heating, Ventilating and Air-Conditioning Technicians' Certificate (Parts I and II)
215	Lithographic Printing (Years 4 and 5)
418	Maintenance and Repair of Construction Plant (Year 3)

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193 Mechanical Engineering Craft Practice (Supplementary Subjects)
293 Mechanical Engineering Technicians' Course (Parts I and II)
154 Metallurgical Technicians' Certificate
168 Motor Vehicle Mechanics' Work (Part III)
170 Motor Vehicle Technicians' Work
133 National Retail Distribution Certificate
345 Photographic Technicians' Certificate
358 Plastic Technicians' Certificate
121 Plumbing Design and Quantities
442 Plumbing Technicians' Certificate
72 Refrigeration Practice
73 Refrigeration Science and Technology
99 Roadwork (Years 3 and 4)
94 Stair Construction and Handrailing
288 Structural Detailing
91 Structural Engineering
228 Technical Illustration
49 Telecommunication Technicians' Course
317 Traffic Engineering Technicians' Certificate
195 Work Study

3 Equivalent courses to those listed in paragraph 2 leading to examinations conducted by the regional examining bodies listed in paragraph 2 of Appendix 2A

4 Certificate of Interior Design at Birmingham College of Art and Design (Years 4 and 5)
Certificate in Decoration at Brixton School of Building (Years 3 to 6)
Design Interpretation (Interior) at Birmingham College of Art and Design (Years 4 and 5)
Graphic Design Course at Birmingham College of Art and Design (Year 3)
Monumental Masonry at Aberdeen Technical College (Years 3 and 4)
Post-craft Certificate in Glazing at Glasgow College of Building
Signwriting and Heraldry Course at the West of England College of Art (1 year)
The National Diploma in Design

National certificate courses

5 Courses leading to the Ordinary or Higher National Certificate in:

Applied Physics
Building
Business Studies
Chemistry
Chemical Engineering
Civil Engineering
Construction
Electrical Engineering
Engineering
Mechanical Engineering
Metallurgy
Mining Surveying
Public Health Engineering
Science

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6 Courses for the Scottish National Certificate and the Scottish Advanced National Certificate in Business Studies of the Scottish Council for Commercial, Administrative and Professional Education.

Scottish Certificate of Education

7 The Scottish Certificate of Education, Ordinary Grade, when taken in the appropriate subjects as an entry to an approved National Certificate Course:

Course	*Appropriate Subjects*
Ordinary National Certificate in Building (Scotland)	Mathematics Building Drawing or Technical Drawing Physics or Applied Mechanics or Chemistry
Ordinary National Certificate in Electrical Engineering (Scotland) or in Mechanical Engineering (Scotland)	Physics or Applied Mechanics Technical Drawing Mathematics

Professional Examination Courses

8 Courses leading to the following professional examinations:

The Association of Certified and Corporate Accountants — Sections 1, 2 and 3 Examinations
The Building Surveyors Institute — Licentiate Part A Examination
The Chartered Institute of Secretaries — Intermediate and Final Part I Examinations
The Corporation of Secretaries — Intermediate and Final Part I Examinations
The Incorporated Association of Architects and Surveyors — Parts I and II Examinations
The Incorporated British Institute of Certified Carpenters — Fellowship Examination
The Incorporated Institute of British Decorators and Interior Designers — Intermediate, Licentiate and Final Examinations
The Institute of Asphalt Technology — Intermediate and Final Examinations
The Institute of Building — Intermediate and Licentiate Examinations
The Institute of Chartered Accountants in England and Wales — Intermediate and Final Part I Examinations
The Institute of Clerks of Works — Parts I and II Examinations
The Institute of Cost & Works Accountants — Parts I, II and III Examinations
The Institute of Marketing — Parts I and II Examinations
The Institute of the Motor Industry — Sections B and C Examinations
The Institute of Office Management — Certificate in Office Supervision, Certificate in O & M, and Diploma Part A Examinations
The Institute of Public Health Engineers — Parts I and II Examinations
The Institute of Quantity Surveyors — First Examination
The Institute of Quarrying — Associateship Examination
The Institute of Transport — Graduate Parts I and II Examinations
The Institute of Wood Science — Intermediate and Final Examinations
The Institute of Works and Highways Superintendents — Intermediate and Final Examinations
The Institute of Work Study Practitioners — Parts I and II Examinations
The Institution of Civil Engineers — Part I(A) Examination

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The Institution of Heating and Ventilating Engineers —
Parts A and B Examinations
The Institution of Municipal Engineers — Part I Examination
The Institution of Structural Engineers — Part I Examination
The Institution of Works Managers — Certificate Examination
The National Federation of Builders' and Plumbers' Merchants —
Diploma Examinations (Years 2 and 3)
The National Institute of Hardware — Diploma Examination (Year 2)
The Royal Institute of British Architects — Intermediate Examination
The Royal Institution of Chartered Surveyors —
First Examination (General & Other Sections)
The Royal Institution of Chartered Surveyors —
Intermediate Examination (Quantity Surveying Section)
The Royal Institute of Chemistry — Graduate RIC Part I Examination

Appendix 2E

Courses — Rate of grant £5. 10s. per day.

(Grants for these courses are payable under paragraphs 14 to 19 of Part A)

1 Certificate of Supplementary Studies (formerly endorsements) to the Higher National Certificate when the trainee has already been awarded the Higher National Certificate.

Professional Examination Courses

2 Courses leading to the following professional examinations:
The Association of Certified and Corporage Accountants —
Section 4 Examination
The Building Surveyors' Institute — Diploma Part B Examination
The Chartered Institute of Secretaries — Final Parts II and III Examinations
The Corporation of Secretaries — Final Parts II and III Examinations
The Incorporated Association of Architects and Surveyors —
Part III Examination
The Institute of Building — Final Parts I and II Examinations
The Institute of Chartered Accountants in England and Wales —
Part II Final Examination
The Institute of Cost and Works Accountants — Parts IV and V Examinations
The Institute of Marketing — Part III Examination
The Institute of Office Management — Diploma Part B Examination
The Institute of Personnel Management — Graduateship Examination
The Institute of Quantity Surveyors — Second and Third Examinations
The Institute of Transport — Associateship Parts I and II Examinations
The Institute of Works Managers — Diploma Examination
The Institute of Work Study Practitioners — Part III Examination
The Institution of Civil Engineers — Part I(B) and Part II Examinations
The Institution of Heating and Ventilating Engineers — Part C Examination
The Institution of Municipal Engineers — Parts II and III Examinations
The Institution of Structural Engineers — Parts II and III Examinations
The Royal Institute of British Architects —
Final Parts I, II and III Examinations
The Royal Institution of Chartered Surveyors —
Intermediate and Final Examinations (General and Other Sections)

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The Royal Institution of Chartered Surveyors—
Final Parts I and II (Q.S. Section)
The Royal Institute of Chemistry — Graduate RIC Part II Examination;
LRIC Examination

Appendix 2F

Grants for sandwich courses—industrial part

The following courses will attract grant in terms of paragraphs 24 and 25 of the Grants Scheme:

1 Courses leading to:
Awards of the Council for National Academic Awards
The Diploma in Technology
Ordinary or Higher National Diplomas
University Degrees

2 Approved courses leading to College Diplomas or Associateships and professional qualifications, e.g.:

Diploma in Architecture at Brixton School of Building
Diploma in Civil Engineering at Reading College of Technology (where completed by 1970)
Diploma in Civil Engineering at Sheffield College of Technology (where completed by 1970)
Diploma in Civil and Structural Engineering of the South West Essex Technical College and School of Art (where completed by 1970)
Diploma in Electrical, Electronic and Control Engineering at Twickenham College of Technology (where completed by 1970)
The Three Year's Course in Environmental Engineering leading to the Higher Diploma of the National College for Heating, Ventilating, Refrigeration and Fan Engineering
Diploma Course in Heating and Ventilating Engineering at the National College for Heating, Ventilating, Refrigeration and Fan Engineering, at the Rutherford College of Technology, or at any other approved centre
Diploma in Structural Engineering at Brixton School of Building (where completed by 1970)
Diplomas in Structural Engineering and in Civil Engineering at Bolton Institute of Technology (where completed by 1970)

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Appendix 3 External Courses Attracting Variable Grants

1 Grants are payable under Part B of the Scheme for the courses referred to below.

2 In the circumstances quoted in paragraphs 13(*c*) and 19(*c*) of the Scheme, courses listed under Appendices 2A to E as attracting fixed-scale grant may alternatively attract variable grant.

Courses in public educational and training establishments

3 With certain exceptions all courses *related to the needs of the construction industry* held in public educational and training establishments may attract grant. Employers wishing to use such courses are advised to confirm with their local CITB area office in advance, that the particular course has been approved by the CITB for grant-aid purposes.

Courses not grant-aided

4 (*a*) all courses for which a local education authority award may be available, such as full-time OND and HND courses and the college part of sandwich courses.

(*b*) full-time university courses other than post-graduate courses dealt with in paragraphs 93 to 95.

(*c*) courses other than those shown in paragraph 7 of Appendix 2D leading to the Scottish Certificate of Education examination.

(*d*) courses leading to 'O' or 'A' level examinations of the GCE.

(*e*) full-time integrated craft courses and other courses with industrial training content which require individual approval by the CITB.

(*f*) pre-apprenticeship courses.

(*g*) metrication re-training courses, unless specifically approved (see paras. 97 and 98 of the Scheme).

(*h*) any other courses specifically excluded by the CITB from time to time.

Courses which will attract grant

5 These courses are too numerous to list here: the following are examples:

(*a*) **City and Guilds of London Institute**
93 Concrete Practice

(*b*) **Clerical and commercial courses**
Courses other than full-time and those by full day or block release, leading to the qualifications of the following bodies:

East Midland Education Union
London Chamber of Commerce
Northern Counties Technical Examination Council
Royal Society of Arts
Scottish Council for Commercial, Administrative and Professional Education
Union of Educational Institutions
Union of Lancashire and Cheshire Institutes
Welsh Joint Education Committee
Yorkshire Council for Further Education

(*c*) **Courses in safety training**
The Safety Officers in Construction Course at Brooklands Technical College and all other safety courses. (Paragraph 35 also refers.)

(*d*) **Courses for training staff**

i All courses for training officers approved by the Department of Employment and Productivity and the Department of Education and Science.

ii Special courses for the construction industry developed by the CITB with selected colleges.

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(*e*) **Government training centres**

i Courses for instructors at Letchworth and Hillington, Glasgow.

ii Intensive training courses for adults.

(*f*) **Management courses**

Special construction industry management courses developed by the CITB with selected colleges and universities.

(*g*) **Other courses**

i Courses leading to the awards of the National Examinations Board in Supervisory Studies.

ii Courses in critical path programming, computer appreciation, instructional techniques and other courses in advanced construction technology.

iii The Bridge Courses (exempting ONC 10 weeks full-time) at Brixton School of Building.

iv The four weeks' fencing course at the Berkshire College of Agriculture.

Evening courses

6 See paragraph 37(*b*) of the Scheme.

Courses provided by other organisations

7 A complete list of the courses provided by organisations other than public educational and training establishments, and approved for grant purposes by the CITB, can be obtained on request. A reply-paid card for this purpose is enclosed in the first copy of the Scheme sent to an employer.

8 For certain of the courses listed, the consolidated grant referred to in paragraph 27(*d*) of the Scheme may be claimed as an optional alternative. The amount of this consolidated grant is shown in the list.

Character building and similar courses

9 Grants are payable under paragraph 37(*c*) of the Scheme for courses conducted by the following organisations:

Brathay Hall, Westmorland
Carberry Tower, Musselburgh, Scotland
Drakes' Island Adventure Centre, Plymouth
Dockland Settlements, 164 Romford Road, Stratford, London, E.15
T.S. 'Foudroyant', Gosport, Hants.
Hollowford, Castleton, via Sheffield, S.30 2WB
Loch Eil Centre, Fort William, Inverness-shire
The National Association of Boys' Clubs
17 Bedford Square, London, W.C.1 and
constituent organisations
The National Association of Youth Clubs
30 Devonshire Street, London, W.1
Ocean Youth Club, 1 Oak Street, Gosport, Hants.
The Outward Bound Trust, 73 Great Peter Street,
Westminster, London, S.W.1
The Sail Training Association, Market Chambers,
High Street, Petersfield, Hants.
The Scottish Churches Council, Scottish Churches House,
Dunblane, Perthshire
Yorkshire Dales Adventure Centre, Gildersheets,
Giggleswick, Settle, Yorkshire
YWCA of Great Britain, YWCA National Office,
Hampden House, 2 Weymouth Street, London, WIN 4AX

Appendix 4 Department of Employment and Productivity Grants

1 This appendix contains information on grants available to employers from the Department of Employment and Productivity both through the CITB and direct from the Department. These grants are payable in addition to the CITB grants but do not attract the CITB 20% supplementary grant.

Grants paid through the CITB

Selective Employment Tax

2 To offset the effects of the Selective Employment Tax on certain types of full-time off-the-job training or education, the Department of Employment and Productivity has agreed to make a grant to the CITB to enable the Board to increase its grants to employers of trainees who spend three months or longer on full-time off-the-job training or education courses. The trainees covered by this grant are:

(*a*) apprentices or trainees under a written service agreement undergoing full-time off-the-job training or education (e.g. on integrated courses or during periods of block release) in their first year or subsequently;

(*b*) industry-based sandwich course students during periods of theoretical instruction, and

(*c*) students undergoing the university part of a 1:3:1 course who are being paid by the employer while at university.

3 **Rate of grant** The rate of grant will be 37s. 6d. per week for trainees of 18 and over, and 18s. 9d. per week for trainees under 18.

4 **Conditions of grant**

(*a*) The grant will be payable for periods of off-the-job training of 13 weeks or more. No grant will be paid for a part week falling at the beginning or end of a qualifying course, unless it includes a Monday when the full weekly grant will be payable.

(*b*) The grant will not be paid where there is a refund or premium under the Selective Employment Payments arrangements.

5 For details of how to obtain this grant please refer to page 27.

Training grants

6 The following grants are available. An employer who considers he is eligible should contact his local CITB area office.

(*a*) **Running costs grant** Employers in all parts of the country who create additional training places for trainees in any category of CITB approved off-the-job in-company courses may be eligible for a grant of 25% of the running costs. This grant is not available for additional places for training officers, training supervisors, and instructors, for whom separate grant assistance is provided.

(*b*) **Capital grant for equipment** This grant is to assist with the purchase of machinery and equipment required for additional approved off-the-job training places for semi-skilled operatives. For new items the rate of grant is 70% of the cost, and for secondhand items 50%. Costs of premises are not included. This grant was originally available to employers in all areas for a period of one year from 1st April 1967. Its availability has been extended for Development Areas only.

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Grants for development areas only

7 In addition to the Capital Grant shown in paragraph 6(*b*) opposite, the following grants are available for firms in Development Areas specifically to encourage employers to create additional off-the-job places or to engage additional trainees. The grants are limited to the following categories:

Craft apprentices
Technician trainees
Commercial and administrative trainees
Clerical trainees

To be eligible, these trainees must be following a course of training by day or block release, supplemented with practical training of not less than three years and leading to recognition as a skilled craftsman or technician, or to equivalent commercial or administrative status. Grant is not paid for trainees who are undertaking training on courses leading to a degree or professional qualification. There are two alternative types of grant:

either

(*a*) **Capital grant for equipment and premises** This grant may be paid to assist with the cost of premises and equipment associated with additional training places. The grant will normally be 60% of the cost. Places created from 1st October 1967 may qualify for grant.

or

(*b*) **Per capita grant** This grant is an alternative to the capital grant. Annual grants of £100 will be paid for each additional trainee. The scheme will run from 1st January 1968 to 31st December 1972. The base line from which increases will be measured will be the number employed on 1st January 1968. Grant will then be due to any firms able to show an increase on 1st January 1969. It is a condition of grant that trainees must have been in training for three months before being included in the base line figure.

8 The Department of Employment and Productivity stresses the need for compliance with the General Condition of Grant at paragraph 5 of the Grants Scheme (i.e. the requirement for training to be recorded) by those claiming these per capita grants.

9 **Note** Board of Trade Development Grants are not payable in addition to the capital grants at paragraphs 6(*b*) and 7(*a*).

Grants available direct from the Department of Employment and Productivity

Firms in Development Areas

10 The Department makes grants direct to firms in Development Areas to encourage the provision of extra jobs. Grants are paid to employers providing training for workers to fill new jobs, help with tuition fees for employees sent on courses in management, supervisory and technical subjects, and towards the cost of accommodation rented temporarily for training. Details are available in local Department of Employment and Productivity Offices.

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Appendix 5 Training Records

1 The Board has decided that training records should be maintained which will answer the following questions about trainees at all levels, for whom grant is to be claimed:

(*a*) who is being trained?

(*b*) what is he being trained to be?

(*c*) what training has he already had?

(*d*) what is the planned programme of study or instruction external to the firm, e.g. in college, training organisation, or at some other firm?

(*e*) what is the planned programme of study or instruction in the firm?

(*f*) how is the trainee progressing?

2 This information may be kept in any form which firms prefer provided it can be made easily available to the Board's representatives. Many firms in the industry will already be maintaining comprehensive training records and the Board does not wish to interfere with this.

3 To assist firms which have not previously kept training records, the Board has drawn up a simple form (illustrated on pages 43 and 44) which, if completed regularly, will answer these questions. This form is available, free of charge, to employers who ask for it.

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Training Record Form TR1

Front: reverse of form is shown overleaf

CITB

Surname and initials of trainee in block capitals THOMPSON W.A.

Name of firm N.J. Wilson & Co. Ltd.

CITB Registration number of firm 81/10101/P

Office record of training in the construction industry — Form TR1

Part A Personal details

Christian names in block capitals: WALTER ALLAN

Full address: 55, The Avenue
Elmbridge, Herts.

Telephone number: Elmbridge 7692 Date of birth: 27.1.54

Appointment/occupation/trade after completion of training: Carpenter and joiner

Administering body: National Joint Apprenticeship and Industrial Training Commission of the National Joint Council for the Building Industry

Craft or studentship registration number: 123456

Period of training from 1.8.69 to 27.1.74

Probationary period *included in the above* completed on 27.7.70

Part B Previous training, qualifications obtained and examinations passed before present training period

Date	Qualification/examination	Other remarks
June 69	CSE in maths and woodwork	
August 69	1 day safety course for apprentices	At Elmbridge Technical College

SPECIMEN

Part C Programme of external training and education

List below your proposed programme of trainee's external study, or instruction and education

From (date)	to (date)	Course	College/organisation	Results	Other remarks
Sept. 69	July 72	C & G No. 80 Basic Craft. C & J	Elmbridge Technical College		
6.8.70	2.9.70	Outward Bound			Booking made

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Training Record Form TR1

Reverse of form

CITB

Part D Programme of in-company training

List below the main activities to be covered during training period	Enter a tick against the activities covered satisfactorily during the period under review											
	Date 30. 9.69	31.10.69	2.12.69	30.12.69	3. 2.70							
1 Site clearance and setting out	✓											
2 Flooring												
3 Roofing					✓							
4 1st Fixings												
5 2nd Fixings												
6 Timber carcassing												
7 Window and door frames			✓	✓								
8 External cladding												
9 Prefabricated structure units												
10 Shuttering		✓										
11 On-site repairs and maintenance												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Part E Periodic reports by person responsible for training

Remarks A keen learner. Good work on site. College reports encouraging.

Signature J. Jones Appointment Training Officer Date 3.1.70

Remarks

Signature Appointment Date

Remarks

Signature Appointment Date

Remarks

Signature Appointment Date

Remarks

Signature Appointment Date

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Appendix 6 Subsistence and Travelling Allowances

Subsistence allowance

1 Subsistence expenses necessarily paid by an employer may be reclaimed from the Board when an employee is obliged to live or stay overnight away from home in order to attend a course or some other approved training activity.

2 The grant will be the amount expended by the employer per day subject to maximum rates as shown in the following tables:

(*a*) Where subsistence is claimed for attendance at day or block release courses attracting fixed scale grants under Part A of the Scheme, the subsistence will be related to the grant for the course as follows:

Rate of grant for course	*Overnight subsistence allowance*
£2. 10s. a day	£1. 5s.
£4. 10s. and £5. 10s. a day ..	£2. 10s.

(*b*) Where subsistence is claimed under Part A for periods of industrial training undertaken by sandwich course students, graduate trainees, holders of HND or OND or, under Part E, for periods of industrial attachments, the maximum rate of subsistence will be £1. 5s. a day.

(*c*) Where subsistence is claimed for attendance at courses not attracting fixed scale grants under Part A or for attendance at other approved training activities, the maximum rate of subsistence will be

Salary range as in paragraph 38(d) of the Grants Scheme	*Overnight subsistence allowance*
2, 3	£2. 5s.
4, 5, 6	£3. 10s.
7, 8, 9, 10, 11	£5. 15s.
12 and over	£6. 10s.

3 Special approval will be required for any claim for training overseas or for post-graduate courses.

4 If travelling costs include any element of subsistence this should be claimed separately as subsistence.

5 No subsistence allowance will be granted when a course fee includes accommodation and meals.

Travelling allowance

6 Travelling expenses necessarily paid by an employer to an apprentice, a trainee or other employee attending a course or taking part in an approved training activity may be reclaimed from the Board in accordance with the following paragraphs.

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7 When the employee is required to live away from home the cost of travel paid to the employee may be reclaimed up to the cost of second-class return travel by public transport. When a course allows a trainee to return home for a weekend the cost of travel may be claimed.

8 When the employee travels daily from his home to the course and back, the cost of travel paid to the employee may be reclaimed as in paragraph 7, except that the first 4s. a day is not grant-aided. Only the daily cost in excess of this first 4s. may be claimed. The maximum repayment by the Board is £1 per day (total cost to employer £1. 4s. per day) without prior approval.

9 When private motor transport is used instead of public transport, an allowance of 4d. per mile may be claimed. (Paragraph 8 will apply in the case of daily travel.)

10 Repayment of travelling expenses on overseas courses will be considered individually on the basis set out in paragraph 36 of the Grants Scheme.

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Appendix 7 CITB Offices

SCOTLAND

SCOTTISH OFFICE J6–16 Centre South, Cumbernauld, Glasgow. *Cumbernauld (Glasgow) 23358/59/60*

EAST SCOTLAND

Angus, Perth, Fife, Kinross, Clackmannan, Stirling, West Lothian, Mid Lothian, East Lothian, Peebles, Selkirk, Roxburgh, Berwick, Banff, Aberdeen, Kincardine.

Area Office 16 Chester Street, Edinburgh. *031–226 3221*

Aberdeen Branch Office 7/9 Union Row, Aberdeen. *0224–54301/2*

WEST SCOTLAND

Argyll, Dunbarton, Renfrew, Lanark, Ayr, Wigtown, Kirkcudbright, Dumfries. Caithness, Sutherland, Ross and Cromarty, Inverness, and Islands, Nairn, Moray.

Area Office 7 Woodside Terrace, Glasgow, C.3. *041–DOU 3323*

NORTH REGION

REGIONAL OFFICE 3rd Floor, Liverpool Building and Design Centre, Hope Street, Liverpool 1. *051–709 8489*

NORTHERN

Northumberland, Durham, Westmorland, Cumberland, North Riding.

Area Office Monitor House, Coast Road, Wallsend, Northumberland. *0632 628202*

Cumberland Branch Office Low Road, Brigham, Cockermouth, Cumberland. *Brigham 407*

YORKSHIRE AND HUMBERSIDE

West Riding, East Riding, Lindsey, Lindsey area of Lincolnshire.

Area Office Jesmond House, Victoria Avenue, Harrogate. *0423 68322*

Lincoln Branch Office No. 1 Waterside South, High Bridge, Lincoln. *30331/2/3*

Sheffield Branch Office 5 Orgreave Road, Handsworth, Sheffield. *Woodhouse 3808*

North Region continued overleaf

North Region (cont'd)

NORTH WEST (Manchester) *All that area of Lancashire/Cheshire east of M.6, High Peak district of Derbyshire, together with Lancashire north of the River Ribble.*	**Area Office**	3/5 Charlotte Street, Manchester 1. *061–236 9071*
NORTH WEST (Merseyside and North Wales) *All that area of Lancashire/Cheshire south of the River Ribble and west of M.6, Anglesey, Caernarvon, Flint, Denbigh, Merioneth.*	**Area Office**	St. George's House, Stanley Road, Bootle, Lancashire, L20 4TY. *051–922 6481*

MIDLAND REGION

	REGIONAL OFFICE	9 North Street, Rugby. *Rugby 5546*
EAST MIDLAND *Derbyshire (excl. High Peak district), Nottingham, Leicester, Northampton (excl. Soke of Peterborough), Rutland, Lincolnshire (excl. Lindsey area).*	**Area Office**	Epic House, Charles Street, Leicester. *0533 25846*
NORTH WEST MIDLAND *Stafford, Shropshire.*	**Area Office**	McLean House, School Street, Wolverhampton. *0902 26996*
SOUTH WEST MIDLAND *City of Birmingham, Warwickshire, Worcestershire, Hereford.*	**Area Office**	Brandon House, Holly Walk, Leamington Spa, Warwicks. *0926 25237/8*

WEST AND WALES REGION

	REGIONAL OFFICE	1st Floor, 19 Belmont, Bath, BA 1 5DZ. *0225 5695/6*
SOUTH WALES *Montgomery, Cardigan, Radnor, Pembroke, Carmarthen, Brecknock, Glamorgan, Monmouth.*	**Area Office**	1st Floor, Devonshire House, Greyfriars Road, Cardiff, CF1 3AF. *0222 43954*
BRISTOL *Gloucester, Wiltshire, Somerset.*	**Area Office**	14th Floor, Tower House, Fairfax Street, Bristol 1. *0272 294146*
SOUTH WEST *Cornwall, Devon, Dorset (excl. Poole).*	**Area Office**	Trinity Court, Southernhay East, Exeter. *0392 73198/9*
	Plymouth Branch Office	19 The Crescent, Westward Building, Plymouth, Devon. *0752 62196*

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SOUTH EAST REGION

	REGIONAL OFFICE	3rd Floor, Glen House, Stag Place, London, S.W.1. *01–828 7384/8*
EASTERN COUNTIES *Norfolk, Suffolk, Cambridgeshire, Huntingdonshire, Soke of Peterborough, Bedfordshire, Essex, Herts.*	**Area Office**	3rd Floor, Tempsford Hall, Sandy, Beds. *Blunham 491/2/3*
	Southend-on-Sea Branch Office	County Chambers, Weston Road, Southend-on-Sea, Essex. *0702 41620*
	Norwich Branch Office	10th Floor, Westlegate House, Westlegate, Norwich. *0603–29326*
GREATER LONDON *G.L.C. Area.*	**Area Office**	3rd Floor, Glen House, Stag Place, London, S.W.1. *01–828 7384/8*
SOUTHERN *Buckinghamshire, Oxfordshire, Berkshire, Hampshire, Poole, Isle of Wight.*	**Area Office**	Berkshire House, Queen Street, Maidenhead, Berkshire. *0628 29966*
	Southampton Branch Office	Grosvenor House, Cumberland Place, Southampton, SO1 2BD. *0703 28158*
SOUTH EASTERN *Kent, Surrey, Sussex.*	**Area Office**	Westminster Bank Chambers, 49 Carfax, Horsham, Sussex. *0403 61727/8/9*
	Maidstone Branch Office	46 College Road, Maidstone, Kent. *0622 56086*
	Thornton Heath Branch Office	32 Mayday Road, Thornton Heath, Surrey. CR4 7XA *01–684 8282*

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Appendix 8 Grant Claim Forms

To enable employers to know what information will be required when forwarding claims, the main headings of the claim forms are shown on this and the following pages, together with explanatory notes.

Important
Please refer also to the General Notes (1 to 4) on page 52.

Part A — Interim Claim Form for period 1st August, 1969 to 31st December, 1969

Number of apprentices and trainees attending full day release or block release in the period	Number of graduates or holders of Higher National Diploma or Ordinary National Diploma under training in the period	Number of sandwich course students undergoing practical training during the period

Note: Do not include in the first column apprentices or trainees who are undergoing full-time integrated craft courses or courses under an experimental pattern of training.

Parts A, B, C, D and E — General Purpose Claim Form

A	B	C	Training						Expenses		K	L	M
Name and initials of trainee	Appointment occupation or trade	Title or description of course. City and Guilds number. Establishment attended.	D Dates		E	F	G	H	I	J	Part or para in Grants Scheme	Category	Remarks
			From	To	No. of days	Salary scale	Course & exam fees £ s	Other items £ s	Subsistence £ s	Travel £ s			

Notes: 1. Columns D and E relate to number of days attendance while in your employment.
2. If absences from day or block release courses exceed 25% reasons must be given in column M or under Notes.
3. For graduates, holders of HND or OND and sandwich course students, column D relates to training with your firm, not college attendance.
4. For an apprentice, enter in column M the administering body (Appendix 1 of Grants Scheme) with which the apprentice is registered, or if unregistered, the date of birth.
5. If you are claiming for a graduate trainee, or under paragraph 19(*c*), or for City and Guilds No. 51B, give date of birth in column M.
6. If you are claiming under Part C or D, give in column M the reference number and date of CITB approval for course.

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Part A — Final Claim Form for Trainees, other than Graduate Trainees, Holders of Higher or Ordinary National Diploma, and Sandwich Course Students

Page No.	B	C	Training						Expenses		K	L	M
A Name and initials of trainee	Appointment occupation or trade	Title, stage and year of course or examination. City and Guilds subject number if any	D Dates From	D Dates To	E No. of days	F Salary scale	G Course & exam fees £ s	H Other items £ s	I Subsistence £ s	J Travel £ s	Part or para in Grants Scheme	Category	Remarks Give reasons for all absences where they exceed 25% of possible attendance

Notes: 1. Columns D and E relate to number of days attendance while in your employment.
2. If absences exceed 25% reasons must be given in column M or under Notes.
3. Column F need be completed only where grant is payable by salary scale in paragraph 38(*d*) of Grants Scheme.
4. For an apprentice, enter in column M the administering body (Appendix 1 of Grants Scheme) with which the apprentice is registered, or if unregistered, the date of birth.
5. If you are claiming under paragraph 19(*c*), or for City and Guilds No. 51B, give date of birth in column M.

Part A — Final Claim Form for Graduate Trainees, Holders of Higher or Ordinary National Diploma, and Sandwich Course Students

Page No.	B	C	D	Training			Expenses		K	L	M
A Name and initials of trainee	Appointment occupation or trade	Degree or Diploma attained and year obtained or being studied for	University or college attended	E Dates From	E Dates To	H Other Items £ s	I Subsistence £ s	J Travel £ s	Part or para in Grants Scheme	Category	Remarks Give reference number and date of CITB approval for programme

Notes: 1. Column E relates to training with your firm, not college attendance.
2. If you are claiming for a graduate trainee, give date of birth in column M.
3. In the case of graduates or holders of HND or OND give the reference number and date of CITB approval for training programme in column M; if not yet approved a copy must be attached to the claim.
4. Grants for students on industrial attachments (paragraphs 64, 65 and 66 of Grants Scheme) should *not* be claimed on this form, but on the claim form for Parts B and E.

Parts B and E — Claim Form

Page No.	B	C	Training						Expenses		K	L	M
A Name and initials of trainee	Appointment occupation or trade	Title or description of course. Establishment or organisation who run it	D Dates From	D Dates To	E No. of days	F Salary scale	G Course & exam fees £ s	H Other items £ s	I Subsistence £ s	J Travel £ s	Part or para in Grants Scheme	Category	Remarks

Notes: 1. In column C give both the title of the course and the name of the organisation.
2. If you claim Consolidated Grant (Part B, paragraph 27 of Grants Scheme) write C.G. in column M instead of completing columns E to I.
3. For claims for students on industrial attachments (paragraphs 64, 65 and 66 of Grants Scheme) give reference number and date of CITB approval for training programme in column M; if not yet approved a copy must be attached to the claim.

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Parts C and D — Claim Form

Page No.	B	C	Training						Expenses		K	L	M
A Name and initials of trainee	Appointment occupation or trade	Title or description of course	D Dates From	To	E No. of days	F Salary scale	G Course & exam fees £ s	H Other items £ s	I Subsistence £ s	J Travel £ s	Part or para in Grants Scheme	Category	Remarks Give reference number and date of CITB approval for course

Note: Always give the reference number and date of CITB approval for course in column M or under Notes.

General notes

1 Category One of the following categories should be entered against the name of each trainee in Column L of the claim forms for Parts A, B, C and D.

- M Management and supervisory training (other than P, T or G below).
- P Professional training, and technical training at supervisory level.
- T Training and employment of training officers, training supervisors and instructors.
- G Training of graduates and/or holders of a national diploma.
- S Practical training of sandwich course students.
- A Craft apprenticeship, general construction (excluding those at B).
- B Craft apprenticeship, mechanical and electrical services (including plumbing).
- C General construction operatives, other than craft apprenticeship.
- D Technical training below supervisory level.
- E Commercial and clerical training below supervisory level.

2 Number of Days For final claims under Part A for trainees attending day or block release courses, the figure required will be the number of days each trainee actually attended college. For claims under Parts B, C, D and E, the figure required will be the number of days for which grant is claimed, and may include travelling time.

3 Salary or Wages A table of salary ranges for claims under Parts B, C and D is given in paragraph 38(*d*) of the Scheme. For claims under Part E, the actual salary or wage paid will be required.

4 Subsistence The number of nights spent away from home and the total amount paid in subsistence is required. Full details of subsistence allowances are shown in Appendix 6.

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VT 011 857
Proceedings of the Biennial California Conference on Apprenticeship (6th, Los Angeles, April 22, 24, 1970).

California Apprenticeship Council, Los Angeles.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - 70 ~~57p.~~ 112p.

DESCRIPTORS - *APPRENTICESHIPS; *TRADE AND INDUSTRIAL EDUCATION; *CONFERENCE REPORTS; SPEECHES

ABSTRACT - Proceedings of the sixth biennial meeting of the California Conference on Apprenticeship includes: (1) Conference background and achievements, (2) a list of Conference Officers, (3) Opening session speeches, (4) Forum comments, (5) Workshop descriptions, (6) Various sectional conferences, and (7) conference recommendations. A complete listing of officers, trustees, and planning committees is given. (GR)

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Proceedings

SIXTH BIENNIAL CALIFORNIA CONFERENCE ON APPRENTICESHI

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CALIFORNIA CONFERENCE ON APPRENTICESHIP

LOS ANGELES HILTON
APRIL 22, 24, 1970
LOS ANGELES,
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CONFERENCE BACKGROUND AND ACHI

The California Conference on Apprenticeship is a permanent organization looking forward to its seventh biennial meeting to be held in San Francisco in May of 1972. It was established by Articles of Organization, adopted by the Conference at its first meeting May 18-20, 1960, and approved by the California Administrator of Apprenticeship.

Recognized by the California Apprenticeship Council in its rules and regulations as an over-all labor-management apprenticeship committee, the Conference is composed of members of the Council and all apprenticeship committees in California, as well as other persons and organizations who desire to participate in its activities and to further its purpose.

The governing body of the Conference is its General Executive Board composed of the six general officers nominated and elected at general meetings of the Conference.

More than 900 labor and management representatives and other participants attended one or more sessions of the sixth biennial meeting of the conference in the Los Angeles Hilton, April 22-24, 1970.

Action to establish a California conference on apprenticeship was initiated by the California Apprenticeship Council in 1957 after it had learned that other western states were unable to carry on the series of conferences which started with the "Western States Conference on Training" at Boyes Springs, California, May 10-14, 1948 followed by the "Western Conference on Apprenticeship" at Seaside, Oregon, May 22-26, 1950, and the "First North American Conference on Apprenticeship" at San Diego, August 2-9, 1953. All three of these conferences adopted resolutions that such conferences in the western states be continued.

After determining that a great majority of California apprenticeship committees were favorable to holding a statewide conference, the Council called together a conference planning committee in Fresno on October 16, 1959. Representation from statewide and over-all area labor-management apprenticeship committees, other labor and management organizations interested in apprenticeship, and cooperating governmental agencies attended. This committee planned and organized the first meeting of the Conference held in San francisco in May 1960.

The Articles of Organization adopted by the Conference provide for a "Conference Planning Committee" to be appointed by the Chairman, with representation from the California Apprenticeship Council, each statewide JAC, each over-all apprenticeship committee and others, so as to provide maximum participation by craft, labor, and management organizations from various sections of the State. The General Officers of the Conference are members and officers of the Planning Committee.

Since its inception, the Conference has through its recommendations been responsible for the enactment or revision of several laws affecting apprenticeship. These include:

1. Amendment of Section 3074 of the Labor Code, enabling the Department of Education to provide related and supplemental instruction to isolated apprentices. In 1969, this section was further amended to add the Board of Governors of the California Community Colleges.

2. Addition of Section 3074.5 to the Labor Code, enabling the Bureau of Industrial Education (and, as of 1969, the Board of Governors of the California Community Colleges) t
district its added cost of providin
whenever the enrollment is at least

3. Addition of Section 3
jouneyman training programs
apprenticeable occupations.

4. Addition of Section 105
charging of tuition of registration

5. Amendment of Section
flexibility in determining the nu
instruction to be required.

6. Amendment of Section
authority of joint apprenticeship
bodies.

7. Repeal of Section 3087
and employees under the Railw
under the California law.

8. Addition of Section 25
junior college charges of tuition f

9. Addition of Section 308
and over to sign and execute appr

10. Amendment of Section
ment to members of the Califor
day of attendance at meetings o
meetings of Council committees.

11. Addition of Section 30
application fees but providing th
be charged after an applicant has

12. Addition of Section 30
of the Division of Apprenticesh
Resources Development, if such
that department.

13. Addition of Section
employment of apprentices o
apprenticeship committees, in
apprentice to five journeymen.

14. Amendment of Unem
relative exclusion clauses affect
tion Insurance policies.

Other Conference recomme
statutory provisions, have direc
apprenticeship:

1. Issuance by the Califor
Meritorious Service upon co
outstanding service to apprentice

2. Institution of an appre
California and then nationwide
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ICE BACKGROUND AND ACHIEVEMENTS

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California Community Colleges) to advance or reimburse to a local school district its added cost of providing related instruction classes to apprentices whenever the enrollment is at least five but not more than fifteen.

3. Addition of Section 3093 to the Labor Code, providing for jouneyman training programs and for on-the-job training in non-apprenticeable occupations.

4. Addition of Section 10509 to the Education Code, eliminating the charging of tuition of registration fees to resident apprentices.

5. Amendment of Section 3078 of the Labor Code to provide greater flexibility in determining the number of hours of related and supplemental instruction to be required.

6. Amendment of Section 3076 of the Labor Code, broadening the authority of joint apprenticeship committees on delegation by their parent bodies.

7. Repeal of Section 3087 of the Labor Code, to provide employers and employees under the Railway Labor Act the same benefits as others under the California law.

8. Addition of Section 25505.6 to the Education code to eliminate junior college charges of tuition fees to non-resident apprentices.

9. Addition of Section 3080.5 to the Labor Code, to enable minors 18 and over to sign and execute apprentice agreements.

10. Amendment of Section 3070 of the Labor Code raising reimbursement to members of the California Apprenticeship Council to $25 for each day of attendance at meetings of the Council, at hearings by the Council at meetings of Council committees.

11. Addition of Section 3091 to the Labor Code, prohibiting apprentice application fees but providing that reasonable costs for expense incurred may be charged after an applicant has been accepted into the program.

12. Addition of Section 3097 of the Labor Code, providing for services of the Division of Apprenticeship Standards to the Department of Human Resources Development, if such services are requested and contracted for by that department.

13. Addition of Section 1777.5 to the Labor Code, providing for employment of apprentices on public works upon certification by joint apprenticeship committees, in a ratio (with specified exceptions) of one apprentice to five journeymen.

14. Amendment of Unemployment Insurance Code to eliminate the relative exclusion clauses affecting apprentices under Workmen's Compensation Insurance policies.

Other Conference recommendations, although not effecting changes in statutory provisions, have directly or indirectly affected various aspects of apprenticeship:

1. Issuance by the California Apprenticeship Council of Certificates of Meritorious Service upon completion of increments of five years of outstanding service to apprenticeship.

2. Institution of an apprenticeship information center program, first in California and then nationwide. Although at the time of the sixth biennial meeting there were no information centers as such operating in California, the information program was still being carried on in a manner designed to bridge

THE CALIFORNIA CONFERENCE OF

CLYDE D. RINGWOOD

GEORGE A. HARTER

the gap between apprenticeship systems and the minority community. The Division of Apprenticeship Standards has continued to prepare and update Apprenticeship Information Guides and to distribute them to school counselors, DHRD service centers, minority organizations, and individuals.

3. Selective Service regulations were amended to treat apprentices on an equal basis with college students, and apprentices are eligible now for deferment upon indenture.

4. Many labor and management organizations and joint apprenticeship committees have adopted affirmative action programs to increase minority participation in apprenticeship and training. As a result, both the number and the percentage of minorities in apprenticeship have greatly increased since the first CCA in 1960, which recognized the need for positive programs for improving employment opportunities for minority groups.

These and many other accomplishments of the Conference testify to its influence in all fields affecting apprenticeship and training. However, probably the principal benefits accruing from the Conference are intangible, resulting from the sharing by participants of common problems and common goals, to the end that apprenticeship may continue to grow and to be strengthened.

Copies of these proceedings are being distributed to all delegates.

CLYDE D. RINGWO
Business Manager,
Local Union No. 1
Los Angeles
JACK HORNER, Se
Manager and Pub
Director, Builders
Long Beach
JOHN L. MEEK, Tr
Contractor, Assoc
Contractors of A
Los Angeles

CHARLES H. HUN
Controller
Greater Los Ang
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CALIFORNIA CONFERENCE ON APPRENTICESHIP

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GEORGE A. HARTER

GENERAL OFFICERS

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Executive Secretary, S.F. Chapter, National Electrical Contractors Assn., San Francisco

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Los Angeles

EVERETT A. MATZEN
Executive Manager
Butchers Local No. 364
Petaluma

RAY CAREY
Executive Manager
L.A. Chapter, National Electrical Contractors Assn., Los Angeles

PARTICIPATING GROUPS

Labor Organizations
Management Organizations
State and Local Joint Apprenticeship and/or Training Committees
State and Local Committees for Equal Opportunities in Apprenticeship and Training
Overall Labor-Management Apprenticeship Committees
Local School Districts and Colleges
California Congress of Parents and Teachers
California Apprenticeship Council
Department of Industrial Relations
Division of Apprenticeship Standards
Division of Labor Statistics and Research
U.S. Department of Labor
Bureau of Apprenticeship & Training
Department of Education
Department of Human Resources Development
Department of Corrections
Department of the Youth Authority

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CALIFORNIA APPRENTICESHIP COUNCIL

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John Lozano, Financial Secretary, Treasurer, Business Manager, Cement Masons, Local 52, Santa Ana.

Bernard S. Miles, Business Representative Lodge 68, IAM., San Francisco.

William F. Stumpf, Staff Representative, District 38, United Steel Workers of America, AFL-CIO, Oakland.

Howard J. Volz, Business Manager and Financial Secretary, I.B.E.W., Local 569, San Diego.

Robert W. Worthy, California State Council of Lathers and Business Manager, Wood, Wire & Metal Lathers, Local 109, Sacramento.

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William A. Mariano, Associate Dean Student Personnel Services, Sacramento City College, Los Rios Jr. College District, Sacramento.

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George A. Harter, Executive Manager, San Francisco Chapter, N.E.C.A., San Francisco.

Henry Henneberg, General Manager Printing Industries Association, Los Angeles.

Edward J. Hibbert, Management Consultant, San Francisco.

Richard M. Lane, General Contractor, Associated General Contractors of America, Inc., Los Angeles

Fred A. Schmitz, Associated Plumbing Contractors of California, Inc., Palo Alto.

Harry B. Winston, Jr. Executive Assistant Director of Manufacturing Operations, Lockheed-California Company, Burbank.

EX OFFICIO

Richard S. Nelson, Chief Bureau of Industrial Education, Sacramento.

William G. Gordon, Dean of Vocational Education, The California Community Colleges, Sacramento.

William C. Hern, Administrator of Apprenticeship & Director of Industrial Relations, San Francisco.

COUNCIL SECRETARY

Charles F. Hanna, Chief, Division of Apprenticeship Standards, San Francisco.

HARRY B. WIN

THE CONCERT BAND OF THE LOS ANGELES POLICE DEPARTM

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LOYER REPRESENTATIVES

rge A. Harter, Executive Manager, San ancisco Chapter, N.E.C.A., San Fran-co.

ry Henneberg, General Manager Print-g Industries Association, Los Angeles.

ard J. Hibbert, Management Consult-t, San Francisco.

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HARRY B. WINSTON

WILLIAM C. HERN

CHARLES F. HANNA

THE CONCERT BAND OF THE LOS ANGELES POLICE DEPARTMENT

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OPENING SESSION

The Sixth Biennial Meeting of the California Conference on Apprenticeship began as scheduled in the Pacific Ballroom of the Los Angeles Hilton on April 22, 1970.

Ray Carey, Chairman of the Reception Committee of the Los Angeles Labor/Management Apprenticeship Council, called the meeting to order.

The Concert Band of the Los Angeles Police Department, after having entertained just prior, played the National Anthem while the championship Color Guard of the American Legion Post of the Los Angeles Department of Light and Power posted the colors for the Pledge of Allegiance to the Flag.

The Invocation was given by the Reverend E. Lawrence Carter, Rector of St. John's Episcopal Church, as follows:

"Oh God, who at this time so many centuries ago spared the sons of the children of Israel, spare our sons and daughters from racial prejudice, from unequal opportunity, from wasted lives, from war and turmoil. Send your spirit in the hearts of our elected leaders that peace abroad must finally prevail.

"Give to our schools, colleges and universities enlightened teaching. May labor and management combine their immense power and skills to open to our youth more and greater paths of opportunity. May we have peace so that we with others may find a fuller life on our planet. Bless this gathering and its deliberations to the greater service of mankind. We ask this in the name of One who went about doing good. Amen."

Mr. Carey then introduced various dignitaries and excerpts from their welcoming speeches follow:

Ernest E. Debs, Chairman, Los Angeles County Board of Supervisors

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Los Angeles County Board of Supervisors
welcome you to this fast growing county of Los Angeles. I hope that your meeting will be a productive one. Certainly it is an exciting one—apprenticeship training. I usually go to the banquets each year when they give out the diplomas. I see the people who have advanced to journeymen and I always marvel at the fact that so many of you do so much to help someone else. This is the spirit as it should be . . . I do want to greet you, yours is an important job, indeed I know of nothing that would give me greater pleasure than to greet a group of people who are interested in training someone to better themselves. It is in the pleasure of giving that one derives the greatest benefit out of life. All that you have given to the lives of others comes back into your own."

E. L. Miller, Director, Management Counseling, Merchants and Manufacturers Association ". . . In 1965 following some very unfortunate days in our city, some inspired individual paraphrased a term that was being widely used at that time and I think set a goal which all of us in labor, management and government can follow henceforth. **Learn, Baby, Learn!** This, to me should be something of a key for an assembly of this type.

"The truth of this phrase is demonstrated almost daily in our newspapers. It never fails to intrigue me that on the front page there is comment about the extent of unemployment which is forever with us. Unfortunately, it is possible to turn to three or five or six pages in the rear of the paper and find them filled with men wanted and positions available classified advertisements. I believe this conference can go a long way towards solving this unusual dilemma. I think the dilemma can be identified by noting that in these classified ads, rarely, if ever, do you see an ad for warm bodies. It's skill and ability and talent that are always needed.

"Through the development of Apprenticeship training, it is possible to

RAY E. CAREY

E. L. MILLER

SUPERVISOR ER

create the self esteem that comes with ability and the added satisfaction that comes with personal achievement. Knowing that this generally is the goal of the apprenticeship program throughout the United States and with the assurance that this group is going to make real strides in achieving that goal, it is a great pleasure to welcome you here to Los Angeles in behalf of business management."

Harry B. Winston, Director of Industrial Relations, Lockheed Aircraft, Burbank ". . . It is a real pleasure to welcome you on the behalf of the California Apprenticeship Council to the City of the Angels, for what I think is a very opportune moment for this conference to meet. In these days of changing times, in these days when we see changing technology in industries everywhere, we know that we have a task ahead. I believe that the aims of the apprenticeship movement, the training and the efforts that we all go through can have a great impact on solving some of the problems that we are faced with in 1970. Hopefully, we can find some solution that will enable us to create a better state, a better country than we have today. I would encourage you, I would strongly recommend to you that you participate in industry conferences and workshops. That's where the real benefits will be gained. So on behalf of the council, please participate and help us solve some of the problems that we are faced with in this great day of ours."

Daniel J. Mundy, Los Angeles County COPE Coordinator, Los Angeles County Federation of Labor ". . . I want to extend to you the best wishes of the Los Angeles County Federation of Labor and those of Sigmund Arywitz, secretary-treasurer of that organization. I hope you have a very successful conference. We all know that apprenticeship as such is under attack at this time. I know that these areas in apprenticeship that need improvement will be improved through this conference and we maintain the same strong apprenticeship standards that we have in this state."

The Honorable Sam Yorty, Mayor of Los Angeles ". . . I welcome you to this great city. I have seen a little bit of the world and of course, there is no place in the world that can compare with the United States. Our people are

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much better off than anyone any place in the world—but a lot of them do not realize it. Everything in life is relative, so they have no way of understanding what they have here because they haven't lived under systems or seen them or investigated them, so they just don't know.

"That is why your program is so important so that you train people to fit into the great American free enterprise system. In the free enterprise system, training is far more important that we sometimes realize because we do not stop to think about it; we're so accustomed to it.

"The free enterprise system is under attack. In many parts of the world, of course, it doesn't exist at all. There are some groups here who are constantly preaching that we would be better off under socialism or communism or some other system. But the fact of the matter is that we ought to be teaching our young people in the schools, in the homes, and every place else that we can reach them, that the political liberty that we enjoy is based and inseparately linked with the free enterprise system, because it is a very simple proposition, actually. If the government owns everything, and the government is the total and single employer, then the government becomes both the political power and the economic power. The two are together; therefore, you don't criticize the establishment because you lose your job. Our political liberty is deeply rooted in the free enterprise system. I know it is a tough system on some people because it is competitive and at times seems a bit abrasive but it is far better than anything else that has been developed in the world and our job is to make it work. And to make it work we must include people in it and that is why your program is so important. You're in the process of training people to be part of this economic system and if we are to preserve the free enterprise system, we must include people in; because if too many are left out, they have no stake in the free enterprise system, no reason to believe in it, and no reason to support it. And so I salute you; I welcome you to our city, and I must say that I think your program is a very great one, and I hope that it will be expanded and not contracted."

DON SLAIMAN

Donald Slaiman, Director, Civil Rights Division AFL-CIO ". . . When I was invited to address this conference, I was happy to accept for several reasons. I have a lot of friends in California. I worked with Jack Henning when he was in Washington as Under Secretary of Labor before he came back here to be Secretary of the California Labor Federation. I've known and worked with Al Gruhn and others for years. Secondly, in the area of equal opportunity in apprenticeship there are things to be learned in California. Not only did you pioneer apprentice information centers here, but the ethnic survey figures indicate that just coming here I can learn something. And lastly, this area is important enough that I think those of us in the field have to work with each other. Possibly I can bring some information to you that can be valuable in moving things forward.

"George Meany has said many times in recent speeches that we must work to expand opportunities for minority group workers in skilled job areas. This requires not only the assurance of non-discrimination, but that minority group workers get the skills necessary to be qualified for skilled jobs. Apprenticeship is the best method for acquiring these skills and qualifications. We made substantial progress in the last few years but more has to be done. If you have read any of President Meany's press conferences or speeches in this area, you will see that those five points have been made repeatedly. George Meany is my boss so I work in finding out what is necessary to accomplish more in this area. I found that if you want to do that, you have to find out what the facts are and what works. Especially when you come to apprenticeship because I think there has been more misinformation and half-truth in the public press, in the media, even among experts, government, universities, than in most other areas. There has been lots of heat; very often little light.

"Now I do not want to deny that heat is sometimes necessary to get some action in this field, but I've always found that heat and light are more effective and that sometimes heat without light does more damage than create progress. Very often if this information and half-truth are used to try to get solutions to problems, you get half-baked solutions. My experience has been that in the area of apprenticeship and equal opportunity, this has happened quite frequently.

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"Let's look at what has been happening the last few years and what the record has been. I have a press release issued by the Secretary of Labor on March 23 of this year. Listen to some of these figures carefully, because they are quite significant. He said that more than 8,000 apprentices from minority groups representing a record 11% of the 73,000 new apprentices admitted to registered programs throughout the nation occurred in 1969. The influx of new apprentices, less graduates and drop-outs, brought to more than 20,000 the total of new and previously admitted minority participants working in registered programs. Out of these 8,000 new apprentices, 5,100 were put there by Outreach Programs. Of the 5,100, the majority were in trades such as electricians, plumbers, iron workers, sheet metal, and carpenters; those trades which a decade ago had the smallest numbers of minority group apprentices.

"The significance of this is pretty important. For one, it demonstrates that there has been substantial progress and that a great deal of it was brought about by well thought out, constructive programs which were endorsed by the labor movement in general and the building trades in particular.

"If you look around at the rest of the American labor market, you will find in all probability that the record in apprenticeship surpasses that of any other sector of the labor market involving skilled and better paid jobs whether in government, newspapers, communication industry, or university staffs. Now I found further proof of this progress recently. A gentleman, who for years and sometimes correctly, was yelling about the inability of minority youth to get into apprenticeship programs around the country, recently attacked the apprenticeship programs as a means of keeping minority youths from getting skilled jobs more quickly. He used the argument that many current journeymen, especially white journeymen, didn't go through apprenticeship programs, and therefore Negroes and other minorities should ignore the apprenticeship route.

"The fallacy of this argument is that with all the progress we made in 1969 with 11% of the apprentices coming from minority groups, that means some 88% or 89% of apprentices are still white. And if apprenticeship were a means of keeping people from getting to be journeymen more quickly, one wonders why all these white apprentices are in those programs.

"The facts are that although we know that many colored journeymen didn't go through apprenticeship programs, apprenticeship is still the best method for getting not only the skill to get a journeyman's card, but to insure him more work, more steady work, and work in times when it is not available for everybody.

"You don't read these kind of stories in the papers, but I came across a rather interesting item when I was in New York about two weeks ago. The iron workers structural local in New York had a lot of Mohawk Indians but never any Negroes. When the Outreach Program started there in 1967, they took in quite a few black and Puerto Rican apprentices. This year, three years later, three of those first blacks went to the union, said they thought they were ready; they wanted some help to become contractors. Those three young fellows today are union contractors with a piece of the job in New York on one of the big commercial buildings. Now one has to ask the question or discuss the question besides what is good for minority groups, what is in it for the industry and the unions, supporting and cooperating with programs that go beyond blood discrimination to insure an increasing flow of

minority group youth and workers into skilled jobs in the construction industry.

"There is a lot of self interest involved, besides the fact that first of all it is the right thing to do. There is no question that minority group citizens are a source of potential manpower in union membership that should not be overlooked if you want to get what industry wants and unions want, the best quality of mechanics and members. It is also important to diffuse the public image of what has been a major brain-washing job that unions and some particular industries are the most resistant of any part of the society to change. This is important because it is necessary to have allies and to prevent division of people that should be working together for full employment and for decent conditions. An example of what happens when you have such division can be seen in the imposition of the Philadelphia Plan on the construction industry.

"After analyzing it, we in the AFL-CIO have found two basic things wrong with it: 1) That it is divisive and unfair to the unions and the contractors and the industry, and 2) that it is completely ineffective for doing anything for minority group workers as well. Let's take an example. In Philadelphia where the plan has been put into effect, the first major contract was a children's hospital. It is a fair size job of 3.6 million dollars. We analyzed the job and found that one-third of the money went for iron work, somewhat less than one-third of the manpower. When we checked with the employers how many iron workers would be on that job, we found out that at peak there would be 70. Under the Philadelphia Plan this required on that particular job 5% minority workers or between three and four workers at peak. One of three things could happen. The contractors could ask the union to supply three or four workers and they could take black workers off some other job and put them on this one to comply without adding a single new black worker into the iron workers skilled work force. If they wouldn't do that, the contractor could go outside of his union agreement and ask people in the minority community to find some skilled iron workers and hire them non-union. If they did find one or two or three iron workers, and they put them to work in violation of the collective bargaining agreement, they have a temporary job for a month, two months or maybe a little more. If he didn't find those iron workers, he was in compliance for making a good faith effort.

"Now we think this is a fraud. We think the answer in bringing more blacks and other minorities into the iron workers can be found in the program that the building trades passed at their convention in Atlantic City which called for an affirmative program of three points: 1) to expand and accelerate outreach programs which recruit, prepare and bring information to minority group youth so that they can qualify for apprenticeship openings, 2) to invite in all presently qualified minority journeymen who are not currently within the local unions in the area where they live, and 3) to explore training programs for minority workers who are too old to get into apprenticeship and are presently not skilled enough to be qualified journeymen and slot them into a training program at some rate equivalent to the present skills, relative to a second or third year apprentice; and that these programs should be set up in such a manner as not to undermine or weaken, or divert the present well-established apprenticeship programs.

"That convention was in October, 1969 and already three building trades councils, Chicago, Pittsburg and Boston, have adopted area wide programs

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with their contractors and with the cooperation of representatives of minority group communities to put into effect area wide recruiting and training programs consistent with that building trades policy. We think that in this direction is the answer, not only making more opportunity available in apprenticeship but providing an opportunity for minority group workers who cannot use the apprenticeship route to get into skilled jobs. This will be done without jeopardizing the security and conditions of those workers already in those jobs, and without damage to the needs of management and contractors who are ready to cooperate in providing good wages and conditions and expanded opportunities for minorities.

"It is rather interesting that in Atlantic City at the AFL-CIO Convention, just following the building trades convention I mentioned, Bayard Ruskin, the Director of the A. Philip Randolph Institute, spoke. One of the paragraphs of his speech that I found of great significance I would like to read to you. He was speaking of finding opportunities for minority group workers and youth in skilled jobs.

He said, 'We can do it in a way that does not require the lowering of standards and wages. We do not want standards thrown out the window; we don't want special categories labeled Negro carpenters or Negro plumbers who have lower skills and get less pay. We want Negroes who are carpenters and plumbers with the same skills and training and wages that everyone else has. We want the same pride in our trade that any worker with dignity wants and we will not settle for less.'

"In conclusion, I would like to read you a section of the Civil Rights Resolution passed at the last AFL-CIO Convention. It says that the AFL-CIO urges that vigorous efforts be made to expand opportunities for minority group workers in the better paid skilled jobs throughout our economy including the building and construction trades industry. But we urge that it be done on a sound, fair, effective and continuing basis. We are opposed to making a political issue out of as important an issue as the ending of discrimination and employment everywhere and in all kinds of employment for all times. The AFL-CIO reiterates its dedication to the principle established in its constitution when the merged federation was founded. This assures equality and equal benefits of union membership for all workers regardless of race, creed, national origin or sex. We urge that all international unions, state federations and central bodies insure that their civil rights committees be active and work with the civil rights department to the AFL-CIO towards the end of eliminating any vestige of discrimination that may remain in labor's house. We must and we will continue our fight for full civil rights. The answer to this question is the keystone to the trade union movement, brotherhood."

After Mr. Slaiman's address, Chairman Ringwood called the meeting officially to order. He introduced the conference officers and committee men present. He then called on Albin J. Gruhn, Chairman of the Rules and Regulations Committee. Excerpts from Mr. Gruhn's report follow:

". . . The Recommendations Committee recommends the adoption of existing rules and regulations governing the California Conference on Apprenticeship. The Articles of Organization adopted in 1960, amended in 1962 and 1964 shall govern. No amendments were proposed in 1966 or 1968. You have a printed copy of the rules and regulations. The Conference will

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JOHN L. MEEK

SAM SWISHER

operate in accordance with these rules and the actions of the Executive Board in setting up these procedures.

"The recommendations that have been submitted to the Conference will be under consideration by the Recommendations Committee. Other recommendations are being referred to the appropriate Workshops for their consideration, prior to coming back to the Recommendations Committee."

This report was adopted unanimouly by motion.

Chairman Ringwood then requested a report from the Secretary of the conference, Jack Horner. His report follows:

"Now, it would be appropriate at this time to review the composition of the Executive Board. The General Executive Board is composed of six general officers representing labor and management from Northern and Southern California equally. It is the governing body of the conference. This board has held seven formal meetings since they were elected to office in 1968 as follows: July 24, 1968 in San Clemente; October 23, 1968 in Sacramento; January 23, 1969 in San Diego; April 24, 1969 in Fresno; July 23, 1969 in Los Angeles; October 22, 1969 in Oakland; and January 28, 1970 in Bakersfield.

"We also have had numerous informal meetings and telephone conferences.

"The minutes of all these meetings have been distributed to all JACs and conference committees and are official records of the secretary's office. The principal actions of the general executive board were as follows:

"A. We approved the proceedings of the Fifth Biennial Meeting of the California Conference on Apprenticeship held at the Jack Tar Hotel in San Francisco.

"B. We developed and approved the conference budget; adopted procedures for interim expenditures and authorized the chairman, co-chairman, treasurer and co-treasurer to sign conference checks.

"C. We approved the agenda for this conference and adopted procedures for processing conference recommendations.

"D. We adopted the plan for credentially delegates to this conference.

"E. We have made tentative reservations for the 1972 California

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Conference on Apprenticeship to be held at the Jack Tar Hotel in San Francisco on May 17, 18 and 19.

"F. We also authorized the chairman to appoint a legislative committee as a result of 1968 CCA Recommendation No. 6. This 4 man committee worked with the California Apprenticeship Council's Legislative Committee to "Bird-Dog" various bills affecting apprenticeship during the 1968 and 1969 sessions. However, with the passage of SB 1284-69 strict legislative advocate registration requirements were adopted. The board felt because of various problems of law involved in having an officially registered advocate, no action be taken during the 1970 session pending receipt of advice from legal counsel.

"I would like at this time on behalf of the Executive Board to thank publicly the members of that committee. They are: Andy Gwin, Lloyd Moul, Al Arellano and Otto Weber. E. F. Stark served briefly but had to resign because of other duties. Art Mainini, also an original appointee, passed away before the group met.

"I would also like to commend to you the memory of one Ernie Kramm. At the time of his death he was the highly regarded legislative advocate for the Ninth District of the N.E.C.A. As such he was always a friend of ours and of apprenticeship.

"The California Conference on Apprenticeship Planning Committee has held six meetings since 1968, usually prior to the quarterly meeting of the California Apprenticeship Council. These meetings were all well attended and invaluable assistance was rendered to the Executive Board by the Planning Committee.

"On behalf of the General Executive Board and the Planning Committee, I wish to express our deep appreciation for the voluntary cooperation of the apprenticeship committees throughout California for participating and contributing financially to this fine conference. I wish you every success in your deliberations during this conference. I thank you again for the privilege of having served you."

The motion to accept the Secretary's report was unaimously adopted after brief seconding comments made by Arthur Blanchard of Long Beach.

John L. Meek, Conference Treasurer ". . . I take great pleasure in announcing to you that the California Conference on Apprenticeship is in good financial standing. The opportunity to present this report gives me a chance to tell you a little about myself

"I am a contractor, and have been a contractor in California for twenty-one years. We specialize and have for the past few years in what we call marine construction. We own barges, we drive piling in the water, we build piers and we repair them. We do whatever needs to be done from the water. We also do some land work in the installation of bearing piling, sheet piling walls and that type of work. In the past we have built bridges, laid pipeline, built roads, and built a few buildings. That is about the size of my background in the construction business.

"I am thrilled and have been for the past fifteen years to have played an active part in apprenticeship. Through my association, the Associated General Contractors, we take great pride in our activity in apprenticeship. It is difficult to keep a strong management interest, as you know. We have ups and downs in our trade; we have just gone through a down cycle. We are on our

way back up. I can't think of a more opportune time to get behind apprenticeship, particularly in the constructions trade, then at the present time.

"I believe that in the '70s we will see an era for apprenticeship that none of us possibly have dreamed several years ago. Man and his environment, ecology, these things are all related to what we are doing here. To create an environment that is worthwhile, that is suitable, that we all will thrive in—needs manpower and it needs qualified manpower. To those of you who have spent all of this time in this effort to bring about this qualified manpower, from management, I congratulate you. You are doing a fine job.

"After the 1968 Conference, the trustees ordered the books submitted to the certified public accountant firm of Lybrand, Ross Bros. and Montgomery of San Francisco. I have their report with me, dated November 8, 1968 and their report shows cash on deposit at the end of the period of $10,950.61. At that time, there were unpaid liabilities of approximately $1,330.00. The C.P.A.'s report was accepted by the Executive Board, as being accurate, and copies were furnished to the Conference Officers.

"In the two-year period since that time, the Treasurer's report has been included in all minutes of the Conference Planning Committee. In the Treasurer's report, is listed any contributions made to the Conference. During that period, are listed on the Treasurer's report dated April 20, 1970, a total of contributions during the interim period of $8,715.00. A final and more detailed report will be mailed to all Joint Apprenticeship Committees and to the members of the Planning Committee probably by the 1st of August.

"I would also like to report that the Treasurer has filed nonprofit income tax forms as required by law both in 1968 and 1969, both Federal and State.

"Again, I would like to repeat that the Conference is in good shape financially, and I wish to thank all members for their cooperation. Thank you."

This report was by motion unanimously accepted.

Chairman Ringwood introduced DAS Chief Charles F. Hanna who made a staff report: excerpts follow:

"This is a report on the actions of the California Apprenticeship Council and of our Division to implement recommendatins of the 1968 California Conference on Apprenticeship:

"The Council concurred in all the actions of the Conference and its Executive Board on the recommendations, though adding or deleting slight wording in three recommendations.

"No. 1—Financial support for apprentice classes with low enrollment. The Council wrote to the Bureau of Industrial Education, and to Wesley P. Smith, Director of Vocational Education, urging them to seek appropriate budget, which the council would support in every way possible.

"No. 2—DAVIS-BACON: Predetermine and publish apprentice wage rates. Letters were sent to the Secretary of Labor asking that this be done, with copies to all JACs, and to members of The National Association of State and Territorial Apprenticeship Directors, asking them to do likewise. The Secretary of Labor was not convinced of the necessity to predetermine or publish apprentice wage rates, and in fact, states that numerous flagrant violations involving the use of unregistered apprentices in lieu of laborers, who are paid higher rates, under the old system have "happily" been virtually eliminated by eliminating the classification of apprentices from the wage

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determination. He asserts that this has also eliminated the enforcement problem. He offers to investigate any individual cases called to his attention, where a contractor rejects the use of apprentices because their wage rates are not predetermined or published.

"By policy decision of the Solicitor of Labor in 1969, The Davis-Bacon Act was set aside for trainees employed under certain manpower and training programs—for bona fide student youth in summer programs agreed to by labor and management; for youth in poverty and similar training programs that have the endorsement of labor and management, whether publicly or privately financed; for management unilateral training programs without labor endorsement, if approved by the Department of Labor for Davis-Bacon purposes.

"In addition, Public Law 495—Federal-Aid Highway Act of 1968—exempts from Davis-Bacon provisions all apprenticeship and skill training programs certified by the Department of Transportation as promoting equal employment opportunity on federal-aid highway construction. This act also does not require use of registered apprentices under registered programs.

"An important recommendation was No. 6 whereby CCA Chairman Ringwood appointed a Legislative Committee, the Council added to this recommendation wording that this committee would coordinate its activities with the Council committee on Legislation. Too much credit cannot be given to the late Ernie Kramm, for his efforts in the legislative field on apprenticeship matters, and Lloyd Moul is ably carrying on, with the assistance of other members of the CCA Legislative Committee.

"There was, as many of you are aware, a good deal of activity surrounding CCA Recommendation No. 8 Apprenticeship and Training Information Centers, Though differing in form from the earlier information center concept, an information program was instituted in October 1969, as a result of augmentation budget of approximately $100,000 given to the DAS. This program is designed to bridge the gap between the apprentice systems and the minority community.

"Letters were sent to the appropriate persons and agencies regarding recommendations on the isolated apprentice, tax credit for training, free exchange of apprentices in junior college districts, expansion of DAS services, review of job-related entry requirements, State-approved MDTA-OJT programs, change in name and title of auto mechanic, opposition to AB 1338, 1464 and 1463. The latter Bills were later substantially amended and most CAC-CCA objections removed.

"Several other matters are still pending, and some recommendations required no further action on the part of the Council or the Division. I believe the matter of credentialing of industry trust coordinators was satisfactorily handled by the Executive Board.

"We have drafted proposed legislation re. Workmen's Compensation Insurance for unemployed apprentices while attending apprenticeship school classes, but the problem still remains as to who will pay the premiums.

"The Council recommended to the CCA Executive Board that no amendments to proper and timely recommendations be permitted from the floor during General Sessions of the conference; however, the Executive Board did not agree with this view.

"As for legislative action during the interim since the 1968 conference, a CCA 1966 recommendation finally resulted in a twenty-five percent increase

in pay for the Council, plus pay for sub-committee meetings. Other legislation added the Chancellor of the California Community Colleges or his best qualified designee to membership on the Council. The California Community Colleges were added to Sections 3074, 3074.5 and 3093 of the Labor Code. Section 3091 was added to the law, re. prohibition of applicant fees. Section 3097 was also added to the law, providing for services of the DAS to the Department of Human Resources Development, if such services are requested by and contracted for by that department. Seven apprenticeship consultants were contracted for and gave service to DHRD service centers. Section 1777.5 relative to apprentices on public works was also added to the Labor Code—more of this later.

"DAS conducted an automotive industry drive in the summer of 1968, adding almost 400 new apprentices, or 78% of the goal. June apprenticeship months were big in both interim years: In 1968, there were 1,600 new registrations and reinstatements, and June 1969 topped all previous apprenticeship months with a total of 2,053 registrations. The biggest month in history, however, was October 1969, when 2,559 apprentices were enrolled.

"Total active apprentices at the time of the last conference was 20,766. As apprenticeship continues to rise, I can report 28,177 active apprentices as of March 31, 1970. Not only did the number of apprentices increase, but also the number of minority apprentices. The ethnic survey which our Division and the Division of Labor Statistics and Research have been conducting shows that minorities comprised 13.4% of all apprentices in 1967; rose to 15.3% in 1968, and to 17% in 1969. More significantly, the numbers of minorities rose: a total of 1,687 minority apprentices were enrolled at the end of 1967; this increased to 2,845 at 1968 year's end, and to 4,226 on December 31, 1969.

"I spoke of the legislation resulting in Labor Code Section 1777.5. It is difficult to pinpoint the reasons for the rise in apprenticeship enrollments, but it is significant to note that in the one-year period after AB 805-68 went into effect, over 5,000 more new apprentices were registered, than in the year preceding and of these, 73% were in the building trades.

"The Council held two public hearings on its rules and regulations during the interim. On January 24, 1969, they heard arguments on rules and regulations regarding the afore-mentioned Section 1777.5. A continuation of the hearing was held on April 25, on administrative code sections having to do with selection procedures. After due deliberations and study of the transcript, the Council adopted rules and regulations on these matters, which have since gone into effect and are published in Title 8, Chapter 2 of the California Administrative Code. Our Division has given wide distribution to this chapter.

"The DAS continued to monitor MDTA-OJT programs in the interim, although the promotion and development of MDTA was deleted from our functions by the U.S. Department of Labor.

"Following an opinion of the Attorney General that apprenticeship programs in correctional institutions are within the scope of the apprenticeship law, DAS stepped up its efforts in this direction, and several additional programs have been instituted. Not as much has been done as we and the Departments of Corrections and the Youth Authority would like, as this is an unfunded program.

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"DAS developed a promotional plan for apprenticeship in civil service, and under it a number of programs have been approved in state, county and municipal governments.

"Some months ago the California Supreme Court ruled that Labor Section 1850 is unconstitutional; it is, therefore, illegal to require proof of citizenship or proof of filing for citizenship as a condition for admission into apprenticeship. We duly notified all Apprenticeship Committees.

"Following receipt of a number of complaints from minority organizations as to content of application forms in use by various. JACs, the DAS at the request of the Council gathered samples of practically all application forms being used. A CAC sub-committee was appointed; they studied the forms, and then prepared a draft form which they recommended to the Council. It is a very simple form, which the Council subsequently adopted and sent to all JACs as a guideline for their consideration.

"DAS also prepared and the Council adopted a revised form which combines the apprentice agreement with the apprentice questionnaire. The combined form is much simpler and shorter than the two former ones, and has been in use since January of 1970.

"The Administrator has investigated, held hearings, and made decisions on several complaints during the interim. The Council acted on two appeals. As a result of a refusal by a Joint Apprenticeship Committee to comply with the order of the Council and following the advice of the Attorney General, the Council is now seeking legislation to provide injunctive relief to enforce its orders.

"A highly successful thirtieth anniversary meeting of the Council was held in Oakland in October 1969, with over 300 persons attending the banquet. Former Senator Thomas A. Maloney and Assemblyman John F. Shelly were the honored guests.

"Under contract with the U.S. Veterans Administration, the DAS continues to approve applications of both employers and Joint Apprenticeship Committees to train veterans in apprenticeship and other OJT. To date 27 JACs and 500 firms have been approved to train. Some 6200 veterans are receiving benefits, which Congress recently increased from a minimum of $108.00 to $135.00 a month."

Chairman Ringwood thanked Mr. Hanna for his progress report and then called on Ray Carey who read the following telegram: It is addressed to Ray Carey, Program Chairman, California Conference on Apprenticeship,

"Dear Ray:

As you know I cannot leave Sacramento today. I am very sorry to miss joining your Sixth Biennial Meeting. Nevertheless, I hope by way of this message, you will convey to those in attendance my greetings and best wishes for a highly successful conference. Sincerely, Ronald Reagan, Governor."

Chairman Ringwood then went on to appoint the Nominating Committee, most of whom are past Conference chairmen: Webb Green, Phil Melnick, Edward J. Hibbert, Charles Sanford, Bernard S. Miles, Wesley Brazier, Harry Winston and J. L. Antrim.

The first session was then adjourned in the memory of Ernest B. Kramm.

THURSDAY GENERAL SESSION

Chairman Clyde D. Ringwood opened the Thursday Morning Session with several announcements. He then introduced William C. Hern, Director of the Department of Industrial Relations and Administrator of Apprenticeship for California, and Gilbert L. Sheffield, Director of the Department of Human Resources Development. Their remarks follow and are as complete as space permits.

WILLIAM C. HERN

"Ladies and gentlemen, as Administrator of Apprenticeship for the State of California, I welcome this opportunity to address the California Conference on Apprenticeship because it gives me a chance to congratulate all of you on the tremendous job you are doing in making the apprenticeship program in our state the greatest in the nation. I also would like to use this occasion to make some predictions for the future.

"At this conference we are celebrating a 'Decade of Progress.' We are entering the Seventies with the most successful apprenticeship program the State has ever known. There are more than 28,000 apprentices today, 5,000 more than a year ago—and the numbers are growing. The Sixties were a period of great achievement for apprenticeship, and to some it may seem that apprenticeship has reached its zenith. All records have been shattered, and it may appear that the only direction we can go today is down. Nothing could be further from the truth. We are just getting started and the next ten years will be a period of even greater achievement.

"Apprenticeship is necessary to train the enormous work force that will be needed in the years ahead. When the Vietnam War ends, new priorities will be given to overcoming our nation's housing shortage, and other vital construction projects. There is no other way the needed skilled workmen can be properly trained for this task. Between now and 1978 almost 2 million new jobs will be created in the Construction Industry. New and expanded apprenticeship programs will be needed to fill this demand.

"I don't know if you are aware of how apprenticeship as we know it had its start. It began in Europe a few centuries ago. It happened like this:

"A stone mason needed a boy to help with his trade, so he contracted with a boy's family and a boy came to work for him. He placed the boy in a bin in the back of the shop and fed him scraps from his own table.

"The boy carried tools and stone and ran errands, and when the boy was not fast enough or when he did something wrong the master craftsman would beat him. Gradually the boy became stronger and more skilled and was able to take over more and more of the work. The master grew rich and fat and less inclined to work. The boy took over the running of the business while the master spent more and more time on the town drinking and reveling.

"The boy, now a man, became concerned about his master. He feared that with all the carousing the master would come to a bad end. So one night when the man came in from one of his bouts, the boy led him to the bin, shoved him inside and locked the door, saying, "Master, you have been so kind to me all these years, would I not be ungrateful if I did any less for you?"

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"Well, times have changed, and conditions of apprenticeship have changed along with them. But from this beginning has evolved the one truly successful method for training craftsmen. And it is needed today more than ever before.

"In the years ahead of us we cannot afford a shortage of skilled labor. This is the real villain that runs up the cost of construction and slows progress. We must dedicate ourselves to the job of training this work force.

"One of the problems faced by apprenticeship is one of communications. Everyone has heard of apprenticeship, but very few people, other than those who are directly involved, have a clear understanding of just what apprenticeship is and how it operates.

"To the average man on the street, apprenticeship is a training program operated by the State, at a tremendous cost, which teaches people to be carpenters, printers, brick layers, cooks, and auto mechanics.

"What very few people understand is that apprenticeship actually is about the biggest bargain going in the State Government. The cost to the taxpayer of maintaining a young man in apprenticeship is somewhere in the neighborhood of $70, which to me seems quite reasonable.

"What the public does not understand is that apprenticeship, rather than being a State function, is an operation of the private sector. It is your voluntary effort, giving of your time and knowledge, that makes apprenticeship such a bargain.

"Another area of misunderstanding concerns minorities. It has been charged that not enough opportunities exist for minorities. Actually, because of our efforts, the efforts of Labor and Management representatives on joint apprenticeship committees, the efforts of the Statewide Committee for Equal Opportunity in Apprenticeship and Training for Minority Groups—California leads the nation in opportunities for minorities in apprenticeship. In our state the percentage of minorities in apprenticeship is nearly double the national average. During March the registration of minorities in apprenticeship was nearly 20 percent.

"Apprenticeship is going through a difficult period right now. Despite its success it has not received the support it rightly deserves. But I am certain that once the public learns the true story of apprenticeship, learns what it is, and understands how vital it is to our future, apprenticeship will receive the backing it deserves.

"In these days of big government, runaway inflation, critical shortages in housing and construction, our only hope lies in programs of the private sector. This voluntary union-management program of yours receives only a minimum of government involment, which is as it should be.

"The thousands of persons working to make apprenticeship what it is, give strength to the program. What is left for us to do is to show others what apprenticeship is about and enlist their aid.

"As we enter the Seventies, we are on the threshold of a new era. When we look back on the Sixties, we see a decade filled with accomplishments. But on closer examination we realize that during that period we too faced a number of crises. In our ever changing society we found that we had to make adjustments, and this we will continue to do.

"You have good reason to be proud of the record number of apprentices. However, with the critical shortages of skilled workmen, it is readily apparent

that 28,000 apprentices are nowhere near enough to meet future demands. It is a sad fact that only half of all journeymen have the benefit of apprenticeship. We must strive to do better. Nothing would help more in slowing down inflation than more and better trained workers.

"The President of the United States, in acknowledging that apprenticeship is 'one of the best systems for training craftsmen' has called for a comprehensive study of apprenticeship programs in construction crafts with an eye toward improving and expanding apprenticeship. I think the State Legislature will do likewise.

"Along with the changes that are being considered, there are some proposals that would be harmful to apprenticeship. Among these are proposals for speeding up the training period. We must carefully evaluate this, because standards must be maintained if we are to turn out the kind of craftsmen that have made apprenticeship the great institution that it is.

"Machines today are becoming more complex. When you take your auto to be serviced, or when you call a serviceman to your home to repair an appliance, you want a man who knows what he is doing. And this kind of skill can be developed only through working side by side with a master craftsman during a full term of apprenticeship.

"I would be less than frank if I told you that apprenticeship is not facing some serious problems and is going through difficult times. Some are fearful that apprenticeship may not survive. However, I tell you that apprenticeship not only will survive, it will thrive, and it will expand, and ten years from today we will be able to celebrate apprenticeship's biggest decade."

GILBERT L. SHEFFIELD
Director, Department of
Human Resources Development

"Ladies and gentlemen, I very much do appreciate the invitation to address this gathering today because it is my basic conviction that a broader and deeper understanding of some of the aspects of what HRD, Human Resources Development, is all about is needed. And so the aspects of the hardcore unemployment problem is the first and indeed the essential step to its solution.

"Why do we want to solve it? Why should we want to solve it? It seems like a silly question, doesn't it? The answers we provided to date range from it is morally right, it is proper response by a society trying to correct the wrongs of the past, or it is our social responsibility, or it is just plain good business. I believe that all these answers are correct. But there is a much more basic reason for us to make all out war on this problem. It must be done if we plan to stop the disintegration of American civilization and that which you and I cherish and want to retain.

"Are you aware that in seven years between 1962 and 1969 the federal expenditures for health and welfare have gone from four billion to almost 52 billion? An increase of over a thousand percent. This increase has contributed to our present situation where 41c of every federal government dollar now goes to people who cannot or will not take care of themselves.

"Did you know that here in California more than 30 percent of your tax dollar is used in the expenditure of social welfare? In Sacramento County, the seat of State Government, the cost of welfare programs since 1962 has shown

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DAVID WHEATLEY

an average increase of 21% each year. The estimated increase for this year is in one county 18 and one-half million dollars. That is just the increase. Who pays for that? You know the answer to that. In Sacramento County, the burden of welfare taxes on a twenty thousand dollar home has increased from $28.00 in 1962 to $61.00 in 1969. The number of recipients has grown by 168% in the same period, while the population has increased only 14%.

"The total in other counties is equally astonishing and equally critical to the financial stability of the county, the state and this country. But I think we have to say that part of the problem starts with us here in this room. We've been fairly busy in our competitive struggle in our form of economic society. And until recently we have taken little time to look at the problems of those who are not making it. We, in the private sector, have been inclined to leave to government, the solution of this problem. But let's face it, government has become overwhelmed with the problem and has not found the solutions and has to say to you, as I am saying to you today, we need your help to solve it. We in government need your help in developing jobs for hardcore unemployed and disadvantaged, so they can fit into the productive mainstream of American lives.

"It was this challenge to our future that compelled me to leave the private sector and take this assignment with Governor Reagan, who stated recently in his welfare message to the people of California, and I would like to quote from it, 'We are a humane and generous people. We accept without reservation our obligation to help the aged and disabled and those unfortunates who through no fault of their own must depend on their fellow men. But there is no humanity or charity in destroying self reliance, dignity and self respect, the very substance of moral fiber. We are not going to perpetuate poverty by substituting a permanent dole for a paycheck. We seek reforms, which wherever possible will change relief checks to pay checks.'

"Why, it is asked often of us, are there so many disadvantaged people unemployed even in this prosperous economy? What is it that prevents them from working? What are the remedies needed for their complex problems? I submit to you that these are some of the most urgent questions of our time. For such unemployment with its many and varied side effects, seriously erodes our common human values and imposes a critical threat to our social stability.

"Of all those twenty million persons now living in California, 11% are currently receiving some type of welfare benefits. One point seven million people (1.7) out of a population of 19.6 million, or more than one person in every ten. So you ask who are these people who are on welfare and why, and what can we do about it. About one-third of the people on the welfare rolls or five hundred and sixty eight thousand (568,000) are aged, blind or disabled and essentially, except for some exceptions, out of the labor market.

"The other two-thirds is made of families that fall into two classifications, families with fathers and families without fathers. The average family is made up of three children. In families where there is no father, in some cases the mother can be employable. In families with fathers, in most cases the father can be employable. Thus, of the total of 1.7 million people receiving some kind of welfare payment, 741,000 are children and 313,000 are heads of households of these families. So if we could take the 313,000 fathers and mothers and add in their family units—let's say 150,000 of the 313,000 heads of households, you get a tremendous multiplier effect that I am sure you can see in terms of the number of people, the number of family units that you can take off welfare. You can virtually reduce welfare costs in half if you can employ just half of the people who are heads of households in the AFDC caseload. That is where you and the Department of Human Resources Development comes in.

"We united in one organization the money and the responsibility to do something constructive and permanent about our hardcore unemployed. That is our aim; to seek out the disadvantaged, to arrange for them the education and training opportunities that they need to join the rest of us in the mainstream of the working force of our state.

"One of our objectives then, is to develop and to sponsor various kinds of training programs that will provide the economically disadvantaged persons with marketable skills and knowledge. Let me emphasize clearly a point here. In all of our policy and program changes, and all of our developmental work, we first believe we need to tap the brains of the people like yourself in the private sector. We do not believe that even with the good brain trust in government that we have all of the answers. We do look constantly for the creativity in the men and women in the labor sector, in the private sector and the industrial sector.

"How can organized labor help in reducing the welfare rolls in placing the hardcore unemployed on payrolls. First, there is no doubt you can help because we have seen some of it and because basically you and I know from history and from our own experiences that many of the great social advances in this nation have been in fact achieved through the efforts of organized labor. I am convinced that you as a work force and those that you represent and our nation and our state would benefit materially if we could all make a more aggressive attack on placing the unemployed.

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"I think we can remind ourselves of what I mentioned in the beginning, that certainly you people, we in the government and the people that you represent and know, are becoming increasingly concerned about the rise in taxes. History has taught us a lesson that we ought to listen to and heed at this point in time. It has told us that civilizations begin to disintegrate when taxes reach thirty-five percent of income. We are now at thirty-seven percent. Certainly no society can long endure with one segment of this population supporting the increasing demands of the rest. Our social system depends for its survival on the productivity of the able bodied. We in HRD organize the state's effort to carry that trend by making our services more responsive to individual needs and thus more effective. We believe that we can with your help train, counsel, motivate, and put individuals into the mainstream of American lives. We recognize that there are stored-up costs and expenses. There are stored-up problems. You have all seen it and experienced it and know about the problems that have to be solved. That we are saying together that these problems on a one for one basis have to be overcome. They have to be resolved.

"We think that there are really only two alternatives for us: one is to continue what is happening now, an increase in welfare costs, an increase in welfare rolls, or the other alternative is to all go together to try to turn the corner and to try to turn that situation around. This objective is consistent with what organized labor also wants to achieve. To support my personal belief, I would like to quote from the words of George Meany. He says, 'Frequently you hear people ask, what does labor want, what is labor looking for? The most direct answers to such questions can be summed up in one word. **More.** But we want more, not only for ourselves, but for all Americans, for the farmers and the business men as well as for wage earners. When we fight for a higher standard of living, we are helping all workers, not only the union members. We are also helping employers and farmers who must depend upon the high purchasing power of city workers to buy their products. When we campaign for legislation to build better schools, to erase slums, to broaden and improve social security and to provide national health insurance, every American family, not only the families of union members stand to benefit.' If you agree with me, with these words, and I am sure many of you would, then you also must agree that it is vital that we do whatever we can to help the hardcore enter the mainstream of American life.

"To my final point, I am sure that you have all heard about the story of the man who passed a construction project and asked one of the workers what he was doing. One worker said I am laying bricks. He asked another worker who said he was building a great cathedral. Naturally, the next day one of the workers was fired. It was the worker who said he was building a great cathedral. He was supposed to be building a delicatessen. There is always somebody who doesn't get the word. I am trying to say to you, it is so important that we pass the word. It is so important that we talk more about this not just amongst ourselves but amongst others who can contribute to it.

"If you are interested in getting more of the word, if you are interested in finding out where we can get more of the word, I invite you to call me directly in Sacramento, to write me, to call or contact anyone of our HRD centers throughout the state, to give you more details on what we are doing and how we believe you can become more involved in our efforts.

"Let there be no misunderstanding as to my point of view. I firmly believe that the challenge of the Seventies is not how many men we can place on the moon, but rather how many men we can place on their feet. That is the development of our human resources. I think the need, the challenge, the message is clear to all of us. I think that each and everyone of us has to at a grass roots, local, community level become involved in this particular project and this particular problem that direly needs solution, and to think hard about how our whole society can be made to work better. I do not believe that we can afford to fail, so I deeply ask for your help. Thank you."

After Mr. Sheffield's address and prior to the open forum discussion, Chairman Clyde D. Ringwood introduced a special speaker, David Ernest Wheatley from London, England. Mr. Wheatley is Director of Further Education and Training, City and Guilds of London Institute. Excerpts of his remarks follow:

DAVID WHEATLEY

"Mr. Chairman, ladies and gentlemen. It is a great honor and a privilege for me to be invited to address this audience. It is an invitation that I was very happy to accept because although I have been with you a very short time, I recognize your enthusiasm for, and dedication to education and training. The feelings of my own organization is wholly with you in the effort to improve the training, education and qualifications of the young who go into industry and make it all work.

"I am here on a scholarship from the English Speaking Union, to spend a month in the United States to learn what you are doing about apprenticeship, trade and education. You know it is a vast country, I am just beginning to appreciate how vast it is. I took very great care before I came to find out where would the best places be, that I should go to. And it was quite remarkable, everyone said, and I heard it from the highest authorities—you must go to California. You will find in California, two things that are better developed than anywhere else in the United States. One is the Community College system, which is doing such fine work in vocation and technical education and secondly the apprenticeship system is more comprehensively developed and more actively pursued in California than anywhere else. That is why I am here. I have been asked to say a few words about what is going on in the field of apprenticeship in the United Kingdom.

"Well, our apprenticeship system goes back very, very many years, but for a long time it was pretty stagnant. Right now it is in a period of a transition, one might almost say revolution. The reason for this change is that we passed in 1964 an industrial training act. The act is really a determination by the country to do something about training because all voluntary methods and exhortation in the past led to a lot of paper and very little action. We now have 30 industrial training boards, which pretty well cover the whole of our production industry, transport, distribution, finance, banking, etc. Each of these boards is appointed by the government. The members are about 45% straight unionist, 45% employers and the other 10% come from education and that kind of area.

"So you see that it is predominantly for industry, run by industry, but with government backing and government compulsion. If they do not do their job, the Secretary of State can fire them and appoint a new board.

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"Their task can be summed up in three phrases: They must generate more training. They must promote better training and they must spread the cost of training more evenly between the firms who do and the firms who don't. And to achieve these three objectives, they have various mechanisms. The first thing they must do is to impose a financial levy on every firm which is in the scope of the particular board. These levies generally range from about 1% of the payroll to 2½% of the payroll, the firm's total payroll from shorthand typist to messenger boy to the manager. The metal trades industry, the engineering industry training board levy 2½% of payroll. That brought 85 million pounds last year which is quite a bit of money. The total amount levied by all the boards last year was something like 500 million dollars. Many of the boards are not really getting to that stage because it takes two or three years before a levy system can be properly organized. So you see the operation is considerable. What happens to this money? A very small proportion is kept by the board to run itself and pay its staff, etc. Well over 90% is redistributed by the board to firms which do a sufficient quantity of training to the standards and to the characteristics required by the boards. This is a very powerful incentive. The boards also prepare training recommendations. These are most competently prepared documents by professional training staff aided by advisory committees of the kind of which you are familiar, based on quite exhaustive analyses of the jobs that people do. How surprising it is to find when you really look at what people do, how diffenent it is from the old stories of what the job comprised. How frequently the scope has a different balance than what was thought and how frequently different jobs thought to be separate show that they have a very largely common element. But the training recommendations are based on these very factual analyses of what people do. The recommendations not only indicate the training objectives but what the training program goes through.

"The trainee must be able to do this operation to a given standard in a given time. They include very often performance tests through the course of the program, so that a trainee going through it satisfactorily is pretty well automatically qualified and competent in the task that he has to do and these informations, these services, these facilities are all devised by the professional staff of the board and their advisory committees. The boards also provide advisory services both from headquarters, mostly in London, and they have a field force of training advisers who help firms new to training how to evaluate their own training need, how to prepare a training program, how to implement it and so far as some firms are concerned how to get the maximum grant back from the training board. The emphasis is swinging from getting the large grant to getting the best training because it is widely recognized that it pays off in all sorts of ways, financial and other.

"Now everything I have said so far applies not only to apprentices and skilled crafts but to semi-skilled workers, supervisors, managers, technicians, professional engineers, scientists, etc. The whole spectrum of employment is covered by these boards. What I am going to say from now on, applies only to apprenticeships for the skilled crafts that you are interested in. I must produce a sort of digest, because individual boards operate individually as there are differences in their programs.

"There has been a very pronounced swing to providing full time off-the-job training facilities where trainers who are skilled and trained in training, conduct apprentices through carefully devised programs with proper

facilities. These full time off-the-job training programs are very broadly based. The scope of the work done by an apprentice, say in a metal trade, is very much broader than it used to be. The mechanical fitter does some electrical work. The machinist will do some fitting and welding, some sheetmetal work, etc. This is an important characteristic for the broad foundation is wider than it ever was before. Now we are finding that to put apprentices in that kind of situation, the good facilities, good trainers, and a good program, that in one year they reach the standard that previously was reached after two and one-half years.

"Now taking the foundation course full time off-the-job training and two of the units is recognized to give the standard and scope of training that a metal working craftsman requires. And this would normally take three years. Note that it used to take five. But note also, that the trainee goes through the program and he is trained when he has finished it. He doesn't have to wait until some magic date when he is twenty-one, gets the key of the door and he is a skilled craftsman, whether he idled his time away or worked really hard.

"Now this, of course, has industrial relations problems. What rate of pay will he get? Now we are just coming to these, because the trainees are just coming off the end of the production line. All parties concerned are taking the most constructive and positive approach to this. Already there are agreements emerging that show that when a man can do the job, he gets the rate. In fact, present position in the metal working trades is that the apprentice will get the full rate a year earlier than before, which is a year after he first has passed through the training program.

"Now there has developed out of all this activity a core of professional training officers, young teams tentatively training themselves, who get a technical qualification in their own industry. They have their own professional institution, the Institution of Training Officers. Public Education Service is providing training courses for them. There are some also in the Universities. And there is moving up a body of knowledge and information in expertise which is really making a considerable impact on all of our thinking and our work in this area.

"Parallel to these developments on the training side, the public education, service in my organization, is reconstructing the related instruction, the related educational courses. Most of these apprentices go for one day per week paid by their employers, who get their wages refunded by training board and each year they do something like 300 to 350 hours of this related instruction. As soon as the technical content of the courses change, obviously the technical content of the related instruction must change. We are busily engaged in doing this so that the educational and the training program fit together like a dove tail.

"The last few have been very exciting years. A great deal has been achieved, but there is much left to be done. I don't need to emphasize to an experienced audience like this that training is on a long time basis. It has been a real inspiration to be with you and a great pleasure to meet so many friends. I have been in America only a short time, but it is quite surprising how many people I look upon as my friends. I might wish you, Mr. Chairman, you and the Conference and the cause, all the success it so richfully deserves.

"Mr. Sheffield was so right, there is no more worthwhile investment than investment in people."

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PAUL GREENWOOD AND CLYDE D. RINGWOOD

A plaque honoring his years of service to the Conference was presented to Chairman Ringwood at the Banquet by Master of Ceremonies Paul Greenwood.

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FORUM—APPRENTICESHIP IN CHANGING TIME

CHARLES H. HUNT

GEORGE W. SMITH

CHARLES H. HUNT
Controller, Greater Los Angeles Urban League

"We have made progress in apprenticeship, especially in the field of equal opportunities. As we deliberate the next few days, I would like to urge labor and management to consider seriously the progress that we have made. Where are we now? Where are we going in apprenticeship in the future? I personally know of the good works and the affirmative actions of many committees, and we must not let a few negative diehard attitudes project an image of apprenticeship that paints all apprenticeship with the same brush. California has the most progressive apprenticeship council in the nation.

"The elimination of racism and racist attitudes in apprenticeship is one of our goals that we must accomplish if we are to meet the challenge of the future. I am confident that labor and management and community organizations working together can solve these problems in apprenticeship, and that California will remain the leader in the field of apprenticeship.

"I feel confident that you are just as sincere and dedicated in helping to see that all citizens enjoy all of the privileges of our great nation as you are in maintaining your fine apprenticeship programs."

GEORGE SMITH
Deputy Director, Department of Industrial Relations

"As a labor person in government I can bring to the Department of Industrial Relations some of the knowledge that I have accrued in apprenticeship, which I hope, in cooperation with you, will help move California forward. Now, as I said criticism is deserved, but we can't discuss the place we are today and where we are heading, without looking back. It is only ten years ago that we started this Biennial Conference on Apprenticeship

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and what have we done? How much of this criticism is deserved? Well, there are fifty states in our nation, and California trains better than one-twentieth of apprentices in our country. Many federal programs have been adopted and many of the programs adopted by other states have been those that we here in this room and those who have been in this room in years past at these conferences have initiated.

"We have gone ahead with the first Equal Employment Opportunity in Apprenticeship Committee in the nation, here in California. It started at the first biennial conference on apprenticeship, and I am proud that Al Gruhn is here with us today. He was one of those who initiated the recommendation that such a committee be formed. Webb Green, from the IBEW was the first chairman of that conference. There were many others who served for a long period of time. The information center program started in California. It provided for the first time a central place where a person could come and get all the information that applied to apprenticeship programs that were available. And today these programs are something that have been adopted by thirty other states.

"We also have Apprenticeship Information Guides where different trades are listed, telling you about the program and on the back what the requirements are. I think it is one of the most important things ever produced in apprenticeship. I am proud that California initiated it. California initiated the first law for enforcing equal employment opportunity. The first public information office. The first Public Information Officer in Apprenticeship was a Negro in California. It was many years ago, after the first biennial conference that the standards for apprenticeship consultant were modified so that minority applicants could come into state service. I say that what we have done in California has been a model for the nation.

"Where do we go from here? At the beginning of the last decade it was illegal to make surveys of numbers of minority apprentices. It was against the law to even have such records, if you remember. There was a survey made when it became permissable by a quirk in the law to review ethnic derivation of journeymen. A survey of completed apprentices showed we had one point eight percent (1.8%) Negro participation a decade ago.

"You have the figures this morning that show almost 7½% Negro participation as we enter the first quarter of 1970. I think that indicates that California has got the know-how to move ahead and is moving ahead. I think too, that I would recommend to those who go around the country speaking and talking about the Philadelphia Plan, the Chicago Plan, the Seattle Plan and whatever plans that they want to submit that they remember one thing, that we have a California Plan that has been very successful. I think that the first thing a person coming to California, to tell us how we should have a program, to tell us bring minorities into apprenticeship, should consult with our Division of Apprenticeship Standards. I think we have people available here who have decades of service in this field and work with the people in labor and management, and have put programs together. After a man has been told there is training available, the training has been provided, and when the man has entered the program he has got employment to complete the training, which is the best in the world.

"With labor-management working together through the DAS, I think we

in California can continue a program that is a model for the nation. And there is the expertise in this room to form the task force that might be established to create such a program. So briefly, but how can you be brief on a subject this, we have come a long way from one point eight percent (1.8%) Negro participation to almost 7½% in one decade. We lead the nation in the number of apprentices trained. We lead the nation in the skills provided these apprentices and we are off to a good start to enter the seventies in view of even a better job."

HENRY HENNEBERG
General Manager,
Printing Industries Ass'n., Los Angeles

"We are here to provoke your thinking. To bind a person to a lengthy progress restricted training program of apprenticeship is becoming more unrealistic with every technological change. The slow start at non-productive work at the beginning of an apprenticeship must be eliminated. Slow training thereafter must be changed and expedited to eliminate boredom. This morning, Mr. Hern said in effect, that we should be opposed to expedition. I challenge that. I believe in it, but I am not going to quarrel with him personally other than to suggest that it is a good idea.

"The tradition of craftsmenship is changing. Apprenticeship is unknown in many, many of the new fields that are coming into being. Apprenticeship, therefore, is living in the area of a tradition. The ambitious individual looks at apprenticeship as we ourselves are criticising it and he hears remarks that indicate to him that he might better go somewhere where there aren't such tethers, such restrictions; even though formal stable restrictions are good under certain circumstances they frighten people away in my opinion. Unions and employers alike, in my opinion, can be indicted for some of the restrictions that exist.

"When a man has an organization made up of his brothers, he is going to be very careful to see who the new brother is who comes in. That is one of the traditions we are trying to overcome. When we have an administration as we have in our state looking at a budget problem, they are looking at us and some of our weaknesses and as a young commissioner, I probably shouldn't speak so candidly, but I might not be a commissioner long if things go the way they appear they might in terms of ending the commission and the whole program. But they are looking at ways to possibly take away some of the costs that they don't fully appreciate, then we must appear with a better image, so that: number one, the people that can get into the industry that has an apprenticeship program will want to because it is attractive and expeditious to the optimum level of earning. Number two, so the people who are taxing us as an administration can appreciate that it does only cost about $70 or $80 a year to do what we are doing with these individuals, where with some of the programs that have come from the East cost three and four and five thousand dollars per trainee. I think the private sector has a major gamble here. They must take it up or settle for some tax load such as we heard about just this morning.

"As I was a student in economics, I remember that the limit was 33%; now it is 35%. If this is a fact, we have a lot to do to keep our kind of apprenticeship program going with this better image, with quicker and better results and fewer of the impediments that we have been experiencing that

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HAL SHEAN
Grand Lodge Representative, International Ass'n. of Machinists and Aerospace Workers, Long Beach

"I think perhaps I should say that the people that we are interested in, the apprentice in skilled trades, is not fearful of getting employment. Because no matter what this employment picture is that is coming up, I think there is always going to be a need for his services. Although sometimes maybe he is going to have his skills upgraded and change of complexion of his particular job. I want to address myself a little bit to three things.

"Number one, the youth. I do not think we are spending enough time in this particular category in getting the kind of people into the programs for the managements who direly need them in this new changing technological world. I recently participated in some meetings where we got to the kids at the right age. We got them in the seventh, eighth, ninth and tenth grades, instead of waiting until they have career days at the high schools. Then only to find out that they had made up their minds and their fathers and mothers had talked them into being doctors, lawyers, and merchants rather than taking up a vocational education, or they dropped out for plain lack of interest in school.

"We have been able to talk to these youngsters. I participated in the program in Sacramento. It was great to watch their reaction, no matter what race was represented. When you related the need of education to being an automobile mechanic, a motorcycle mechanic, a carpenter, a machinist, all of a sudden the kids' eyes are opened up. He sees a goal ahead that he can accomplish and do those things that he wants to do.

"I think we, as a group, should start to do more of this work. I think we should in these changing times let the kids know what they can expect and what the goals are. Perhaps we should use an entirely different type of motion picture in the educational system. I don't mean motion pictures that are made by older people like us. We should attune it to the kids who are involved, so that they understand. Maybe we might have a rock and roll band in the background.

"That brings their attention to accomplishing the goals that we are trying to get them to accomplish. A lot of the girls want to be automobile mechanics. They are interested and they want to work. This is something you are going to faced with in these changing times. Women are coming into the field; they are going to be our electronic technicians. They are going to be automobile mechanics. They are going to be in a lot of our fields. God bless them; may they do a good job when they get there.

"But once we get these young people into our current programs, are we doing our job there very well? A lot of the spots I have looked into and at the equipment that they were working on. You can't teach a man to handle the present day automobile and have him working on a Model A Ford engine in the classroom. You can't have them on an old-time lathe and expect them to go in and work on the numericals. So management is going to have to update training and update the curriculum.

"Our great teachers are our journeymen. But how many of our journeymen have been exposed to our new technologies? How many have been trained, so that they in turn can train the kids. This is another matter of concern.

"We have been a target, instead of being on a pedestal for having created all these new things in this new technological area. We ourselves designed most of these new things that have made a change in our way of life.

"The machinist has made a little change from a time-honored position where we have always maintained a four year apprenticeship and above. We have recognized that changes are needed, and in two categories we have changed to a three year program in railroad machinists and in the airline machinists. One of the reasons we are doing this is to train specifically for jobs that actually exist. Too much training goes on for jobs that do not exist.

"We do feel that more upgrade training of our journeymen is needed. Perhaps we should get some correspondence schools going under the auspices of the JAC for the guy that is out. Of the government I can only say one thing. The elected officials are going to have to get some guts and stand up when the kind of attacks that are being made on our students are being made by people who do not understand why you have to spend money for apprenticeship, why you have to train skills. I think it is incumbent upon us, management and labor, to get to our politicians so that they in turn can take a firm stand and educate the citizenry on the needfullness if this nation is going to keep itself in the kind of a leadership position it is."

JACK BLACKBURN
Coordinator, Institute of Industrial Relations,
University of California at Los Angeles

"I would like to just read briefly from a recent issue of the Daily Labor Reports. I think it underlies most of the problems, at least a major portion of the problems with the apprenticeship programs in this country today. That is an effort to bring into apprenticeship training programs more minorities. I think that is probably the guts of the biggest part of the problem.

"In addition, there is the question of costs in the state of California, and we are getting at it on a cost benefit analysis situation, but I am not sure that is the real problem. If we were all pushing in the same direction, I am not sure that the money problem would be as big as we look at it right now.

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Metal Lathers Union to bring more blacks into the apprenticeship program and here is what has come out of the program itself. An important segment of the agreement are provisions made for bringing non-white apprentices into the trade, so that they acquire membership in the union and journeyman status after a period of training. Another segment of the agreement provides for equal employment opportunity and specifies that union rules and procedures shall abide equally to all workmen and shall afford to Negro workmen employment opportunities equal to those afforded to other workmen. All are to be treated on a non-discriminatory basis.

"One of the standout features is a provision for appointment of an administrator by the federal court whose job is to take whatever action he deems necessary to implement the agreement, to insure its performance and to remedy any breach in the pact. He may decide disputes and complaints. His decision shall be in writing and shall be final. But he is given no authority to amend, modify or change the substance in terms of the agreement. The agreement sets its terms at three years and so long thereafter as the court deems necessary.

"You here really are authorities in the field of apprenticeship training, and I think collectively there is probably as much knowledge on that subject in this room as you will find anywhere in the country. You know that if we don't take care of our problems internally, people from other places who are amateurs in the field are going to see that it gets taken care of one way or another. I really feel this is what we are faced with. Either we come to grips with the problems as we see them and try to make corrections and they are being made by experts, or our amateurs are going to take over the task."

WILLIAM A. DUVAL
Director of Apprenticeship, Brotherhood of Painters and Allied Trades, Washington, D.C.

"Apprenticeship within the changing times is a good topic and it certainly appears to be a widely discussed topic. There is no doubt that times are certainly changing; perhaps at this conference it is a good time for us to take stock and examine apprenticeship as a whole to see if it really is changing in relation to the rest of the changes in the country. I think that we must all agree that for many years we have not been turning out the number of trained mechanics through apprenticeship that we should have or even that we could have.

"I think that back door entrances to our trades have allowed some unknowledgeable people to conclude that apprenticeship can easily be circumvented if not entirely eliminated. As an example: recently a Cabinet Member was credited with saying, I quote: 'It is ridiculous to take more than six months to train a skilled construction worker.' He was supposed to be a general contractor before becoming a Cabinet Member. People with these ideas make our task particularly tough when we are being shot down by others who are allegedly out of our industries. I believe that we here as responsible people in apprenticeship must ourselves come up with recommended cures.

"There are many people trying to do our jobs for us. I will have to say in all honesty that many of them are very dedicated people. They are just slightly misled. Now we all know the reasons that we have not been able to

WILLIAM A. DUVAL

MORRIS SKINNER

expand our apprenticeship programs as we would have liked to in the past. We have competition from the white collar worker jobs, we have seasonality in construction, we have the alleged loss of money by the first employer of an apprentice. We have misguided or unknowledgeable counselling in our schools.

"Then there is the problem with poor public relations. Again some of this can be placed with the schools. It doesn't sound like much but when your little second, third and fourth grader bring primary books home, do you ever see the hero or the father of the story being depicted as a craftsman? It never happens. And yet, I think that this is a big segment of the society in this country. I think that all of these things are correctable and I think that somehow we must see that they get corrected.

"At a recent meeting in Washington, D.C., there was a group of us who were told that President Nixon had mandated the department of HEW to come up with new and innovated ideas in vocational education. The government was going to put in the neighborhood of one and one-half billion dollars into this program which would be matched on state level by 6 or 7 to one formula. This could end up with a tremendous program of perhaps ten billion dollars.

"Since we have all this money to spend it would seem to me that one of the things it could be spent on would be to reprint some of our primary books; show some of our kids in the primary grades in school pictures of craftsmen at work in these books.

"Why couldn't school counsellors be given construction-job experience during the summer months? Let them go out and work with people right in

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the field and be granted credits toward a higher degree similar to what they get when they go on some of these extended tours in Europe. It would be getting first hand knowledge of probably the largest potential of employers in the world, the construction trades. Likewise some out-dated shop classes would be replaced with programs such as that which has been instituted in Ohio. There they have exposure to industry and construction by the use of films and demonstrations. Everybody in the school is exposed to the construction industry and to various other industries of the country.

"I think too that if such basic things as tool identification and how to read a ruler were taught in the schools that we could maybe devote more of the time from related instruction classes to more pertinent topics. Possibly then, we could shorten our apprenticeship programs. This certainly is something that we are constantly being criticized for not doing.

"Higher education is supposed to be devoted to fit students in necessary slots in society and this shouldn't be limited to the professions alone. I don't see why schools should underwrite to a greater extent the professions as opposed to the manual trades. The problem of seasonality certainly can be solved by a government with the technical knowledge that can place men on the moon.

"But these are things that the government can do. I think for our part that we could set up journeymen classes to keep our people abreast of the latest methods and materials. We could also do what is probably the most important thing and this is to deter unqualified people coming into our trades. I think we should overcome the first employer reluctance to hire apprentices by making them immediately productive by establishing apprentice entry vestibule training classes. These would be similar to what a lot of us have already developed through our manpower programs conducted through MDTA and through the Job Corps.

"We can speed the opportunity story through youth-oriented organizations. I don't see a thing in the world wrong with publicizing apprenticeship through such agencies as the Boy Scouts, Big Brothers of America, the Boys' Club and others. Let them know that we are more than interested in getting their kind of people into the construction industry. The Internationals just recently established a program which we call LYFE which stands for Labor, Youth, Fitness and Employment program and in which we are doing just exactly this. We are working nationally with the youth-serving organizations to try and interest them in the construction industry and hopefully with emphasis on the painting and decorating industry.

"While these directions are only a start, I think that they are the direction we in apprenticeship should be advocating. I think that after we decide what we want to do then we should get off the dime and do it. In my opinion, these must be the solutions to making jobs and opening more opportunities in this country, rather than the restricted legislation and apprenticeship budget cuts that we hear about.

"My problem throughout the nation is recruitment. I believe that somehow this information has to be given to youth on a massive scale.

"In closing I would only like to say that we are progressing. I think apprenticeship has been on the firing line as long as I can remember. We have always managed to pull through. While we welcome more help and advice, we do not welcome suggestions such as replacement of the apprenticeship system."

MORRIS E. SKINNER
Regional Director, Bureau of
Apprenticeship and Training, U.S.D.L.

"It's good to be here today, and particularly good to have the opportunity to participate as a member of this distinguished panel on a subject as timely as 'Apprenticeship Within the Changing Times.'

"Apprenticeship as a system of training has experienced many changes during the last decade, and based on all indications, will certainly be subjected to changes during the 1970s.

"First of all, on a personal note, there has been some doubt and many rumors with reference to the continuation of the Bureau of Apprenticeship and Training as a separate entity under the Manpower Administration. I am pleased to report that at this particular reading there is no change anticipated with regard to the Bureau of Apprenticeship and Training. The Bureau will remain as it is, with full Bureau status, under the present Manpower organizational structure, I mention this merely to emphasize 'These Changing Times.'

"Changes are hard to accept, and often difficult to implement, particularly where change may affect long-established traditions. Changes are accomplished by cause and effect—and today more than in any other time in our history, the cause is real and the effects apparent.

"To bring to focus changes directly related to our apprenticeship system, the President, in his statement of March 17, 1970, spelled out a total reappraisal of training in the construction industry that establishes a cause and directs attention to change in the total manpower programs. He states that:

> 'Between now and 1978, almost 2 million new jobs will be created in the construction industry. The normal operation of the labor market will supply many of these workers, but new training and apprentice programs will be required, and access to the skilled labor market must be eased to meet heavy demands in the 1970s.
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> 'Training and apprentice programs also must be developed to take advantage of technological opportunities in the home building industry. The nature of skills required may be modified by shifting part of the production and assembly of housing units to off-site industrial plants. It is significant that 400,000 mobile homes were produced last year—that industry is strong while traditional housing is depressed. There is clearly a demand for the kind of housing that new, low-cost porduction techniques could bring.'

"Does this indicate change in our present apprenticeship administration? It certainly presents areas to explore—are current work processes, wage rates and employment conditions geared to off-site industrial training? Are JACs prepared to make the necessary modifications and adjustments to "develop and take advantage of technological opportunities in the home building industry?'

"The President has directed the Secretary of Labor to:

> 'Undertake a comprehensive study of apprenticeship programs in the construction crafts during the next six months and to recommend to him by October 1, 1970, to what extent and in what ways apprenticeship

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No doubt the final results of such a comprehensive study will cause changes in our present apprenticeship system. The kinds of change should be determined by the input of industry in constructive suggestions for improvement and expansion. The subject of, 'to what extent and in what ways can apprenticeship training be improved and expanded?', should be an agenda item of every Joint Apprenticeship Committee in California, with an intent to devise and develop workable methods to expand individual programs.

"To use the talents and skills of returning veterans, he proposes a special training program in construction skills, and has directed the Secretaries of Defense, H.E.W. and Labor to provide for such training during the final months of enlistments, anticipating a program of sufficient scope to enroll over 50,000 trainees during the next two years. The President urges unions and employers to participate as fully as possible in the planning and implementation of this program to insure that veterans will be accepted for available employment at a level commensurate with the skills attained. Returning veterans have always been a welcome candidate to a Joint Apprenticeship Committee, but are our established methods of accommodating returning veterans current with today's demands? Perhaps we should evaluate our existing selection procedures and methods of allowable credit to assure that veterans are placed at a level commensurate with their skills. Also, the Joint Committees would do well to coordinate training activities directly with the local or area Transition Programs.

"The President also states:

'Apprenticeship is one of the best systems for training craftsmen. While there are wide variations among trades, less than half of construction journeymen have received their training through apprenticeship programs.'

'While the apprenticeship system provides well-trained craftsmen, its potential is limited now to young people with strong educational backgrounds. To expand opportunity for other workers, apprenticeship needs to be supplemented with different types of training for construction crafts.'

"He refers specifically to the recent agreement with the U.A. to train 500 members of the minority groups as journeyman fitters, and encourage this type of training for all branches of the construction industry.

"Expansion of journeyman training of this type can be anticipated to assure employment opportunities for those who seek opportunity to obtain journeyman status.

"Equal employment opportunity will continue to be a prime objective and responsibility of the Joint Apprenticeship Committees. In fact, the President has directed the heads of all Government Agencies to include a clause in construction contracts that will require the employment of apprentices or trainees on subject projects, and that 25% of the apprentices or trainees will be in their first year of training. The number of apprentices employed shall be the maximum permitted in accordance with established ratios.

"Does this sound like change? Perhaps not too much in California, with Section 1777.5 of the Labor Code, but this directs all heads of agencies with reference to Federal Public Works, which is a change—and a good one. Change will continue in all areas of equal employment opportunities, with particular attention on the development of area-wide, multi-party agreements for increasing opportunity for minority groups in higher skilled construction trades. Los Angeles and San Francisco are two of the nineteen major cities where O.F.C.C., as a part of the Construction Task Force, will be working with Labor, Management and the community to effect and develop 'hometown' solutions to the need for hiring minorities.

"The President also has directed all Federal Agencies and Departments to review their programs to assure compliance with Executive Order 11246, and has specifically directed the Secretary of Labor 'to review and propose revisions as appropriate of Federal regulations governing equal employment opportunity in apprenticeship programs.' and to report by July 1 of each year on program to insure that equal employment opportunity exists in direct and assisted construction projects.

"The key regulation governing apprenticeship programs is Title 29, CFR, Part 30, which is now an integral part of the apprenticeship system and an administrative responsibility. the Joint Apprenticeship Committees.

"Based on these few excerpts from the President, the direction for changes in Apprenticeship is clearly defined. Policies and procedures to effect these changes are being developed. Implementation will require progressive thinking if we are to keep apprenticeship in pace with the demands of changing times."

RICHARD S. NELSON
Chief, Bureau of Industrial Education, Sacramento

"It is certainly my pleasure to represent in what I call this partnership arrangement for apprenticeship, that aspect of formal education involved in related instruction. I think I would be remise if I did not indicate to you the concern and interest on the part of the State Board of Education and the Board of Governors, for the Community Colleges as they perform their mandated responsibility to help in the education and training of our apprentices in our California program. I indicated these as a partnership because sometimes both of us in education are taking some raps, that perhaps are not really directed correctly toward the phase of education that some of us represent as we work as a partner with labor and management in the apprenticeship program in our total vocational education program and the journeymenship-type programs that are currently being offered by your public schools, whether they be in a high school district or the community college or in an adult school. So we are happy to be a member of this partnership and I am very pleased to be able to represent a segment of the public schools on the California Apprenticeship Council.

"There are several things I thought I might share with you that would be of interest as you approach your discussions this week about apprenticeship. Particularly, as I think of those of you who are primarily responsible for the program; these changing times and frustrations that you see yourselves faced with; as our economy is changing, our clientele is changing, our technology is

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changing, perhaps as our management is changing. You, as members of Joint Apprenticeship Committees, are the ones that are adopting and giving directions to these changes as they affect people.

"We in vocational education have a function to serve with public dollars for your program. You may not know that the vocational educational program in California is a 150 million dollar-a-year business. This is the amount of tax dollars that are being expended in California for vocational education. This is serving about a million people who may be in a high school, a community college, or in an adult school. These are people who are preparing to enter into employment or upgrading skills that will keep them in a job or providing that related instruction which is mandated them in a job or providing that related instruction which is mandated by the Shelley-Maloney Act for indentured apprentices. Our tax dollars come back to California through the Vocational Education Act of 1968. Last year we received about 25 million dollars. This really isn't a lot when we consider we expended about 25 dollars per individual in the State of California from these funds.

"You are more familiar than I in the exact numbers of apprentices that we are now serving. Certainly the program is larger than it has been before. Last year we made available to the apprenticeship program through the public schools over 2 million dollars to support either the payment of teachers of the related instruction classes, those individuals who are acting as coordinators or supervisors in the schools working with you and your committees, or in the development of the instructional materials.

"What we see here then identifies the three major functions that we in education have in providing qualified teachers, and supervisors and making instructional materials available. This amounts to about $80 an apprentice, so you see public education is making a small contribution to the apprenticeship program.

"We are continuing and you will see an expansion of our pre-employment programs in our public schools. There also is an expansion in what we might call our post-employment or our upgrading or our retraining of those skills that are needed for a person to continue on his job. We are conducting in a very respectable rate the amount of related instruction that is available to large percentages of the apprentices in California. Vocational education in California does not function without advisory committees or steering committees of which you are members. You are well aware of our state education advisory committees and local education advisory committees as participating in the state joint apprenticeship committees and in the local joint apprenticeship committees.

"During these changing times, I have a feeling that there might well be some membership of youth on our advisory committees. I have a feeling that every state educational advisory committee should in fact have an apprentice as a member of that committee. I'm not so sure that it would not be wise for local educational advisory committees to have a student as a member of that advisory committee. I am sure we would not want that person to be a voting member. But would it not add something to decision making, planning and perhaps a needed zest into our advisory activities?

"I also would like to thank you all very much. Thank you as members of labor, as members of management and government agencies. Thank you for acting as members of the advisory committees to our vocational educational programs in the public schools.

"We thank you for assisting in the development of instruction materials. Because without the help, the expertise that you and the members of your organization have, we would not be able to provide to the apprentices the kinds of related instruction materials that are absolutely necessary if we are going to provide the kinds of knowledge and skills and opportunity for the young people that are entering into our apprenticeship program.

"We thank you for acting as members of subcommittees who helped the schools revise their curriculum. We are not happy with all the curriculums that are now in the schools, but we as the establishment being the educator are not the ones who can do this by ourselves. We thank you for helping in the revising of these curriculums.

"We thank you for teaching the apprenticeship classes, for teaching in the trade classes, for coming in as volunteer workers with the classes and in the instructional process. We thank you for teaching the journeymen classes, the welding, the upgrading classes; without this, the program would not be effective. I think there are a few in this room who do not know that one of the prime requirements for teaching an apprenticeable class or a class where a journeymen is, that the individual be occupationally competent in the area that he or she is going to teach.

"We thank you for support of our growing youth organization, the Vocational Industrial Clubs of America. In our high schools and in our community colleges young men and women who are preparing themselves for employment in the world of work are now having an opportunity of belonging to a youth organization that gives them an opportunity to know more about government, to exercise some leadership, to exhibit some of their skills in contests and to know what it is to visit a joint apprenticeship committee. They learn to understand organized labor, and to know a little bit about the eonomics of our society. These are some of the things that are being done through the youth organization. We thank you for your understanding of the dollar squeeze in education. We thank you for your support of vocational education as a vital function of our total educational program which serves the working man. It is that one part of our public educational system that makes it possible for individuals to prepare themselves so that they have a salable skill for an employer who is looking for that particular skill.

"In closing, we are a service agency. We exist to provide a service to this group, to labor and to management as a member of this partnership. What can we do to help? How can we assist in keeping California apprenticeship the greatest program in the country? How can we in the schools assist in changing or adding or implementing your program of related instruction or training or upgrading or whatever it might be? We want to help, we are willing to help. You support us with your tax dollars and in my opinion, it is our responsibility to provide that service to the apprenticeship program in California. We appreciate very much being a member of the partnership in the field of apprenticeship along with labor and management."

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DISCUSSION FROM THE FLOOR

Following the talks by the panelists, Mr. Hanna ably moderated a lengthy discussion on the various challenges raised. Space does not permit inclusion in these proceedings.

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LEFT TO RIGHT—SAM SWISHER, CLYDE D. RINGWOOD, CHARLES F. HANNA, AND ALBIN J. GRUHN, AT CLOSING SESSION.

MDTA WORKSHOP

DR. SIDNEY MCGAW SPEAKING AT PUBLIC SCHOOLS WORKSHOP

WORKSHOPS

RESPONSIBILITIES OF PUBLIC SCHOOLS F

MODERATOR: Sidney McGaw, Ed.D., Dean of Vocational Education, San Jose City College.

PANELISTS: Harry Simonds, Supervisor of Vocational Education, Los Angeles Junior College; Peter De Franco, Supervisor of Industrial Education, Los Angeles City Schools; William G. Gordon, Dean, Technical Education, California Community Colleges; James A. Herman, Assistant Chief of Industrial Education, Department of Education; Edgar Millstead, Coordinator, Southern California Surveyors JATC; Joseph Berruezo, Assistant Dean of Instruction Vocational and Technical Education, College of Marin; Frank Erwood, Contractor, Kirby-Erwood Engineering Contractors, Van Nuys.

STEERING COMMITTEE: Jack McManus, Education Coordinator, Northern California Operating Engineers Apprenticeship Program; Orley Imes, Chairman, Extended Day Office, Contra Costa College; Gerald Simoni, Adult Evening School, Vallejo; Roger Tucker, Department of Education, Sacramento.

AIDES: Lawrence J. Ford, Division of Apprenticeship Standards; Edgar Smith, Department of Education.

Moderator McGaw introduced the panelists, steering committee members, and workshop aides to the approximately 75 persons in attendance.

He then suggested consideration be given to the recommendations referred to this workshop by the Recommendations Committee before open discussion was held.

RECOMMENDATION NO. 5: "Review of Related and Supplemental Instruction Regulations."

Dean Gordon stated that approximately 57% of related classes are held at community colleges. James Herman said that the number is growing to where it may be 60% at present. Apparently pressure to remove classes are isolated cases.

The general discussion seemed to indicate that small numbers of students in a class has been the main reason for requesting that classes be closed and for the reluctance to start new classes on the part of local school boards. Some of those present were not aware of the provisions of Labor Code Section 3074.5 relating to reimbursement for small classes.

The main direction of discussion centered around the desires of some apprenticeship committees, that have established training funds, to conduct the related training apart from the public schools.

Representatives of the Plumbing, Pipefitting, Refrigeration, Heating and Air conditioning JATC of Santa Clara and San Benito Counties, the sponsors of this recommendation, presented the various reasons behind it.

Each was dealt with in turn: The need for facilities for manipulative classes; helper (not credentialed) instructors, paid by the industry; adequate classroom space in conjunction with shop space, etc.

Panel members, and others, indicated that "off site" training

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locations can be and are presently approved by local school boards. These are buildings bought, or rented, by industry training funds. They contain equipment owned by the training funds, and use materials and supplies provided by these funds. The classes are scheduled by the local boards. Most agreed that these arrangements are working out well and are legally acceptable. In some instances where industry is providing for these major costs, the local school boards have been receptive to smaller classes.

Some instances of academically oriented school boards, and community colleges, were cited by those who were directly concerned with these groups.

The discussion turned to the possible effects of changing the wording of Labor Code Section 3074 from "such instruction **shall** be the responsibility of **state** and **local boards** responsible for vocational education." The thoughts expressed ranged from the State Legislature cutting the budget of the State Department of Education, as well as the loss of supplemental federal and matching state funds to local school boards, to the entire abdication of responsibility by the local school boards. It was noted that in some instances there have been difficulties in establishing new classes now because of resistance by local boards.

Harry Simonds suggested a possible language change that would leave in the word **shall** and add at the end of the paragraph "except where a J.A.C. can demonstrate financial responsibility, it may, by option, privately fund and conduct related instruction classes."

While this was given consideration, it was still thought by most, that credentialled instructors should be employed, no matter who paid their salaries, and that some responsibility should be maintained by the local school board, and/or the State Department of Education. In this manner some uniformity in instruction for a specific trade would be adhered to in all parts of the state.

The problem of small classes, and the inability to complete related instruction by apprentices, due to the class closing, was discussed. Correspondence courses, as provided by Section 3074.5, were thought to be pertinent. The success of this type of instruction and the manner of handling it, as well as the interest of the local J.A.C. in making it work, has varied with the trade and area.

Some doubt was expressed as to the ability of the J.A.C. to continue to conduct classes if adverse circumstance prevailed. Most training funds are the result of collective bargaining agreements. Would the schools again resume their responsibility if they did not have to?

As the major portion of the allotted time had elapsed, the moderator called for a show of hands. This seemed to indicate 2/3 against and 1/3 in favor of Recommendation No. 5.

The summation was that most of the problems could be resolved by men of good will; that there should be no reason why industry training funds could not provide facilities and supplies, and perhaps salaries, and still maintain normal relationships with local school boards.

RECOMMENDATION NO. 6: "Even Date Enrollment Into Apprenticeship Classes."

It was recognized that starting apprentices in class on weekly or spasmodic sequence could pose real problems for the instructor.

A poll of those present indicated that apprentices are being enrolled when they start work in some instances. Others are started on a ten-week basis. Still others enroll in school before starting to work when on a waiting list.

It was felt that only in a few cases would a lengthy wait be experienced.

There was no one present from the sponsoring committee to give additional information about the extent of the problem and the need for change.

The workshop disagreed with this recommendation; they could see no real need for it.

RECOMMENDATION NO. 7: "Clarification of Differences in Labor Code and Educational Code on Apprentices Related and Supplemental Instruction versus Vocational Student Classes."

The consensus of the workshop was: The prevailing procedure of local school boards designating the J.A.C. as the advisory committee for their classes should keep the material taught on the level needed for their apprentices.

The statewide J.A.C.s acting as advisors to the Instructional Materials office of the State Department of Education would have the same effect.

There was no one present from the sponsoring committee to enlighten the workshop on this matter.

4. Industry and governmental agencies involved should bring information to counselors.

RECOMMENDATION NO. 10: "Relevant High School Curricula."

It was concluded that while the requirements vary some, according to the trade, there is a core requirement that can be met everywhere. The basic abilities to read, write, and master mathematics, are available to all students.

Some method of correlating the material taught in the English and Mathematics classes, and the activities of the student in exploratory shop classes, would be more meaningful. Also a practical Physics class for students that will enter employment rather than enroll in college was recommended.

Specific classes for specific trades do not seem to be the answer, as students cannot make such a decision, and there is no guarantee of future employment.

No representative of the sponsoring committee was present to assist the workshop.

RECOMMENDATION NO. 11: "Prerequisite for Enrollment in Apprenticeship Classes."

The workshop was in favor of restricting apprenticeship classes to those engaged in the trade. They were not in favor of the recommendation as written.

The instance of the journeyman who could benefit from the theory, or code class, was raised; also, the help such persons render where small class numbers are involved.

It was brought out that completion of the first period apprentice class becomes a requisite for entrance into the second period class. This requirement, as well as the general requirement of daily activity in the trade,

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Several representatives of the sponsoring committee were in attendance. It was hoped that the discussions would be helpful to this committee.

The conclusion was that the amendment set forth in this recommendation is not needed.

From this subject, open discussion went into "pre-apprenticeship classes." Two interpretations of "pre-apprenticeship classes" were in evidence. The requirement of a manipulative, or general orientation class for selected applicants, was discussed. Opinions were expressed as to the desirability, purpose, and legality of such classes. No real conclusions were reached on this type of class, nor were answers available to the opinions expressed.

On the matter of "pre-apprenticeship classes," which should probably be called "coaching" or "pre-application classes," a variety of opinions were expressed and reports made. In one class of 20 only 4 completed and entered into apprenticeship; only 1 was left at the end of a year. Another program conducted seven classes with twenty (20) applicants in each class. Twelve of the total completed and entered apprenticeship. There was general agreement that such classes should be continued even though the percentage of retention has been low.

The question was raised: Are application requirements too high? There was general agreement that a high school diploma was not a reliable yardstick, as requirements vary with school districts. Standardized tests were considered to be better. It was agreed that the tests should be relative to the general requirements of the trade.

On the matter of selection and requirements, the consensus of the workshop was:

1. Maintenance of appropriate requirements that meet industry standards is essential.
2. "Pre-application" remedial classes are desirable.
3. Counselling and guidance for apprenticeship must be made available to students from the seventh grade on through high school.
4. Industry and governmental agencies involved should bring information to counselors.

It was recommended that package information be prepared for use by the seventh, eighth and ninth grade students. This material should list the requirements, suggest helpful courses and portray the opportunities available through apprenticeship.

Similar material should be prepared, but geared to appeal to the high school student, for use at that level.

All material should be in a form where the student can use it with a minimum of assistance by counselors. by counselors. An adequate supply should be provided to all schools.

INVOLVEMENT OF STATE JACs

MODERATOR: Charles M. Sanford, Director, Carpentry JAC Fund for Southern California, Los Angeles.

PANEL MEMBERS: Wayne Turner, Senior educational Specialist, Convair, San Diego; Fred Schmitz, Associated Plumbing Contractors of Calif. Inc., Palo Alto; Julian R. Gallegos, Coordinator, Southern Counties Glaziers JAC, Los Angeles; Leo Gable, Technical Director, Apprenticeship & Training Dept., United Brotherhood of Carpenters and Joiners of America, AFL-CIO, Washington, D.C.; W. H. Sargent, Jr., Training Section, Los Angeles Dept. of Water & Power.

RESOURCE PERSONS: R. E. (Dick) Harden, Coordinator, Machinist Apprenticeship Program, Los Angeles; William Edwards, Coordinator, Bricklayers Joint Apprenticeship Program, Los Angeles; Ralph Johonnot, Executive Director, California State Electronic Association, Hawthorne.

AIDES: Roger Tucker, Bureau of Industrial Education, Sacramento; Gilbert O. Davidson, Division of Apprenticeship Standards, San Francisco.

Moderator Sanford outlined the topics for discussion to the approximately 60 persons in attendance and introduced the panel members and other distinguished guests.

Wayne Turner spoke on "Statewide JACs' Accomplishments, Benefits and Effects." He mentioned updating of apprenticeship standards, promotion of apprenticeship contests, influencing legislation, developing instructors' workshops, dissemination of information through local JACs, and exposure to new techniques, tools, equipment, and ideas.

Fred Schmitz's topic was "Statewide JACs' Involvement in State Contests." He referred to various trades and the types of contests they sponsor, including the brickmasons; carpenters, mill cabinet and millwrights; culinary; carpet, linoleum and soft tile; machinists; painters; plumbers and plasterers, to name a few. The objective of these contests is to give recognition to apprentices; to alert industry; to bring young men to the attention of supervisors; to give credit to school counselors, and to demonstrate to consumers the skills learned through apprenticeship.

Julian R. Gallegos spoke on "Statewide JACs' Involvement in Affirmative Action Programs with Local JACs." He mentioned the participation of State JACs in the California Conference on Apprenticeship, and development by State JACs of affirmative action programs which the members take back for consideration of their local JACs. He said the excellent cooperation between labor and management in the Los Angeles area has resulted in large placement of minority apprentices. He also cited cooperation with other local affirmative action programs in the community.

Leo Gable outlined the "Statewide JACs' Responsibility in Developing Related and Supplemental Instruction." State committees are advisory to the State Board of Education. They assist in developing related instructional materials that are used throughout the country. Each State JAC is requested to develop material to supplement national material. They should continue to develop and update the material essential to meet their trade's uniform needs in the state, both north and south, by working with the Bureau of Industrial Education.

W. H. Sargent, Jr. spoke on "Statewide JACs' Involvement in Establishing Apprenticeship Training Programs in Governmental Agencies." He said

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de JACs' Involvement in Establish- Governmental Agencies." He said State JACs can be of service by acquiring and disseminating information on how local JACs can assist in the establishment of JACs in government agencies. Government agencies' hands are often tied by law as to what they can do. They are not permitted to bargain collectively with labor unions. However, many successful programs have been worked out through cooperation with local JACs, with no collective bargaining—only a gentlemen's agreement. State JACs have the responsibility of gathering information from local JACs in regard to problems involved and the advantages of setting up such local joint programs. Public agencies need the services local JACs can offer through their apprenticeship programs.

Moderator Sanford discussed "Statewide JACs' Authority and Relationship to Local JACs." He pointed out the rules and regulations, uniform wage scales, hours and other guidelines available under which JACs operate to help keep them out of trouble, and to assure successful apprenticeship programs.

Following the talks, Moderator Sanford led a discussion period which covered the full range of the panel topics.

Dominic Soffietto described the organization of the apprenticeship contests in the pipe trades—local, state and national. He pointed out the need to analyze the effectiveness of these programs. Contests can show up the weakness of apprenticeship training in the various areas. This information can provide the basis for upgrading local programs.

Gordon Littman described the carpenter, cabinetmaker and millwright apprenticeship contests. Each apprentice first competes to represent his local area. Contestants are rated 60% on the craftsmanship of their projects and 40% on related knowledge. Winning apprentices from each area then compete in the state contest. California winners have been singularly successful in national contests.

Al Brown discussed the responsibility of labor and management who have the best brains in each trade to develop related instructional materials. They assist in an advisory capacity to the State Bureau of Industrial Education, help select writers and edit rough drafts of text books. They should be willing to take on specific assignments to review and modernize material. Statewide JACs should coordinate these efforts to enable the published material to be available earlier.

Gilbert [illegible]lson stressed the importance of getting all these ideas together to help the State JACs to function better and to assist local JACs to do a better job.

Following the group discussion, a number of recommendations were made:

1. State JACs should assume more leadership.
2. State JACs should make recommendations to local JACs.
3. State JACs should continue modernizing their programs' work processes.
4. State JACs should be more aware of everything that comes within the scope of apprenticeship.
5. State JACs are comprised of the most knowledgeable persons in the field of apprenticeship and their talents should be used in improving their industries' programs.
6. State JACs should consider and study those problems affecting their programs and make appropriate recommendations to local JACs.

EQUAL OPPORTUNITY IN APPRENTICESHIP & TRAINING FOR MINORITY GROUPS

MODERATOR: Albin J. Gruhn, President, California Labor Federation, AFL-CIO.

PANELISTS: William C. Hern, Director, Department of Industrial Relations; Charles F. Hanna, Chief, Division of Apprenticeship Standards; Leonard H. Carter, Regional Director, N.A.A.C.P.; Lawrence H. Kay, Counsel, Associated General Contractors of America; Edward J. Hibbert, Commissioner, California Apprenticeship Council.

STEERING COMMITTEE: James C. Stamm Jr., Training Coordinator, Kaiser Steel Corporation, Fontana; Norman Lincoln, Corporate Industrial Relations, Hughes Aircraft Company, Los Angeles; John Cope, Watts Branch, N.A.A.C.P.; Dionicio Morales, Executive Director, Mexican-American Foundation, Los Angeles.

AIDES: James L. Sims, Intergroup Relations Coordinator, Division of Apprenticeship Standards; L. A. Jordan, State Supervisor, Intergroup Relations, Division of Apprenticeship Standards.

The meeting of the Equal Opportunity Workshop was called to order by Moderator Albin Gruhn, who welcomed the visitors to this workshop. The workshop was originated in 1960 at the first California Conference on Apprenticeship. For the record he repeated some of the history of the workshop, made specific reference to the California Plan for Equal Opportunity, and read some excerpts from it. He also gave current figures on minority employment and compared them to prior years. He felt these impressive figures resulted from cooperation between Labor and Management, state and federal agencies, community organizations, and dedicated individuals working to accomplish legislation and regulations to insure equal opportunity in apprenticeship. After his opening remarks he called on the panel members for their presentations.

William Hern said that the silent majority is nothing but a conglomerate of minority groups, facing various problems. While this is our (CCA's) tenth year, and we are to be congratulated–along with labor, management, and community organizations–for depth, insight, and perseverance during this decade of progress, we still have much work to do; though great progress has been made, we must continue to strive for continued improvement in this field. Minority people are represented in apprenticeship today as never before, but we must not rest on our laurels and permit "See how far we have come-ism" to slow our progress. He offered the idea that we may face a new challenge in providing equal opportunity, as A.B. 22 is now before the Legislature and, if passed, will prohibit discrimination in employment not only for race, color, and creed, but also for sex. So, once again, California may have the opportunity to take the lead in solving some human relations problems. California is a great, growing, and prosperous state, and the administration is dedicated to the maximum utilization of its manpower. He was confident that California can and will remain the leading state in our nation in apprenticeship and training.

Following this presentation, the Moderator called upon Leonard Carter.

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Moderator called upon Leonard Carter.

Mr. Carter stated that ever since the California Conference on Apprenticeship was founded, representatives from the N.A.A.C.P. have attended the biennial meetings and have worked together with others to assure minority participation in apprenticeship. One of the N.A.A.C.P.'s jobs has been not to gloss over the record, but to get at the true facts of minority opportunity. There has been deep discrimination, and it has taken hard work and the efforts of many people to correct this situation. He said the N.A.A.C.P. had worked long before the first meeting of this workshop ten years ago toward this end, and he described their early efforts and struggles to get minorities admitted into apprenticeship.

It was in the year 1960 that a very important and historic meeting took place. It was the first California Conference on Apprenticeship, where the California Apprenticeship Council met with representatives from labor, management, community groups, etc. During this period, "token" admission of blacks took place in various industries. Then A.B. 1452 required racial statistics. In 1968 a large package of bills was passed with regard to equal opportunity in apprenticeship and training. At the end of June, 1969, 1,172 Negroes (or 4.7 percent of the total) were enrolled as apprentices. These figures show great progress, but at the same time they show how much farther we have to go.

The N.A.A.C.P. has had a long history of cooperation with the Division of Apprenticeship Standards and has exercised its right to criticize, suggest, and praise as well. Mr. Carter thanked the Moderator for the opportunity to address the audience, and closed by saying that failure to continue to make progress in this program will bring increased pressure from the N.A.A.C.P. and other groups.

Charles F. Hanna was next asked to speak. He, too, spoke of some of the successes of the California Plan and some of its failures. He repeated his resolve that as long as he is Chief of the Division of Apprenticeship Standards no one will ever be discriminated against for race, creed, color, sex, or national origin. He said we have learned much and have started to trust one another. He stressed the importance of legislation, pointing out that five thousand apprentice jobs were created by just one act of legislation alone, namely A.B. 805. He feels that, despite all the criticism of apprenticeship, we can still take pride in what has been accomplished so far.

In his presentation, Lawrence Kay said that the construction industry is the second largest industry in the United States, and has been a target for equal opportunity in hiring practices. He feels that the challenge of the seventies will be different from the challenge of the sixties as to redevelopment of cities and "model cities" areas. The minority community insists that work being done in minority areas must have minority people working on the projects. There will be eleven areas in California where redevelopment will take place, and the organized building industry recognizes that they must comply with the wishes of the minority groups and the Secretary of Labor. There is, however, one big stumbling block, and that is the serious lack of jobs. The more jobs, the more apprenticeship openings there will be.

Commissioner Edward Hibbert referred to statistics which show how much progress has been made, while at the same time revealing how much more needs to be done. He feels the biggest gain and greatest stride is the understanding reached between minority groups and employers. No more rage on one hand, or resistance on the other. Although our progress has

seemed agonizingly slow, it has been real step-by-step progress toward a worthwhile goal. There is enough legislation now on the books to do the job if properly enforced. What we need is proper school training, proper union efforts, proper attitude by employers, government assistance to obtain funds, and cooperation from minority groups. The heart, or rather the gut, of the whole deal is the J.A.C., which is comprised of labor, management, and school people. However, all J.A.C.'s don't work the same, and some do an excellent job while others, even in the same trade, do a very poor one. He suggested that possibly minority people should press for seats on the J.A.C.'s by becoming union leaders, management representatives, etc. Rather than try to destroy the program, they should try to work from within to effect needed changes. One bill, such as A.B. 805, can do more to give chances to minorities than years of other work. He feels that, given enough job opportunities, we will make far greater progress in the next ten years than in the past decade.

The panelists having concluded their presentations, the floor was opened to discussion. Miss Rivka Sigal, San Francisco Bay Area Women's Coalition

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COMPARISON OF APPRENTICES ACTIVE AT END OF
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	Total active apprentices	Apprentices completing questionnaire		Caucasian, other than Mexican and other Spanish American		Mexican American and other Spanish American		Negro		An
		Number	Response rate (percent)	Number	Percent	Number	Percent	Number	Percent	Nu
12/31/67	20,595	12,549	60.9	10,862	86.6	1,016	8.1	313	2.5	19
12/31/68	22,164	18,445	83.2	15,600	84.7	1,637	8.8	727	3.9	24
12/31/69	27,067	25,625	94.7	21,315	83.2	2,447	9.5	1,197	4.7	32

COMPARISON OF APPRENTICES REGISTERED AND
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1968	10,151	9,484	93.4	7,909	83.4	868	9.2	490	5.2	9
1969	15,843	15,549	98.1	12,793	82.2	1,518	9.8	833	5.4	19

by-step progress toward a on the books to do the job hool training, proper union assistance to obtain funds, t, or rather the gut, of the f labor, management, and the same, and some do an le, do a very poor one. He ess for seats on the J.A.C.'s tatives, etc. Rather than try om within to effect needed o give chances to minorities ough job opportunities, we than in the past decade. tions, the floor was opened ay Area Women's Coalition Committee on Technical Trades and Professions. called for equal opportunity for women in all trades, and spoke at some length on unfavorable industry attitudes toward this concept.

Commissioner Mariano suggested that we should speak in positive terms as to specific objectives so we can next year evaluate how far we have come compared to where we are today. Mr. Carter replied to this, stating that the N.A.A.C.P., for example, gets involved in so many things that it is impossible to set definite goals. Goals have to be changed as new and important issues arise. Chief Hanna rose to comment that he scrupulously avoids definite quotas because, once reached, we tend to rest on that achievement.

A few other issues were very briefly discussed, and the Chairman proceeded to the matter of Recommendations. However, only three panel members remained by this time, the others having been called to other workshops and meetings; therefore, a motion was made from the floor to table all the Recommendations due to lack of proper consideration. This was seconded, a voice vote was taken, and the motion carried.

OF APPRENTICES ACTIVE AT END OF CALENDAR YEAR 1967, 1968, 1969

n, other ican and Spanish rican		Mexican American and other Spanish American		Negro		American Indian		Other minorities		All minorities	
Percent		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
86.6		1,016	8.1	313	2.5	193	1.5	165	1.3	1,687	13.4
84.7		1,637	8.8	727	3.9	240	1.3	241	1.3	2,845	15.3
83.2		2,447	9.5	1,197	4.7	325	1.3	341	1.3	4,310	16.8

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83.4	868	9.2	490	5.2	99	1.0	118	1.2	1,575	16.6
82.2	1,518	9.8	833	5.4	199	1.3	206	1.3	2,756	17.6

EFFECT OF MANPOWER PROGRAMS

MODERATOR: Kenneth Robertson, Regional Manpower Administrator, U.S. Department of Labor, Manpower Administration, San Francisco.

PANEL MEMBERS: Leo Garcia, Director, Mexican-American Opportunity Foundation, Los Angeles; Roy Harper, M.D.T.A. Director, Independent Garage Owners of Calif., Inc., San Diego; John B. Monaco, Jr.,, Director, Southern California Area Construction Opportunity Program, Santa Ana; Bert Richardson, Regional Training Administrator, National Tool & Die Precision Assn., Los Angeles; Herb Rubottom, Director, San Diego Mayor's Committee for JOBS, Inc., San Diego; R. A. Sherer, Executive Director, San Diego Automotive Consortium, San Diego; Frank Seevers, M.D.T.A. Coordinator Southern Region, Department of Human Resources Development, Los Angeles; Fred B. Gough, Apprentice Coordinator, San Diego Carpenters.

RESOURCE PEOPLE: Patrick Burke, Representative, Bureau of Apprenticeship & Training, Los Angeles; Eugene Janvier, Supervisor, Division of Apprenticeship Standards, San Francisco; Russell Tibbetts, Regional Supervisor, Vocational Education, M.D.T.A. Unit, Sacramento; Edgar Linn, M.D.T.A. Specialist, U.S. Dept. of Labor, Manpower Administration, San Francisco.

AIDES: Norman A. Thorsness, Supervisor, Division of Apprenticeship Standards, Santa Ana; E. J. Burson, Representative, Bureau of Apprenticeship & Training, Los Angeles.

RECORDER: Marvin Hall, Consultant, Division of Apprenticeship Standards, Santa Ana.

Moderator Kenneth Robertson asked each panel member to give a brief outline of his particular program as he was introduced. This was done.

He then introduced the resource people and opened the workshop to discussion from the floor.

There was much discussion on the subject of Manpower Development and Training Act programs in apprenticeable occupations and M.D.T.A. programs in occupations leading to apprenticeship.

In the apprenticeable occupations, Roy Harper felt his program in San Diego has been very successful in that some forty persons have been placed over what had been contracted for under M.D.T.A.

Bert Richardson was pleased with the success of the National Tool & Die program, as was Fred Gough with the San Diego Carpenters' program.

It was agreed by those having programs that the Institutional M.D.T.A. programs, and the Institutional phase of the coupled programs, had failed in too many cases to bring the trainees up to minimum requirements for apprenticeship.

It was also pointed out that many high school students were being graduated without even the basic Three R's, which most apprenticeships require. It was felt that proper testing of applicants would more accurately determine their qualifications than a high school diploma.

It was brought out by Leo Garcia and John Monaco that their programs were designed to remedy this problem. They are working closely with the JAC's and the building trade councils to prepare people for entry into specific apprenticeships.

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In summary, it was concluded that of the 49 million dollars of M.D.T.A. funds allocated to California, 4.5 million had been spent on traditional M.D.T.A.-OJT, 1.3 million on Outreach programs, 20 million on JOB's programs and 22.756 million on Institutional programs.

The consensus was that Manpower Development Programs would be more effective if the Institutional programs would properly prepare the trainees for getting and holding jobs.

LEGISLATION AFFECTING APPRENTICESHIP

MODERATOR: John Stephen Spellman, Consultant, Assembly Labor Relations Committee, Sacramento.

PANEL MEMBERS: B. Franklin Walker, Deputy Attorney General, State of California. San Francisco; Henry Henneberg, Commissioner, Californiia Apprenticeship Council; General Manager, Printing Industries Association, Los Angeles; Richard W. Mansfield, Legislative Advocate, State Building & Construction Trades Council of California, AFL-CIO, Sacramento; James C. Stamm, Jr., Supervisor, Apprenticeship & Testing, Kaiser Steel, Fontana; William F. Stumpf, Staff Representative, District 38, United Steel Workers of America, AFL-CIO, Commissioner, California Apprenticeship Council, Oakland.

STEERING COMMITTEE: Joseph R. Grodin, Attorney at Law, San Francisco; B. Franklin Walker, Deputy Attorney General, San Francisco; George A. Harter, San Francisco Chapter, National Electrical Contractors Association; Anthony L. Ramos, Executive Secretary, California State Council of Carpenters, San Francisco; Richard W. Mansfield, Legislative Advocate, State Building & Construction Trades Council, Sacramento; Gordon A. Littman, Director, Bay Counties Carpenters Training Program, San Francisco.

AIDES: Rob W. Sherlock, Area Supervisor, Division of Apprenticeship Standards, San Jose; Edgar I. Smith, Supervisor of Apprenticeship Training, Bureau of Industrial Education, Sacramento; Charles F. Hanna, Chief, Division of Apprenticeship Standards, San Francisco.

RECORDER: C. D. "Don" Robinson, Consultant, Division of Apprenticeship Standards, San Mateo.

Rob W. Sherlock, Aide, introduced John Stephen Spellman as Moderator for this workshop. Spellman introduced panel members and set the theme for the workshop.

The Moderator called upon Charles F. Hanna, Chief, Division of Apprenticeship Standards, to review and discuss pending legislation affecting apprenticeship. Due to the nature of the bills discussed, it was unnecessary for the workshop to take action.

RECOMMENDATION NO. 1 was presented by Panelist Mansfield.

Title: Required Employment of Apprentices on Contracts Awarded by the State or its Political Subdivisions.
Subdivisions.

Following considerable discussion for and against Recommendation No. 1, Moderator Spellman proposed an amendment to the recommended

statement as follows: "Requirements similar to those in Section 1777.5 of the Labor Code be applied to contractors receiving contracts from the state or its political subdivisions for materials, supplies or services." The workshop concurred in Recommendation No. 1 as amended.

RECOMMENDATION NO. 2 was presented by Panelist Henneberg.

Title: Licensing of Auto Mechanics.

After consideration, the workshop tabled Recommendation No. 2.

RECOMMENDATION NO. 3 was presented by Moderator Spellman.

Title: Support of California Apprenticeship System.

Moderator Spellman presented an amended recommendation to clarify the intent and purpose of Recommendation No. 3. The workshop concurred in the amended recommendation.

RECOMMENDATION NO. 4 was presented by Panelist Stamm.

Title: Federal Legislation requiring Employment of Apprentices on Federally Financed Construction Projects.

The advisability of the conference recommending Federal action was questioned. It was suggested that the recommendation be revised to encourage a Federal study of apprenticeship prior to making such a recommendation. DAS Chief Hanna pointed out the President's position supporting apprenticeship on Federal public works contracts and urged immediate action. The workshop concurred in Recommendation No. 4.

RECOMMENDATION NO. 5 was presented by Panelist Walker.

Title: Review of Related and Supplemental Instruction Regulations.
and Supplemental Instruction Regulations.

Discussion on the recommendation revealed that joint apprenticeship committees, both funded and non-funded, favored this recommendation. Representatives from Education opposed Recommendation No. 5. Bob Hall of the Plumbing, Pipefitting, Refrigeration, Heating and Air Conditioning JAC of Santa Clara and San Benito Counties, the JAC which had submitted the recommendation, pointed out three alternatives of a JAC in the event action was taken as a result of Recommendation No. 5:

1. Those who are satisfied, or who have no financial means, could remain under the law as it is presently written.

2. Programs which are able to furnish their own training facilities and equipment but wish to maintain affiliation with their local schools have this choice.

3. Other programs capable of furnishing that which is required of local school districts could be allowed to operate their own training programs completely divorced from local school districts, but under some type of state control as required of private schools in the State of California.

The workshop concurred in Recommendation No. 5.

RECOMMENDATION NO. 9 was presented by Moderator Spellman.

Title: Expansion of Apprenticeship Information Program.

Moderator Spellman pointed out that the information program was not contained in the 1970-71 Governor's budget. It was felt that a recommendation commending the activities of private industry independent of government for their activities in the area of recruitment of minorities into apprenticeship was in order. An amended recommendation was submitted to provide for such commendation. After considerable deliberation, it was the action of the workshop to table both the original Recommendation No. 9 and the amended recommendation.

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RECOMMENDATION NO. 11 was presented by Panelist Stumpf.
Title: Prerequisite for Enrollment in Apprenticeship Classes.

This recommendation was strongly supported by industry representatives. Representatives from Vocational Education and the school system felt that the schools could handle the problems without legislation. The workshop concurred in Recommendation No. 11.

ECONOMICS, EFFECTIVENESS & COST OF APPRENTICESHIP

MODERATOR: G. R. (Morry) Morrison, Area Personnel Manager, Guy F. Atkinson Co., Long Beach.

PANELISTS: Jack D. Webster, Painting and Decorating Contractor, Bakersfield; Bruce B. Bailey, Electrical Contractor, Pacific Palisades; Arthur Schilder, Assistant Dean, Vocational Education and Apprenticeship Training, Allan Hancock College, Santa Maria; Rod Breeze, Regional Manager, Independent Garage Owner's Association of California, Los Angeles; Richard M. Lane, General Building Contractor, Los Angeles.

STEERING COMMITTEE: Henry G. Brannon, Business Manager–Financial Secretary, Plumbers and Pipe Fitters Local Union No. 280, Pasadena; Walter J. Christianson, Coordinator, Southern California Operating Engineers JAC, Los Angeles; Kay F. Filler, Director of Training and Education, Los Angeles County Chapter NECA, Los Angeles; Conrad Saunders, Director, Greater Los Angeles Urban League, Labor Education Advancement Program, Los Angeles.

AIDES: Mel Sornberger, Area Supervisor, Division of Apprenticeship Standards, Van Nuys; M. C. McKenna, DAS, Van Nuys.

Moderator Morrison opened the workshop with introduction of the panel members and a description of the topics selected by the steering committee. He said that since this was a subject new to the conference, prepared statements by the panel members would not be offered. Additional topics would be added to the agenda upon suggestion of the workshop participants. He noted that there was attendance in the workshop of over sixty participants, nearly equal representation by labor and management, three school representatives and five JAC coordinators.

The first order of business was consideration of Recommendation No. 5 before the present conference. Mr. Morrison read the recommendation and scheduled it for consideration at 3:00 p.m.

The topics were discussed in the following order:

INITIAL COSTS OF TRAINING

Hulen Bircher, Executive Director of both the Sheet Metal and the Plumbing Contractors Associations of Kern, Inyo and Mono Counties, opened the topic with the statement that apprenticeship costs begin before the application is taken. This expense is largely met through state services which the Bakersfield Plumbers and the Air Conditioning JACs supplement with industry funds. He said that the present application facilities, continuing to operate at present cost levels, would be able to handle twice as many apprentices if the construction market could absorb them. This, in effect, would halve the present pre-indenture costs. At this time no reliable data is

known which projects the decreasing labor demand in relation to productivity. The two programs mentioned can only supply new apprentices in response to immediate employer needs, and there appears no shortage of applicants to fill these needs.

Mr. Webster described apprenticeship costs which are direct to the employer. Excluding apprenticeship contributions, these appear as wages and fringe benefits. While this varies according to the employer's type of work, he cited as example, a painting contractor with 70% of his work in occupied residences. He will pay the apprentice approximately $5940.00 for the first year. Then if the costs to the public and the industry funds are added probably $6600.00 moves through the economy as a result of this initial indenture. The direct cost to the employer is offset by the production of the apprentice.

Mr. Breeze speaking in agreement with Mr. Webster, said that the IGO experience varies throughout the state, even to pre-indenture costs. The employer's direct costs are related to the apprentice's work assignments. Many new apprentices are capable of producing at the rate of 80%, but such productivity is reduced by the costs of additional supervision, on-the-job instruction and record keeping. These costs have not been too well identified.

Otto Weber, Director, San Francisco Electrical Industry Apprenticeship and Training Trust, commented that the quantity of applications must also be considered in light of costs. A very large number of applications are received for a very limited number of openings. The costs for extra clerical assistance and testing are usually included in the costs for only the selected applicants.

A. S. Mendoza, Fin. Sec'y, Cement Masons Local 627, Los Angeles, discussed employers who express reluctance to accepting first period apprentices because of the much higher cost for the OJT instruction during the early periods of indenture. He felt that management could find ways of reducing such costs through careful assignment of the apprentices, thereby increasing the productive capability of the new hires.

Steve Harrison, Coordinator, Operating Engineers Local 12, Ventura, felt that the initial pre-indenture costs are dollars well spent. While this phase may be expensive, it eliminates the cost of apprentices who fail or drop out for reasons that become apparent during the selection interview. The cost of the drop-out is included in the cost of the successfully completed apprentice, particularly when the employer reviews his total training bill.

THE EARLY DROP-OUT

Moderator Morrison introduced the topic to be considered in relations to selection, starting rates, and cost to the program.

Mr. Webster described his experience when the drop-out rate in a local painter's program was near to 50%. By devoting time and care to selection from applicants, with extensive counseling of the individuals in the pre-indenture period, and with a particular review of the results, the drop-out ratio has been reduced to a very low level. Mr. Webster favorably commented on DAS services during this phase of the program.

Mr. Schilder spoke in support of Mr. Webster's experience. By his assignment to all local JAC meetings he finds close correlation between proper screening and reduced drop-out rates.

Bruce Bailey described drop-outs as the single most important problem. It is necessary to provide information and counseling at the high school level.

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It is obvious that successful completion of an electrician's apprenticeship demands preparation at the high school or junior college level. A great deal of mathematics, including algebra, are encountered in the trade. He described a recently prepared film strip for schools' use to assist in counseling students.

Mr. Breeze related screening of applicants to the highly technical automotive field. The individual's motivation is directly related to completion of the apprenticeship. Drop-out rates are reduced in these trades by the interesting assignments that are available. He discussed the large volunteer contributions from the JAC members, coupled with the services of the DAS consultant working with individual employers. He felt that the close relationships available to the apprentice working in smaller shops contributes to the lower drop-out rates for the entire industry.

Mr. Lane compared unemployment rates with apprentice drop-out rates. This is an increasingly important factor in the construction industry. Increased interest in the unemployed apprentice, or the apprentice temporarily working at another job, would help reduce this factor.

Mr. Bircher spoke in support of this concept by describing a large project with an outside contractor, on which 25 to 30 new apprentices were placed in a five-year training program. This project is scheduled for completion in two-and-one half years, and when coupled with normal attrition there will be a substantial increase in unemployment and subsequent drop out. He felt that the committees should not be measured entirely by the number of apprentices registered, but also by the number successfully completed.

Robert R. Moodie, Trustee, So. Calif. Operating Engineers Trust, continued that the drop-out is the most important financial factor in apprenticeship. Each failure probably represents a $500.00 loss to the industry and is without recovery except for that person's individual experience, which may assist him in other fields of employment.

Arthur Blanchard, Personnel Mgr., Sonnet Tool & Mfg. Co., Hawthorne, described the situation as one where less than 35% of the people understand what apprenticeship is. He suggested involvement as one cure, active support for the system, participation, identifying problems which affect people and making selection procedures clearly known. He feels this will make strong apprenticeship motivation a factor to reduce the drop-out rate.

Moderator Morrison summarized the topic with emphasis on a realistic screening process. JACs should attempt to assess individual motivation in comparison with "just looking for a job," couple this with orientation, and realize that any program will have limits as to the number which may be successfully completed.

RECOMMENDATION NO. 5

Moderator Morrison called for discussion from the workshop participants. After extensive review there was a finding that the recommendation as submitted could not offer substantial change and that local programs experiencing such related instruction problems would not find appropriate relief. By majority vote of the participants the recommendation was not concurred in by the workshop.

SUPERVISION AND THE OJT INSTRUCTOR

After introduction of the subject, the topic was tabled for further consideration by the JACs. The consensus of the workshop was that increased attention needs to be directed to this subject.

WORK ASSIGNMENTS AND ROTATION VS PRODUCTION

The workshop agreed that rotation of the apprentice is responsibility of the JAC, but recommended that a program to encourage increased employer awareness of the problem is in order. Many shops have well varied work and it is possible the apprentice may fail to receive new assignments through oversight.

LENGTH OF INDENTURE AND PRODUCTION COSTS

Following substantial discussion, the workshop concurred in the presently conceived terms of indenture. No information has been presented that "Quickie" training programs produce any lasting benefits to the individual, the employer or the industry. Some specialization may be desirable; the Automatic Transmission Mechanic was cited as one potential for specialization which may permit shorter training time. Such examples should be presented for consideration after they have been tested by the industry. Each industry should review their own problems and make changes upon the merits of the need. The period of indenture, however, must include full exposure to the occupation.

Moderator Morrison entertained a recommendation calling for the maintenance of current periods of apprenticeship as essential to the needs of the industry and the individual. In voting, Favor 25, Opposed 4, others not voting.

BUREAU OF INDUSTRIAL EDUCATION EXHIBIT

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Topic: Followup.
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APPRENTICESHIP OUTREACH

MODERATOR: Al Lindstrom, Apprenticeship and Training Representative, U. S. Dept. of Labor, Phoenix, Arizona.
RECORDER: Vernon W. Munn, DAS, Long Beach.

TOPICS AND SPEAKERS

Joe Roberts, Director, Apprenticeship Opportunities Foundation, San Francisco.

Topic: Cooperation from Outside Groups.

Conrad L. Saunders, Director, Labor Education Advancement Program, Los Angeles.

Topic: Followup.

Monico Amadar, Bay Area Construction Opportunities Program, Oakland.

Topic: Motivating Minorities.

Dennis Lockett, Bay Area Construction Opportunities Program, San Francisco.

Topic: Tutoring.

Leo Garcia, Mexican American Opportunity Foundation, Los Angeles.

Topic: Developing Jobs.

Ackin Thibeaux, Apprenticeship Opportunities Foundation, San Francisco.

Topic: Problems Facing Minority Apprentices.

All of the speakers did a fine job presenting their topics.

Moderator Lindstrom then announced that questions could now be asked of panel members. This brought about some very interesting comments by the panel members.

Later in the session the Moderator introduced several V.I.P. people from those attending:

William C. Hern, Director of Industrial Relations, State of California.

He offered a few comments.

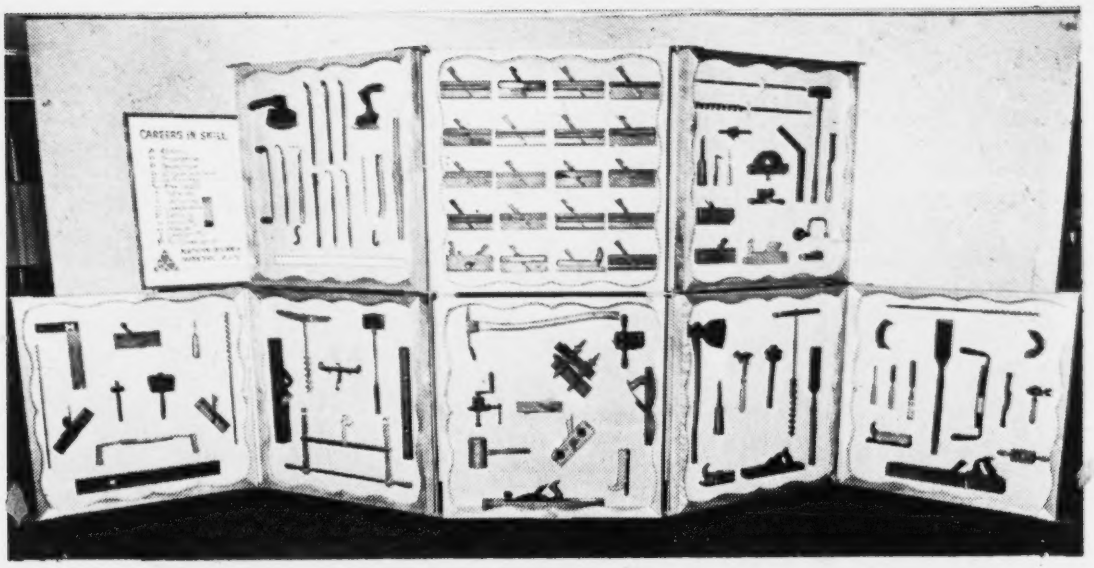
George Smith, Deputy Director of Industrial Relations, State of California.

He made some brief remarks.

Charles F. Hanna, Chief of Division of Apprenticeship Standards, also made a few comments.

C. F. Mendez, B.A.C.O.P., Oakland, was asked to join the panel

At the end of the session there was standing room only. An estimated 75 people were in attencance.



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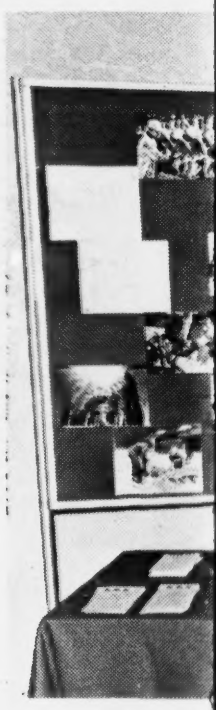

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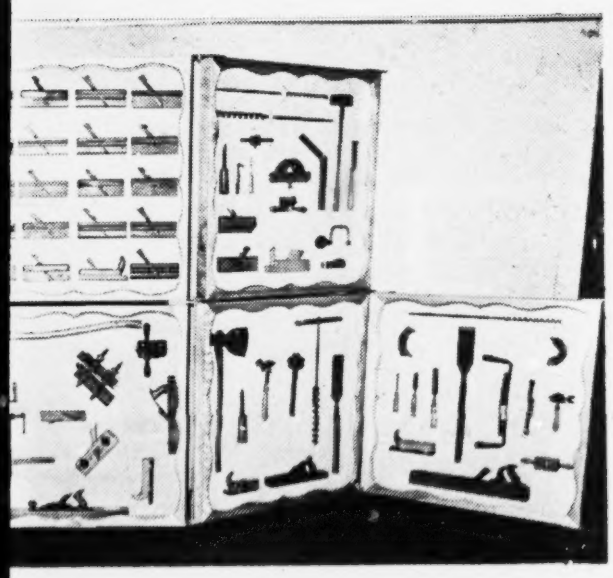

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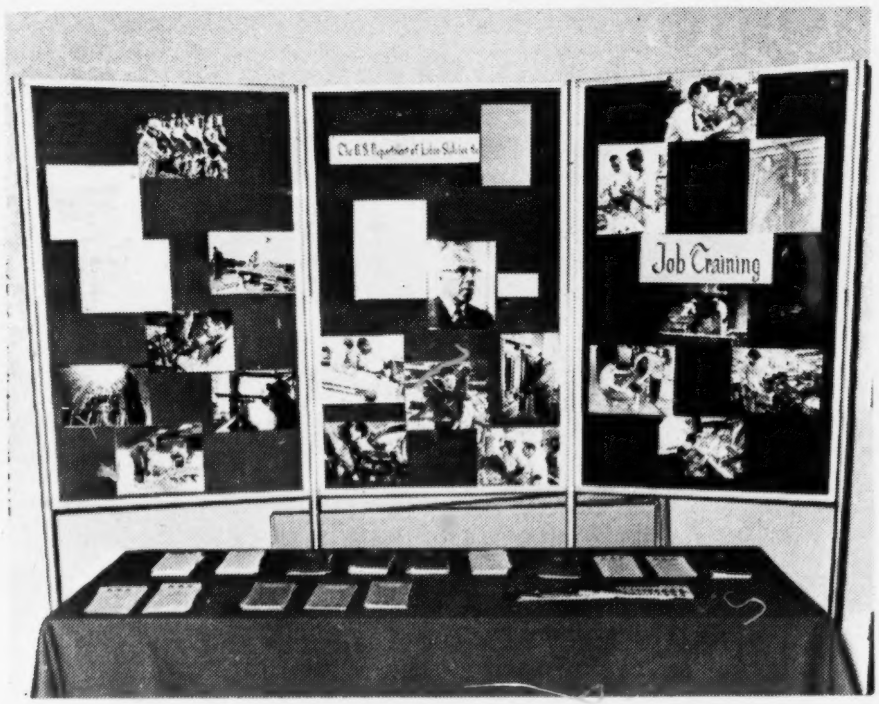

BUREAU OF APPRENTICESHIP AND TRAINING EXHIBIT

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11 SOUTHERN COUNTIES CARPENTERS EXHIBIT

AEROSPACE INDUSTRY

CHAIRMAN AND MODERATOR: A. L. Anderson, Vocational Training Manager, McDonnell Douglas Astronautics Company, Western Division.

CO-CHAIRMAN: Fred De Greef, Business Representative, International Association of Machinists & Aerospace Workers Lodge No. 1125.

SECRETARY: John L. Junk, International Representative, United Auto Workers.

PANELISTS: Jack Alvarez, Assistant Manager Urban Affairs, Hughes Aircraft Co.; Beecher Brown, Supervisor, Personnel Development, North American Rockwell; Bill Combs, Business Representative International Association of Machinists & Aerospace Workers Lodge No. 1781; Eugene S. Cramer, Supervisor, Education and Training, Aerojet General Corp; Fred R. De Greef; John L. Junk; Leonard L. Loomis, Business Representative, International Association of Machinists & Aerospace Workers Lodge No. 1578; Vincent V. McCleary, Corporate Personnel Administrator-Training, McDonnell Douglas Corp; Henry S. Phillips, District Committeeman, United Auto Workers Local No. 148; Juan B. Rodriguez, Aerojet General JAC, International Association of Machinists & Aerospace Workers Lodge No. 1893; Louis R. Schroeder, President, International Association of Machinists and Aerospace Workers Lodge No. 1781; Thomas Schumacher, Tool & Die District Committee, United Auto Workers Local No. 148; Fred Slatten, Personnel, Lockheed California Co.; Toby Sturgis, United Auto Workers, Local No. 148; Wayne Turner, Senior Education Specialist, Convair, Division of General Dynamics.

AIDES: Eugene Berkebile, Division of Apprenticeship Standards; Patrick Burke, Bureau of Apprenticeship and Training.

The California Statewide Aerospace Industry JATC conducted its regular quarterly meeting at the Los Angeles Hilton in conjunction with the California Conference on Apprenticeship.

Chairman A. L. Anderson introduced the panelists and guests attending the meeting.

M/S/C that the minutes of the previous meeting be approved as mailed.

The committee reviewed the eleven recommendations submitted and made the following recommendations: No. 1 Be Tabled; No. 2 Be Tabled; No. 3 Be Adopted; No. 4 Be Tabled; No. 5 Be Adopted; No. 6 Be Adopted; No. 7 Be Tabled; No. 8 Be Adopted; No. 9 Be Adopted; No. 10 Be Rejected; No. 11 Be Rejected.

Beecher Brown, Chairman of the sub-committee on apprenticeable trades in the Aerospace Industry, reported on the sub-committee's progress in developing uniform programs. The Committee collected data from numerous programs within the industry and had each occupation listed with the following information provided for each firm hiring apprentices in that particular occupation: (1) Total Hours, (2) Selection Procedures, (3) Work Process Hours, (4) Work Process Sequence, (5) Work Process Identification, (6) Job Related Training, (7) Supplemental Training.

A copy of the material used to compile this report was furnished to all present for reference and each Committee member reported on a given trade as follows: Beecher Brown on Electronics; Bill Combs on Flight Line Mechanics; John Junk on Tool & Die Makers; Henry Phillips on Jig & Fixture Builders; Wayne Turner on Machinists.

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Mr. Brown explained that it was the intention of the committee to further reduce this information to one standardized program per occupation prior to the next regular meeting.

The committee's report was accepted with a vote of appreciation for a job well done.

Gene Cramer, Chairman of the sub-committee on related instruction, reported on the Committee's findings.

Juan Rodriguez spoke on the need to establish standardized courses with the same course titles. It was the impression of the sub-committee that this problem should be referred to the State level for consideration. There was a consensus that the Apprenticeship Information Guides that had been prepared in the past would be a valuable tool to Local JAC's in trying to keep the schools informed of industry's needs in the apprenticeable occupations.

Tom Schumaker reported that the affirmative action committee found a need for continued effort in this area. There has been a continuing effort on the part of the Division of Apprenticeship Standards, working closely with labor, management and minority-group organizations, to develop equal opportunities in apprenticeship for all youth regardless of race, creed, color or national origin. The progress to date reflects the sincere efforts not only of our state representatives but also those from labor, management and minority groups.

There was a general discussion on the subject and it was M/S/C that a considerable amount of time should be devoted by this committee in developing a plan to accomplish a task that is of paramount importance.

The nominating committee presented their nominations and Fred DeGreef was elected Chairman; Wayne Turner, Co-Chairman; John Junk, Secretary-Treasurer.

John Junk gave a treasurer's report.

Chairman A. L. Anderson presented Fred DeGreef with a gavel made by apprentices. Mr. Anderson stated what a great pleasure it had been for him to serve as the first Chairman of the California Statewide Aerospace Industry JATC.

AEROSPACE INDUSTRY CONFERENCE

AUTOMOTIVE INDUSTRY

MODERATOR: C. L. McMonagle, Business Representative, International Association of Machinists and Aerospace Workers, Los Angeles.

SPEAKERS: Harold W. Shean, Education Director, International Association of Machinists and Aerospace Workers, Long Beach; Maurice O. Sullivan, National Automotive Coordinator, International Association of Machinists and Aerospace Workers, Los Angeles; Roy J. Harper, Coordinator--Developer, Automotive MDTA Program, San Diego; Robert J. Mockenhaupt, Vice President, B & L Truck and Transfer Company, Los Angeles; Walter J. Brooks, Automotive Trades JAC Chairman, Independent Garage Owners of California, Los Angeles; William Lopez, Business Representative, International Association of Machinists and Aerospace Workers, Los Angeles.

AIDES: Terry D. Downey and Alex Haefner, Division of Apprenticeship Standards.

Terry Downey introduced Moderator McMonagle. After preliminary remarks, Mr. McMonagle identified the panel members and the topic for this industry conference as "The Technical Changes Affecting the Automotive Repair Industry." Highlights on the topic by the speakers were as follows:

Hal Shean noted that recent technical changes by the automotive and truck manufacturers, such as disc wheel brakes, printed electrical circuit boards, etc., result in the repair shops not being able to turn out skilled work performance. He said lack of exposure of the apprentices and journeymen to these new skills, on the job and at related instruction classes, result in ineffective training and job performance.

Maurice Sullivan noted that statistics have shown at least 20,000 automotive and truck mechanics are lost each year on a national basis due to attrition in the trade; these skilled people are not being replaced by the apprenticeship and other training programs. He also said that recent changes in the testing equipment, in automatic controls, etc., will eventually reduce the need for repair work, but more parts replacement work is indicated.

Roy J. Harper said he found in his experience that there is a serious lack of knowledge and information on apprenticeship in the individual shops. Many young men in these shops are in training but they are not indentured as apprentices. He said he believed a goal of one new apprentice in each shop for one year would be a realistic and effective one for all automotive and truck industry training groups.

Robert J. Mockenhaupt noted that there is a serious need for more journeymen truck mechanics, mostly due to the recent changes in truck repair work.

Walter J. Brooks said he felt the need for information on technical changes to all shop owners and that this could be done by the pooling of information between all industry people.

Mr. Brooks also noted that JAC-TAC's must stress more sharply the motivation of each apprentice entering the programs.

William Lopez said we must reach those young people not now interested in automotive and truck apprenticeship; also, that the industry training groups should turn out not just bodies but expert tradesmen; this should be a joint effort of labor and management.

The second session of the Automotive Workshop on Friday opened with Moderator C. L. McMonagle inviting panelists and guests to discuss future goals of the industry. Some of

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2. Upgrading School Cu industry text books on rela technical changes affecting th are many excellent industry te

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After much discussion th Number 2 "Licensing of Auto no - 5.

BARBERS' IN

MODERATOR: Jack E. Tum Apprenticeship and Trai

GUEST SPEAKER: Ron Laboratories, Inc.

AIDES: C. D. "Don" Robins ship Standards; Nathan ticeship and Training.

Moderator Tummino w members of the California committee.

Recommendations refer The Barbers' Industry Co recommendations Nos. 3, 6, 11, the position was noncon but no action taken as it w recommendations were refe CCA Recommendations Com

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goals of the industry. Some of these goals were:

1. Funding of Apprenticeship Programs–Rod Breeze, Regional Manager of the Independent Garage Owners, reported his organization and affiliates are soon to get "Project Train" on the road; it was pointed out this project involves $100,000 in funds to promote individual shops to hire apprentices.

2. Upgrading School Curriculums–William Lopez felt that state and industry text books on related training should be revised to reflect the technical changes affecting the auto repair industry. He also mentioned there are many excellent industry text books now available.

3. JAC Function with School Instructors–It was suggested that a closer relationship be promoted so that better qualified instructors could be obtained.

4. A statewide committee made up of the entire Automotive Industry. It was hoped that this committee may be functioning by next year.

After much discussion the motion to concur with CCA recommendation Number 2 "Licensing of Automotive Mechanics" was voted on M/S/C yes - 7, no - 5.

BARBERS' INDUSTRY CONFERENCE

MODERATOR: Jack E. Tummino, Chairman, California State Barbers Joint Apprenticeship and Training Committee.

GUEST SPEAKER: Ron M. DiSalvo, Director, RK Division, Redken Laboratories, Inc.

AIDES: C. D. "Don" Robinson, and Robert Johnson, Division of Apprenticeship Standards; Nathan Jordan, Field Representative, Bureau of Apprenticeship and Training.

Moderator Tummino welcomed the participants and introduced the members of the California State Barbers JATC and aides assigned to the committee.

Recommendations referred to the Industry Conference were reviewed. The Barbers' Industry Conference took a position of concurrence on recommendations Nos. 3, 6, 7, and 10. On recommendations Nos. 5, 8, 9, and 11, the position was nonconcurrence. Recommendation No. 4 was reviewed, but no action taken as it was not applicable to barbers. Actions taken on recommendations were referred to the appropriate workshops and to the CCA Recommendations Committee.

Chairman Tummino introduced the guest speaker, Ron DiSalvo. Mr. DiSalvo was asked to discuss "New Developments in the Barber Industry." In his position as director of Redken Laboratories, Inc., Mr. DiSalvo is in a relatively new field related to the barbering industry. Using microscopy and electron microscopy, the laboratory is able to analyze the shaft and root structure of hair and determine problems that exist and to recommend corrective action to restore hair to a healthy condition. This service is made available to any registered barber or beautician without charge.

The theme of Mr. DiSalvo's discussion was "conditioning and reconditioning of hair." He discussed the use of biochemicals versus cosmetic chemicals in connection with healthy hair. The barber, to accomplish a desired objective with a customer, must first chemically damage the hair to make it receptive to the desired change. Mr. DiSalvo discussed at length the manner controlled damage and restoration are accomplished. He showed a series of slides to add visual aid to his discussion.

BRICKLAYERS & TILESETTERS

MODERATOR: Tom Coughlan, Chairman, State Bricklayers and Tilesetters JAC, Burlingame.

PANEL MEMBERS: Ryan M. O'Brien, Executive Vice President, California Conference of Mason Contractors, Inc., Los Angeles; Irvin Torian, Labor Member, State JAC, San Diego; Lloyd M. Hall, Employer Member, State JAC, Los Angeles.

AIDES: Grover C. Ruth, Division of Apprenticeship Standards; Patrick Burke, Bureau of Apprenticeship and Training.

Mr. O'Brien gave a comprehensive report of "The M-5 Program in the Los Angeles Area." He said that this program was used to develop skills of the trade with federal government assistance.

He reported many features of their program, among them the fact that individual firms laid out their needs. Apprentices were hard-core unemployed and disadvantaged. The applicants were certified by the Department of Human Resources Development. An employer may devise his own program according to the needs of his trainee. There are nine months of reimbursed training.

Negotiations began in July of 1969. Employers were canvassed to determine the number of apprentice jobs to be committed. There were 40 consortium employer members; the largest number of apprentices for any one employer was six.

The contract as finally completed was for 108 apprentices for 9 months of training, with induction of 18 each month over a six-month period. The cost was approximately $4,629.00 per trainee.

One instructor was assigned for 18 people while in classes. It is expected that there should be 108 jobs at the end of the training period and 75% to 80% of those started should be employed.

The first class was to be 18 but as no applicants who applied were rejected, this caused the first class to be increased to 27. At this rate induction should be completed in 5 months.

Mr. O'Brien went on to say that three classes have started; first 27, second 25, third 28, for a total of 80 trainees. The ethnic breakdown was reported as follows: first class–3 Caucasian, 13 Negro, 11 Mexican-American; second class–12 Caucasian, 3 Negro, 10 Mexican-Americans; third class–15 Caucasian, 13 Negro. Of these 80 men in classes, 16 terminated before completing the classes–5 Caucasian, 7 Negro and 4 Mexican-American. There are 64 presently in the program. Sixteen are still at the training center and should be placed by May 1. Forty-eight were actually placed with contractors and of these 8 have terminated. On May 4, a new class of 25 will be started.

Mr. O'Brien said he thought the program has been successful. Compliance has been good. He noted that training center time is non-productive and paid at the rate of $2.45 per hour by terms of the contract. Instructor time is reimbursed and counselors are also paid.

Perry Simmons, Chairman, Los Angeles Bricklayers JAC, also discussed the program. Mr. Simmons serves as a counselor.

Questions from the audience were answered by both Mr. O'Brien and Mr. Simmons. Several of these were regarding applicants for the regular apprenticeship program. They said applications are still taken, although all applicants to date have qualified under the M-5 program. It has not been determined whethe
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of 1969. Employers were canvassed to
ce jobs to be committed. There were 40
largest number of apprentices for any one

ted was for 108 apprentices for 9 months
each month over a six-month period. The
per trainee.
r 18 people while in classes. It is expected
he end of the training period and 75% to
loyed.
but as no applicants who applied were
ass to be increased to 27. At this rate
months.
that three classes have started; first 27,
of 80 trainees. The ethnic breakdown was
aucasian, 13 Negro, 11 Mexican-American;
gro, 10 Mexican-Americans; third class–15
80 men in classes, 16 terminated before
n, 7 Negro and 4 Mexican-American. There
Sixteen are still at the training center and
eight were actually placed with contractors
n May 4, a new class of 25 will be started.
e program has been successful. Compliance
ning center time is non-productive and paid
terms of the contract. Instructor time is
paid.
os Angeles Bricklayers JAC, also discussed
s a counselor.
were answered by both Mr. O'Brien and Mr.
re regarding applicants for the regular
d applications are still taken, although all
under the M-5 program. It has not been determined whether the M-5 program has caused a loss to the regular apprenticeship. Tools are purchased for trainees but this is not a part of the contract. At the end of the nine months' training under the M-5, apprentices are placed in the second period of apprenticeship.

Irvin Torian addressed the group on "Discipline of Apprentices Selection Procedures and Merit Advancement and Re-evaluation." He said today's apprentices are older and need to be treated as men and that the JAC must be strict and abide by the rules. Several of the delegates discussed methods and problems of their individual JACs.

Lloyd Hall, who substituted for Al Tully, originally scheduled to be a panel member, conducted an informative report and discussion on "Term of Apprenticeship: too long? – too short?"; "Are Starting Wages for Apprentices Too High?"; "Should We Develop and Train Specialists?" Much discussion by those present, both pro and con, on the first two subjects was carried on.

Moderator Coughlan made a short summary of the topics discussed.

CHIEF OF PARTY (SURVEYORS)

ACTING CHAIRMAN: Ed Millstead, Coordinator, Southern California Surveyors' Joint Apprenticeship Committee.
AIDE: Fred W. Payton, Division of Apprenticeship Standards.

Acting Chairman Millstead called the conference to order at 3:00 p.m. on April 22, in the Cleveland Room of the Los Angeles Hilton. All conferees were called on to introduce themselves.

Mr. Millstead then submitted to the conference a draft of a proposed plan for affirmative action to train and employ disadvantaged persons in civil engineering and land surveying.

The Civil Engineers and Land Surveyors Association, California Council, Southern California Chapter, after a verbal presentation by Mr. Millstead, had requested that such a plan be presented in writing so that their Board of Directors could formally consider it.

A panel consisting of Art Pennebaker, Assistant Administrator, and John W. Gaines, Affirmative Action Officer of the JACs for Northern California, Northern Nevada, Utah and Hawaii; David L. Sumner, Field Coordinator of the Southern California Surveyors JAC, and Mr. Millstead discussed the proposal–section by section.

Such items as total number of trainees, funding, the responsibilities of management and labor, supportive services, trainee vs. apprentice, and composition of field parties were discussed at some length.

The experiences of other such programs were discussed, including such specifics as percentage of failures.

It was agreed that there would be further vigorous study and consideration of the proposed plan.

The conference adjourned after some discussion of general subjects.

CEMENT MASONS INDUSTRY

MODERATOR: Ben F. Smith Jr., Associated General Contractors.
AIDE: Rulon K. Cottrell, Division of Apprenticeship Standards.

The meeting was held in the Conference Room, A.G.C. Building, Los Angeles, on April 23, 1970 at 1:30 p.m.

The meeting was called to order by Chairman Ben F. Smith Jr. Members were introduced.

Minutes of the previous meeting were read and approved, and correspondence was read, noted and filed by the secretary, Kenneth Graedel.

The Committee reviewed new revised statewide standards and determined to meet at a later date for signatures.

Ben F. Smith Jr. and aide Cottrell were appointed by the Committee to meet to develop statewide selection procedures, these procedures to be presented to the statewide J.A.C. at its next meeting, for approval.

CULINARY TRADES INDUSTRY

MODERATOR: Paul Greenwood, Secretary-Treasurer, Cooks Union No. 468, Los Angeles.
PANEL MEMBERS: Andrew Castle, Secretary, San Mateo County Restaurant and Hotel Owners Ass'n; Joseph Belardi, Secretary, Culinary Joint Board, San Francisco; G. O. Davidson, Area Supervisor, Division of Apprenticeship Standards, San Francisco.
AIDES: O. M. "Bob" Bachand, and Sol Tomberg, Division of Apprenticeship Standards.

Also present were; Jack Alexander, Culinary Union No. 62, Fresno; Bill Bailey, Culinary Union No. 468, Los Angeles; Kathryn Bruce, Project FEAST, San Francisco; Eugene Gerardo, Culinary Union No. 424, San Francisco; Lillian Haines, Chefs de Cuisine Ass'n. Daryl Hawkins, California State Restaurant Ass'n, Golden Gate Restaurant Ass'n; Bertha Metro, Local Joint Executive Board, Culinary Workers, San Francisco; Richard L. Morgan, Chefs de Cuisine Ass'n; Dick Richardson, Chefs de Cuisine Ass'n; David L. Shield, Culinary Union No. 681, Long Beach; James T. Stevens, Culinary Union No. 681, Long Beach; Leo Vuchinich, Culinary Union No.62, Fresno, and Dudley Wright, Culinary Union No. 402, San Diego.

Moderator Greenwood welcomed the participants and called for self-introductions. Mr. Bachand then presented a gavel to the moderator. Correspondence was read and noted.

Discussion was then held regarding the automatic granting of one year credit to new apprentices for prior culinary arts schooling. It was pointed out that granting of prior credits is a prerogative of local JACs; they also may shorten the period of training, as provided by the Shelley-Maloney Act.

Review of the by-laws was deferred to the next Statewide JAC meeting.

Discussion was held on how to enlarge and expand apprenticeship in this trade. More stimulation and promotion must be brought to bear on employers, who largely seem uninterested in training, although they complain about the critical shortage of craftsmen. It was emphasized that apprentices are productive as they learn.

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PAUL GREENWOOD

The matter of apprentices being paid above the minimum rates for their period of training was raised, and the concensus was that, in order to avoid unrest among apprentices, they should be paid only their minimum rates of pay.

Mr. Greenwood said that, due to recent changes in the industry, the greatest demand seems to be for "fry cooks" and that consideration should be given to training in this area.

New and changing trends in the industry were discussed, as well as the necessity to review training ideas, methods, etc. with the idea of updating to meet current needs. A suggestion was to classify cooks as "A," "B," or "C," depending upon the requirements of each food establishment. One example of a recent change is the advent of pre-prepared "instantly dispensed" food.

M/S/C to establish a by-laws committee, consisting of Earl Payne, Daryl Hawkins, Andy Castle and Bertha Metro.

Panelists then made their presentations.

Gil Davidson spoke on "Employer participation, evaluation of prior experience, new classifications, and automation," He mentioned the San Francisco situation, with two JACs, each covering a different classification of cook, and the M.D.T.A. program which was set up to encourage more minority hiring.

He proposed a sub-committee be set up to gain more employer interest. Such a committee should be aware of the likes and dislikes of employers and unions; it should establish the need for training and make the apprenticeship standards a part of the C.B.A. JAC members should be selected for their interest and belief in apprenticeship. DAS consultants and BAT representatives are available for assistance. Where there is no C.B.A., a trade apprenticeship committee of employers only or individual plant standards can be established.

Mr. Davidson listed some of the provisions that should be contained in apprenticeship standards: credit for previous experience, wages selection procedures, provision for related instruction, etc. A booklet "How to Establish a JAC" was distributed.

Andrew Castle's presentation was on the "Manual for Culinarians," "Apprentice Work Book," and "Instructor's Manual." He described the "Manual for Culinarians" as the best reference book in modern times for gourmet chefs; it should be used in apprenticeship with supplementary books as needed.

M/S/C to ask the State Department of Education to combine these books with other required books for related instruction.

Panelist Joseph Belardi opened his presentation with thanks to DAS representatives Davidson, Bachand and the late Richard Parino for their efforts on behalf of the industry. He described the history of the Statewide JAC and the adoption of its standards. Due to the critical shortage of qualified manpower, he feels it is imperative to enlarge the apprenticeship program. The alternative, he said, is what is now prevalent—"piracy" among employers of the few qualified craftsmen available. Expansion of hotels and restaurants has added to the problem. Perhaps a full-time professional should be hired to promote apprenticeship.

The M.D.T.A. program in the San Francisco area has helped a little in this effort, and civil rights efforts have added a few apprentices.

During the discussion period, it was brought out that some training is now going on "outside of apprenticeship." Schools should be informed where to send their likely candidates for application into apprenticeship. The Fry cook classification could be a starter for upward mobility, but the shortage of fry cooks is compounded by the hiring of transients who don't "stay put."

CONSTRUCTION ELECTRICAL CONFERENCE

MODERATOR: Harold G. Schmiederer, Staff Representative, Electrical Training Trust, Los Angeles.

PANEL MEMBERS: E. F. Stark, Business Manager, NECA Contra Costa Chapter; Lloyd F. Moul, Director, Electrical Training Trust, Sacramento; Wayne Thomas, Business Representative, IBEW 617, San Mateo.

AIDE: Frank Mendez, Division of Apprenticeship Standards.

FIRST ORDER OF BUSINESS—"Proposed Changes Regarding Credentials of Instructors— Its Consequences and Effects in the Apprenticeship Classes."

Grant Cottam, Coordinator from Diablo Valley College, Pleasant Hill, explained his understanding of this Bill. In essence, it is that local school districts would be able to hire instructors if they held a Master's Degree in that particular course, in lieu of work experience. After a question and answer period it was decided to hold this matter over until the meeting on Friday morning, when copies of the Bill would be available and Commissioner Bill Gordon, representing the Community Colleges, would be present to answer questions.

SECOND ORDER OF BUSINESS—"Difficulties Being Encountered on School Campuses, in Apprenticeship Classes—Problems and Possible Solutions."

Lloyd Moul discussed problems in Orange County and other areas of the State. The letters that he received from the Bureau of Industrial Education interpreting their position on related training classes were read and discussed. There was much discussion on how different school districts are handling their adult education classes. The problems that arose at San Mateo College were also discussed. T
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ns in Orange County and other areas of the d from the Bureau of Industrial Education ted training classes were read and discussed. ow different school districts are handling problems that arose at San Mateo College were also discussed. This entire matter was referred to the Statewide JATC for action.

THIRD ORDER OF BUSINESS—"Recommendations Submitted to California Conference."

After reviewing all the recommendations, the Panel either recommended concurrence or nonconcurrence. Those delegates present approved or disapproved the Panel's recommendations with the following results:

RECOMMENDATION NO. 1: Concurrence, provided if on apprenticeable occupations only.

RECOMMENDATION NO. 2: No recommendation.

RECOMMENDATION NO. 3: Recommend concurrence.

RECOMMENDATION NO. 4: No recommendation until problems that are inherent in the State Plan are resolved.

RECOMMENDATION NO. 5: Recommend concurrence, provided programs are maintained at present level.

RECOMMENDATION NO. 6: Recommend concurrence.

RECOMMENDATION NO. 7: Recommend concurrence.

RECOMMENDATION NO. 8: Referred back to Finance Committee for further review.

RECOMMENDATION NO. 9: Nonconcurrence in present form.

RECOMMENDATION NO. 10: Recommend concurrence.

RECOMMENDATION NO. 11: Recommend concurrence.

Buck Baker, Director of the National Joint Apprenticeship and Training Committee, Washington, D.C., was then introduced. He made a few remarks on school problems and so-called pre-apprenticeship type classes which exist nationwide. He also advised the delegates not to lower any of their requirements in apprenticeship because of other types of training programs.

Thomas Sweeney, Business Manager of the Alameda County Electricians, Oakland, requested the delegates to present their feelings on programs other than apprenticeship (Model Cities Programs and other federal funded training programs). Delegates voted against any programs other than apprenticeship.

Philadelphia Plan and other area type plans involved with Federal Contract Compliance were discussed. Kay Filler, Director of Training & Education, National Electrical Contractors Association, Los Angeles, explained the progress which has been made in working out the so-called LA Plan. It will be essentially the same plan as the LA County School Board's Plan. One of the major difficulties is that the minority communities seem to be unable to agree among themselves as to who will be their representatives. The Plan will be submitted for approval to a Sub-Committee of the City Council on the 11th of May.

Joe Roberts, Director of Apprenticeship Opportunities Program in San Francisco, spoke about affirmative action programs in the San Francisco Bay Area (Sheetmetal and Model Cities Programs).

Buck Baker explained about the case that was brought against the IBEW Local in Cleveland, Ohio, by the Justice Department and how it was resolved.

George Smith, Deputy Director of the Department of Industrial Relations, was introduced and gave a short history of apprenticeship programs in California. Mr. Smith is the former Business Manager of the IBEW Local 18 in Los Angeles.

The conference then adjourned and reconvened on Friday, April 24, at 9:30 a.m.

Commissioner William Gordon, representing the Community Colleges, joined the other members of the discussion panel.

The discussion by the panel of the proposed changes in the credentialling of instructors of apprenticeship related instruction classes was resumed.

Lloyd Moul said he had sent for copies of the proposed legislation but they were not available. Discussion of the specific language was not possible; however, Mr. Gordon commented upon his understanding of the basic aspects of the proposed legislation and answered questions from the floor.

An extensive discussion followed.

Lloyd Moul then brought to the attention of the conferees the serious nature of the following Bills: California State Assembly Bills AB 2497 and AB 2501; U.S. Senate Bill SB 2838 and its companion Bill in the House of Representatives, HR 13472.

All of these Bills were discussed at length with various questions being asked from the floor.

There was a discussion of various types of training such as short-term on-the-job training, federally and/or state-funded and un-subsidized programs. Special attention was given to the cost per trainee of federal and/or state-funded training programs as contrasted with the very low cost per year to train apprentices in non-funded voluntary programs sponsored by labor and management.

A variety of other subjects was discussed.

ELECTRONICS INDUSTRY (RADIO & TV)

MODERATOR: A. R. Lawrence, A. R. Lawrence and Associates Management–Supervisory–Sales Training & Development.

PANELISTS: Joseph Rodriques, Sacramento Electronic technician JAC; George E. VonBreyman, Ventura College; Walter C. Kinney, Sacramento JAC; Wayne B. Hartwell, California State Electronic Association; Ralph Johonnot, Executive Vice-President, California State Electronic Association; Ed Murray, Chairman, Pomona TAC; L. David Shallenberger, California State Electronic Association; Arthur E. Brown, California State Department of Education.

AIDES: Harold P. Camp and Henry Nightingale, Division of Apprenticeship Standards.

Topics;

1. California State Electronics Association Chapters' Role in Apprenticeship.
2. California State Electronics Association Advisory Role in Education.
3. State-wide Coordination of Apprenticeship Training Standards.

Moderator A. R. Lawrence opened the conference by stating the objective of C.S.E.A.'s role in apprenticeship: "It is the desire of the California State Electronics Association to establish within its framework the highest possible standards of workmanship and skill and to this end, the Association has established an apprentice training plan and urges all members to dedicate some of their time and effort to the task of achieving and sustaining these Standards."

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Ralph Johonnot suggested that, in some areas, it might be advisable for two or more C.S.E.A. Chapters to unite to form a local Trade Apprentice Committee (TAC) but questioned propriety of out-of-district students attending centrally located class.

Ed Murray noted that Pomona TAC had experienced some difficulty in school district requirements.

Discussion centered on the need to publicize the role of C.S.E.A. in apprenticeship so shops would be more informed. Questions were raised on "what determines acceptability of a shop as a training facility?"—"how much paperwork is involved?"—"what responsibility does an employer assume to an apprentice if he must let him go due to slow business?"—"sources of manpower?"

Ralph Johonnot said that consideration was being given by the Association to the idea of publicizing the apprentice plan through the "Stars and Stripes" so G.I.s would be informed. He noted that there would be a Forum on Apprenticeship at the May 29-31, 1970 C.S.E.A. Convention in Fresno.

GLAZIERS INDUSTRY CONFERENCE

MODERATOR: Julian R. Gallegos, Coordinator, Joint Apprenticeship Committee of So. Counties Glaziers and Glassworkers Industry.

STEERING COMMITTEE: Francis J. O'Connor, Glaziers and Glassworkers, Local Union No. 1399, San Diego; Alex Meyer, Golden Gate Glass & Mirror Co., San Francisco; Douglas Young, Jr., Pacific Glass Company, San Diego; Robert Kerr, Business Manager, Glaziers & Glassworkers Local No. 169, Oakland.

AIDES: Robert Tobi, Bureau of Industrial Education; Ward Minchin, Division of Apprenticeship Standards; Don F. Allen, Coordinator, So. Co. Glaziers & Glassworkers Industry JAC; Homer E. Green, Coordinator, So. Co. Glaziers & Glassworkers Industry JAC;

ALSO IN ATTENDANCE WERE: Albert T. Eggen, San Jose JAC; Jean Hintermann, S.F. Flat Glass JAC; William Brown, Business Manager, Glaziers Local 1621, San Jose; Stanley M. Smith, Field Reprs., Glaziers Local 718; Harold A. Collard, Board Member, JAC Local No. 169; Marv Harris, Regional Mgr., Parr Inc. – C. R. Lawrence; Norman Tyre, Los Angeles JAC; Mark A. Mischel, Los Angeles JAC; Russe Hawe, Security Consultant, Adams Rite Mfg. Co., Glendale; J. C. Thorp, Chairman, California Locksmith's Assn., Fountain Valley; John S. Russell, Regional Director, Amer. Soc. & Archit. House Consultants; Larry Fenske, L. A. City Schools; E. M. Thomsen, Specialist, Ind. Educ. L.A.T.T.; Harry E. Simonds, Dist. Coor. Occup. Educ. L.A.C.C.; H. S. Plotkin, Marketing Manager, Vertex, Inc.; Wm. J. Hornbeck, Industrial Coordinator, Central City Occup. Center; John J. Boyle, Sales Manager, Specialty Prod. Dist. Co., Glendale; Nick Gyopyos, President Sandwich Panels; Mark A. Croshaw, Board Member, JAC Flat Glass – L.U. 169, Oakland.

Aide Ward Minchin opened the meeting by presenting to Francis J. O'Connor a gavel with the inscription:

> This gavel was made by students in Vocational classes (Mill, Cabinet, and Painting) at the California Youth Training School in Ontario, a department of the Youth Authority Training School.

Moderator Julian Gallegos introduced;

1. Robert Tobi, Regional Supervisor, Bureau of Industrial Education, who presented the industry conference with some very important information concerning vocational consultants and the possibility of a reduction in their staff.
2. Harry E. Simonds, District Coordinator, Occupational Education, Los Angeles Community Colleges. His discussion revolved around the mistakes parents are making by insisting their children obtain an academic education when they are not susceptible to this type of education. He explained how this could be detrimental to a student who might excel in vocational education. Included in his presentation was the meaning of vocational education, profitable education for students.
3. John Russell, of John Russell & Associates, who spoke on door closures and hardware.
4. Marv Harris, Regional Manager, Paar Inc. & C. R. Lawrence (sealants).
5. Jack Boyle, Specialty Products Distributing Co. (sealants).
6. Larry Fenske, Los Angeles City Schools (plastics and their uses).
7. Nich Gyopyos, Asbestos Products Co. (sandwich panels used for curtain walls).
8. Russ Hawe, Rite Manufacturing Company (locks and latches).

A motion was made by Norman Tyre, of Tyre Bros, Glass Company and seconded by Mark Mischel, of Harris Glass Company, to give mention in the minutes of Julian R. Gallegos: retirement, to take effect April 30, 1970 as Coordinator of the Joint Apprenticeship Committee of So. Counties Glaziers & Glassworkers Industry. A standing ovation was given Julian for his many contributions to the apprenticeship program in California.

PORTION OF MACHINIST INDUSTRY CONFERENCE

OTHER INDUSTRY MEETINGS

Delegates from Carpentry, Drywall Installers, and Operating Engineers Joint Apprenticeship Committees held informal gatherings in meeting rooms which had been reserved for them. However, no written reports were submitted to be included in these Proceedings.

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MACHINIST/TOOL & DIE INDUSTRY CONFERENCE

MODERATOR: A. L. Anderson, Vocational Training Manager, McDonnell Douglas Corporation.

PANELISTS: Richard Harden, International Association of Machinist and Aerospace Workers; George Watkins, General Vice-president, International Association of Machinist and Aerospace Workers; Fred De Greel, International Association of Machinist and Aerospace Workers; Juan Rodriquiz, International Association of Machinist and Aerospace Workers; Garrett Fox, Supervisor, Machine Repair, Owens, Illinois; Seymour Lehrer, Southern California Tool and Die Association.

STAFF AIDES: Jefferson Lee and H. E. Sexton, Division of Apprenticeship Standards.

Moderator A. L. Anderson explained the topic and procedure that would be used in this conference discussion, and requested the cooperation of all present.

Juan Rodriquiz spoke first on ways to stabilize the machine tool industry through a more comprehensive apprenticeship training program, whereby the apprentice, upon completion, could apply his skill in any phase of the industry.

Garrett Fox, speaking on on-the-job training, felt that basic math and skills should be a part of all machinist apprenticeship training in order to produce a well-rounded journeyman machinist, skilled in all phases of the craft. Specializing should only be done after the apprentice has completed a four-year apprenticeship program.

Richard Harden spoke on technical changes and O.J.T. He stressed the point that better qualified candidates are needed in the machine tool industry. This can be partially accomplished by keeping the public school counselors advised of the necessary curriculum, starting at junior high school level. There should be a study in-depth of the various phases of the machining industry regarding its needs, and the apprenticeship program should be tailored to the varying requirements of industry.

Fred De Greef also discussed technical changes and O.J.T. He said it has been proven that a four-year apprenticeship program is required to produce a well-qualified journeyman machinist. With the new techniques and machines it may be that the apprenticeship period will have to be extended one or two years to produce a journeyman who is proficient on all machine tools that are in use today.

George Watkins, discussing O.J.T., stated that apprenticeship standards must be set and adhered to which meet the need of industry, and which can be accomplished by the average apprentice. We cannot concern ourselves only with the very apt or exceptional apprentice, he said; we have to be guided by the norm. Apprenticeship prpgrams are not designed for industry or for the individual alone, but for the good of all society.

Seymour Lehrer explained that the Southern California Tool and Die Association is training apprentices to be journeyman machinists, tool and die makers, etc. to work at the machines and on the bench. We are not interested in training tool designers and shop owners, he said, which sometimes happens when the apprentice has a college degree or possibly two or three years of college. An apprentice can be too well qualified and be lost to the industry as a journeyman by becoming part of management.

Moderator A. L. Anderson, speaking on O.J.T., outlined the aerospace industry's efforts, through a statewide committee, to standardize all machining apprenticeship within that industry. This would result in many benefits to the industry, the apprentices, and the journeymen, by making them inter-changeable throughout the aerospace program.

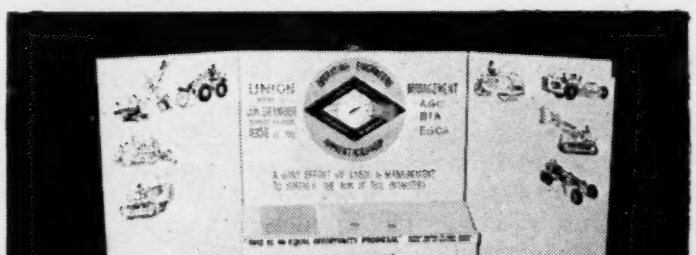
James Stamm described in detail the Kaiser Steel program in relation to training of apprentices. It is the policy of this committee to select apprentices from the employees of the plant, thus giving the apprentice a preview of what is expected of him in the program, as well as giving the committee an opportunity to appraise his work habits. As a result, the drop-out of apprentices is very low.

Edward Hibbert spoke on O.J.T. and technical changes within the industry, stating that apprenticeship training should be a major concern of all companies using any of the machine tool trade journeymen. They should either have apprentices in training, or make contributions through an industry-wide apprenticeship fund. This fund could be set up by the industry on an equitable basis . . . and any funding from the federal government would not be welcome . . . this is industry's obligation.

Bernard Miles said that a central funding program by industry would bring about standardized apprenticeship training, with all machine tool apprentices acquiring the same basic background that is needed for a qualified journeyman. The apprentice should not be allowed to specialize in any part of the machine tool trades until he has completed the prescribed training program and has been advanced to journeyman status.

Bert Richardson of National Tool and Die Association spoke on O.J.T. He reported that the National Tool and Die Association, in cooperation with the Southern California Tool and Die Association, is conducting a pre-apprenticeship training program which is funded by M.D.T.A. and is 16 weeks in length. They are having outstanding results, and the shop owners are more than pleased with the performance of these young men as starting apprentices. Further, it is very gratifying to be able to help the industry and the new apprentices at the same time.

Mr. Anderson, as Moderator for this industry conference, kept the discussions to the subject matter, yet allowed every aspect of each thought to be explored. Much interest and enthusiasm were expressed from the floor.



SOUTHERN CALIFORNIA OPERATING ENGINEERS EXHIBIT

MEAT INDUSTRY

MODERATORS: Philip R. Melnick, Secre
Meat Dealers Association, Los Ange
Representative, Butchers Union Loc
President, Western Federation of Butch

PANEL MEMBERS: Ralph Liebman, Mea
Angeles; Robert "Bob" Cook, Secreta
Makers Local 274, Los Angeles; Fr
Butchers Local 506, San Jose; L.
Coordinator, Division of Apprenticesh
Sgobassi, Vice President, Lucky Stores
Los Angeles; Al Lombardi, Chairman,
San Francisco; Edwin Laboure, Se
Local 508, San Francisco;

AIDE: Carl M. Owen, Division of Apprentic

The following is a summary of the s
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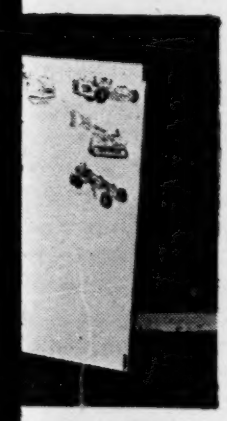

GINEERS EXHIBIT

MEAT INDUSTRY CONFERENCE

MODERATORS: Philip R. Melnick, Secretary-Manager, Southern California Meat Dealers Association, Los Angeles; Everett A. Matzen, Business Representative, Butchers Union Local 364, Petaluma; Max J. Osslo, President, Western Federation of Butchers of California, San Diego.

PANEL MEMBERS: Ralph Liebman, Meat Director, Ralph's Grocery, Los Angeles; Robert "Bob" Cook, Secretary-Treasurer, Jobbing and Sausage Makers Local 274, Los Angeles; Fred L. Feci, Secretary-Treasurer, Butchers Local 506, San Jose; L. A. Jordan, Intergroup Relations Coordinator, Division of Apprenticeship Standards, Los Angeles; Jerry Sgobassi, Vice President, Lucky Stores; Duane C. Ulrich, Meat Instructor, Los Angeles; Al Lombardi, Chairman, Bay Area Jobbing Butchers JAC, San Francisco; Edwin Laboure, Secretary-Treasurer, Slaughterhouse Local 508, San Francisco;

AIDE: Carl M. Owen, Division of Apprenticeship Standards.

The following is a summary of the subjects discussed and conclusions reached by this industry conference:

The standard approach to the two-year retail butcher apprentice program was presented in a detailed manner depicting the serious intent to train meatcutters by on-the-job training and related class instruction. Although there are apprentices who are capable of and do complete the program in a shorter period, the all around retail butcher training does take two years.

The jobbing and sausage making plants in Southern Calfornia do not have active programs, as changing methods and machinery processing did not produce a willingness for labor and management to set up training programs as such. These trades around the San Francisco Bay Area do have a training program and even a 3c an hour training fund which is used to subsidize the program. A need for related instruction courses was expressed.

Different systems of recruiting and selecting applicants were explained and the need to define uniform selection procedures was thoroughly discussed. Although some plans were functioning well, there appeared to be a need for more industry cooperation.

The entire processing and packaging operation of the Lucky Stores was presented and illustrated by their representative. This presentation was discussed and the necessity of changing training programs to conform to the new approaches of retailing became quite evident.

The present courses of instruction were reviewed; more supplemental aids and basic instruction are needed in order that the needs of the industry can be better serviced. As the trends gradually approach the computer operation there must be more adequate methods of instruction.

As there are many different ways of handling the products of the industry in the many different areas of the State, it became apparent that there will be many differences in both on-the-job training and related instruction in order to use the skills and experiences to the highest degree. Because this highly perishable product itself does not differ very much in different areas, there must be better methods developed to merchandise the product if the firms are to remain in competition.

PAINTING & DECORATING

PANEL MEMBERS: Joe McManus, Executive Secretary, Los Angeles Chapter, Painting & Decorating Contractors Association, Inc.; Richard Overmier, National Project Coordinator of the Jobs Corps Program, Brotherhood of Painters and Allied Trades; D. O. Pierce, Coordinator, Los Angeles Coordinating Council of Apprenticeship Committees; Edmund M. Thomsen, Specialist in Industrial Education.

AIDE: Floyd Prince, Division of Apprenticeship Standards.

The conference was called to order by Floyd Prince, Aide, who welcomed the panelists and delegates, after which he presented a gavel to panelist Richard Overmier who also presided as moderator.

Mr. Overmier explained that the Jobs Corps Program is established under contract with the U.S. Department of Labor. Presently there are twenty-two centers around the country and twenty-seven instructors. The participants are mostly boys with limited education who are first enrolled in remedial training classes for a six-week period. After this they are taught painting fundamentals and finally practical training in rigging and paint application. The boys have approximately 1,000 hours of training during the year they spend in the Jobs Corps.

At present forty-five young men have completed and been placed in apprenticeship programs. The Brotherhood of Painters and Allied Trades are currently negotiating for six additional training centers.

Anyone interested in hiring these youths was invited to contact Mr. Overmier at his Washington, D. C. address.

Joe McManus reported on the MA-5 Consortium Program that has recently been implemented in the Los Angeles area. The Los Angeles Painting and Decorating Contractors Association has negotiated a program to train one hundred and fifty boys over an eighteen-month period. Each trainee is given a full nine months of support training, which includes six weeks of institutional-type training geared to give insight into the trade. Thereafter he is placed on the job, where he remains for the balance of his training. The trainee is put on the contractor's payroll the first day of school, but the shop is reimbursed for the full cost of trainee's wages and overhead during the school period. Thereafter, the employer is reimbursed on a per diem basis. In addition to support for the trainee, the contract provides funds for class instruction of foremen and contractors in training methods.

Steve Ortez, Project Director, was introduced. He explained the process for securing applicants for the program.

CAC Commissioner Fred Adam was introduced. It was announced that he was going to work as a National Coordinator for the Floor Industries on an MDTA contract. He will start May 1, 1970.

The Industry Conference unanimously adopted the following resolution:

WHEREAS, the Painting and Decorating and Drywall Industry recognizes the necessity for up-dating and modernizing materials in the training of Apprentices and realizes the emphasis needed on continual modernization of methods, and

WHEREAS, the Painting Industry has fallen behind in the formal application of its modern skills, and of conveying the information to its Apprentices, and

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bundance today of local programs, all uncoordinated with each other, and many times over-lapping and contradictory, and

WHEREAS, the State of California has long been recognized as a leader in the role of Apprenticeship Programs, therefore

BE IT RESOLVED, that this Industry Conference requests the California State Department of Education to call the Industry's leaders together and immediately revise and up-date the education materials for the modern methods recognized today.

BE IT FURTHER RESOLVED, that the Industry's recognized leaders and the California State Department of Education join in a common effort to expedite the training of young people so that an up-grading of skills and concentrated methods will produce future journeymen of the quality required to sustain the Trade for the future.

Considerable discussion followed on selection of an Advisory Committee, after which the meeting was adjourned.

PIPE TRADES INDUSTRY

MODERATORS: James Martin, Secretary, Statewide Pipe Trades JAC; Dominic Soffietto, Assistant Director, Southern California Apprenticeship & Journeymen Training Trust Fund; Fred Schmitz, California Apprenticeship Council Member; Al Lindstrom, Bureau of Apprenticeship & Training, Phoenix, Arizona.

AIDES: James A. Hayes and W. E. Gates, Division of Apprenticeship Standards; Edward T. Denny, State Supervisor, Bureau of Apprenticeship & Training.

Dominic Soffietto opened the Industry Conference with greetings and introductions of some of the distinguished guests and, particularly, Mr. David Wheatly of London, England. Mr. Wheatley is Director, City Guild & Institute of London.

REVIEW OF CALIFORNIA STATE PIPE TRADES JAC ACCOMPLISHMENTS was the topic of James Martin, who discussed the general makeup of the State Committee. There are approximately 48 pipe trades JACs in Calfiornia with some 2,000 apprentices training at the present time.

Mr. Martin than spoke of the activities of the State Committee, and the State Apprenticeship Contest open to 4th and 5th year plumber and pipefitter apprentices. On June 10, 11 and 12, the contest will be held at San Luis Obispo. About 50 contestants will vie for prize money of $125, $100 and $75 and also for special awards. Participants in the Statewide Contest are winners of their respective local contests.

The United Association will hold its 16th annual International Contest at Purdue University, Lafayette, Indiana in August. Participants must have been winners of a State Contest. Prize money is $1000, $750 and $500, along with special awards. Transportation, wages and expenses are paid by the United Association.

During the five day contest at Purdue, classes are held for instructors on technological changes in the piping industry.

Following the address by Mr. Martin, a very spirited discussion by a number of those present was held on the State Contest. A motion was made by Fred Schmitz which carried: "That this meeting recommend to the

Statewide Pipe Trades Committee, prior to the 1971 Contest, that they devise a method of informing contestants of their performance on each project."

The second topic, CHANGES IN TECHNOLOGY AFFECTING THE INDUSTRY, was given by Merlin L. Geddes, President of Geddes Company Mechanical Contractors, Arcadia.

Mr. Geddes outlined the changing plumbing shop from the pre-war period to the present day. In the shop of 30 years ago, the plumber was more or less a jack of all trades and apprentices, drawing a small wage, were assigned to help. After World War II, due to large housing tracts, the specialized shop came into being. The journeymen and apprentices became production workers.

In the immediate post-war period, with the manpower shortage, apprentices were used in production and the JAC program began to get more attention. The JACs realized what was happening in the field and attempted to give the apprentice class training to make up for lack of field training. Mr. Geddes thought this had limited success. In Pasadena, during this period, there were around 60 men enrolled in classes, with three full-time instructors.

Mr. Geddes outlined present day apprenticeship in the Pasadena area:

1. Apprenticeship classes greatly diminished in size.
2. Clamour to employ more minorities as employers are having difficulty keeping journeymen already employed.
3. Present high starting salary. July 1 apprentices start at $6.26 per hour (60% of $10.43). This means man must be on production payroll, and training becomes secondary.
4. Restricted movement of apprentices becomes an acute problem as to how to keep them employed.

Mr. Geddes also summarized need of replacement in the work force by retirement alone, which could lead to 50% in the next 15 years. His survey shows average age of journeymen to be 44 years. With these figures, he thought District Council 16 in Southern California should be completing training for 400 men per year for the next 15 years.

The solution, in his opinion, is a lower starting rate for apprentices and free movement of apprentices in District 16.

The last speaker was Al Lindstrom, Bureau of Apprenticeship and Training, Phoenix, Arizona, who was substituting for Robert Brauer, Regional Director, office of Federal Contract Compliance. His topic was the PHILADELPHIA PLAN AND OTHER AREA TYPE PLANS ACCEPTABLE TO FEDERAL CONTRACT COMPLIANCE.

Mr. Lindstrom read some of the Executive Orders and gave the history of each. These included Executive Orders 10925, 11246; this Order was amemded by 11375 to include sex as a prohibitive basis of discrimination. Executive Order 11114 extended the requirements of Executive Order 10925 to federally assisted construction projects.

Mr. Lindstrom spoke of the focus on the construction industry in the development of affirmative action programs. Four areas were the initial focal points: Philadelphia, St. Louis, Cleveland and the San Francisco Bay Area.

The initial Philadelphia Plan now in effect, even though legal, is not working too well. This Plan has a ratio of 6%–24% in four years for employment of minorities.

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PANEL MEMBERS: Geo
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224, Plasterers JAC,
Plasterers Local No.
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Southern California
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the minority community seems to be best suited at present, according to Mr. Lindstrom.

Other plans are still being discussed. One in Los Angeles is in this stage now. In the Bay Area one may soon be proposed. In Seattle, negotiations have been going on for some time without settlement.

At the close of this informative report, Mr. Lindstrom answered questions from the floor and discussion by those in attendance.

Dominic Soffietto then brought before the members present a Review of Recommendations Submitted to the California Conference on Apprenticeship. No action was taken on No. 1, No. 6, No. 7, No. 8, No. 10. Concurrence on No. 2, No. 3, No. 4, No. 9, No. 11. No. 5 was not supported and each delegate was asked to use his own judgment and vote accordingly.

The Session on Friday morning, April 24, was moderated by Dominic Soffietto. The subjects discussed were varied and included a report by Robert Hall, Coordinator from San Jose, of what transpired at a Senate Sub-Committee hearing held in San Francisco regarding proposed legislation affecting apprenticeship.

Other subjects covered were "Term of Plumber and Pipefitter Apprenticeship training," "Travel of Apprentices," "Public Agencies Apprenticeship Programs," and "communications between Statewide Pipe Trades JACs and Local JACs."

PLASTERING INDUSTRY

MODERATOR: James Rose, Executive Secretary, Southern California Contracting Plasterers Association, Los Angeles.

PANEL MEMBERS: George Allen, Business Mgr., Plasterers L.U. No. 2, Los Angeles; Joe Cruz, Los Angeles Plasterers JAC; Art Digregorio, Business Agent, Plasterers L.U. No. 2, Los Angeles; Douglas Feliciano, L.U. No. 224, Plasterers JAC, San Jose; A. H. Gallardo, Business Representative, Plasterers Local No. 489; K. E. Graedel, East Contra Costa Plasterers & Cement Masons JAC, Pittsburg; Leonard Hazen, Asst. Supervisor MDTA, State Vocational Education, Los Angeles; A. H. Lethbridge, Director, Southern California Plasterers Institute Apprenticeship Trust, Los Angeles; Richard Martinez, Secretary, Santa Clara and San Benito Plasterers JAC; Louis W. Miller, Apprenticeship Coordinator, Lathers, Los Angeles; Con O'Shea, O.P. & C.M.A. International Representative; Milton W. Pringle, Business Agent, Plasterers L.U. No. 188, Fresno; Russell Shields, Coordinator, Southern California Plasterers Institute Apprenticeship Trust, Los Angeles; Johnny Wheaton, Task Force Liaison Officer, Concentrated Employment Program, San Francisco; Gilbert Wolf, Director, National Plasterers Industry's Joint Apprenticeship Trust Fund, Washington, D.C.

AIDES: Nils Sandberg and Carl Lara, Division of Apprenticeship Standards.

Mr. Rose said that since the last conference in San Francisco, many good and bad changes have taken place in the industry. Though construction is still in somewhat of a slack period, the industry has continued to hire some apprentices. He said those active in the various JACs throughout the State know that we cannot slack off if we are going to have enough journeymen when the construction boom that is predicted hits us. He then introduced Mr. Gilbert Wolf, National Director, N.P.I., Joint Apprenticeship Training Fund, from Washington, D.C.

Mr. Wolf said the national program has not been in business very long, so they have been working on publications to distribute to youth and the public about the program.

The pamphlet "Plastering" is quite general so that it can be used as broadly as possible. It includes various tools and materials used in the industry. They are concentrating distribution of this pamphlet to junior and senior high schools and their counselors.

The pamphlet "A Form of Plaster" is designed for distribution to the grammar schools and its purpose is to plant the seed of plastering in youth's minds so that they can associate it with the building they will be entering all their lives.

Mr. Wolf's office is also cooperating with the Vocational Industrial Clubs of America. VICA depicts the plasterer in their first pamphlet, "The World of Work." The NPI Fund efforts will be guided by the needs of the respective JACs, whether it be in recruitment, placement or education for entry to the various programs.

His office is also working on a new book—"Plasterers Skills and Practice Books," showing the skills and materials used. The technical application of these materials and tools are outlined. There is also a section on contracting.

Forman Correspondence Course will be available in the near future, Mr. Wolf reported. The material will be mailed monthly with text and tests. They will publicize the time the course will require to complete, how to register and its cost as soon as they can put it out.

They are working in Texas to reestablish a statewide apprenticeship contest and should have that program under way soon. He said if California wishes to establish a similar program, they will be glad to assist. If enough states have statewide contests, maybe they can work up a national contest. Mr. Wolf said his office is also working on amendments to the national standards—building in incentives for more apprentice and employer participation, and possibly a reduction in the time of apprenticeship. They are assisting the Boy Scouts of America in their efforts to restructure their camps, projects from camping, etc., to construction trades projects.

They are participating in the Occupational Center, Job Corp, with centers in Kentucky, North Carolina, and Virginia. The trainees receive academic schooling to bring them up to the necessary educational level and are taught the fundamentals of the trade, the term of training being one year.

EQUAL OPPORTUNITY OF EMPLOYMENT IN PLASTERING TRADES:

General discussion was held on this subject and it was the general opinion that the industry, as a whole, in this State has no equal opportunity problems; that the local unions all have many Negro and Mexican-American plasterers and even some business agents; that the selection procedures are in conformance with federal and state statutes, and give anyone wishing to enter the trade the opportunity.

OCCUPATIONAL DEFERMENTS:

Apparently the present White House orders are: That there would be no deferments after those already given have expired. So the conference took no action.

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General discussion was held on this subject and it was believed that the

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AIDES: Stu Penman and E
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PLOYMENT IN PLASTERING TRADES:
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RRIER'S RATIO:
n this subject and it was believed that the laborers' union was not interested in cooperating with the plasterers; that management was too lenient with the laborers; that the only apparent way to cope with the problem is to assure the jurisdiction of hod carrier by designating a plasterer's helper classification.

M/S/C unanimously that a committee be appointed to draw up verbiage to be submitted in the form of resolution to the Plasterers O.P. & C.M. I.A. convention for plasterers to designate their own Plaster Helper Classification.

M.D.T.A.; MA-5 PROGRAM:

Al Lethbridge spoke on this program, stating that the Los Angeles Orange County Plasterers Apprenticeship Trust is investigating the possibilities of entering into a contract with the Labor Department for an MA-5 Program Contract to train hardcore minority people in the program.

Under this program employers who participate can be subsidized during the training of the trainees and employees are also paid while in training. There is also the possibility of furnishing tools, paid-for class attendance and instructors, medical attention and transportation for the trainees who are selected to come into the program.

SHEET METAL INDUSTRY

MODERATOR: Kurt Wittler, Contractor, Wittler Young Company, Los Angeles.

PANEL MEMBERS: Virgil Maw, President, Inland Air Conditioning and Refrigeration Contractors Assn. Inc., Riverside; Robert G. Bird, Apprentice Coordinator, Los Angeles Sheet Metal Workers JAC; Nelson Jolly, Executive Coordinator, Tri-State Council of California, Arizona and Nevada Sheet Metal Workers International Association, San Francisco; David Wasserman, Sheet Metal Instructor, Los Angeles City School System; Eloy Rodriguez, Sheet Metal Instructor, Los Angeles City School System; William F. McCauley, Contractor Relations Specialist, Office of Contract Compliance, Los Angeles; Joshua Kheel, President. Sheet Metal and Air Conditioning Contractors Assn. of Southern California, Inc; Larry C. Darwin, Industrial Indemnity Insurance Company, Los Angeles; John L. Reinheimer, Safety Consultant to Inland Sheet Metal Industry, Riverside and San Bernardino Counties and Pomona Trade Area.

AIDES: Stu Penman and E. K. Miles, Division of Apprenticeship Standards; Roger Tucker, Bureau of Industrial Education.

Moderator Wittler announced the four topics previously proposed by the statewide J.A.C. for discussion: "Why Does Apprenticeship Require Four Years?, "Specialized Related Instruction Versus General Related Instruction", "Are Standards and Selection Procedures Related to the 70s?", "Safety Among Apprentices". Introduction of the panel members was withheld until their turn to speak.

Virgil Maw spoke first on "Why Does Apprenticeship Require Four Years". He said he had discussed the subject with several contractors during the last couple of months and noticed many diverse views on how long an apprentice should train, who should be responsible for his training, and what type of training he should receive.

Mr. Maw pointed out a number of the problems confronting his industry, including product innovations, competition from non-union contractors in

the field of residential and commercial air conditioning, and the cost of labor. He does not feel that the union contractor can compete in labor costs, except with greater expertise and training.

Assuming that apprenticeship is the best way to train "can it be done in two years?", he asked. Answering his own question he expressed the view that perhaps the classroom portion could, if it is presently enough. This he doubted. On-the-job training, he said is the big problem. Many contractors now are reluctant to hire 4th year apprentices because they feel their skill level is not commensurate with the pay required.

Furthermore, he felt two years of training would simply result in specialization and fragmentation of the trade. This might work in a large shop, but the sheet metal trade is so diverse that industry-wide it would result in chaos and jurisdictional disputes, with each specialty group fighting to protect its own interest.

In closing, Mr. Maw expressed the view that every journeyman owes it to himself, and the industry, to be fully trained and knowledgeable relative to the many skills required, the real question being whether all the training that is needed can be done in four years.

Robert Bird, exploring the topic "Why Does Apprenticeship Require Four Years," expressed the view that perhaps it can better be asked "Why Does Apprenticeship Require Only four Years?" After four years, he said, the apprentice has merely reached a plateau where he can work alone and assume a greater degree of responsibility. Experience has shown it takes eight to ten years to become a 1st class mechanic.

Mr. Bird, commenting on the reasons for certain requirements of the variety of skills required, are not always present on the job; that the apprentice must learn one process after another as the opportunity presents itself. A longer term of apprenticeship means better training from exposure to more and different work processes, and from craftsmen who can relate their skills to the apprentice.

processes, and from craftsmen who can relate their skills to the apprentice.

Mr. Bird said the contractor needs the most skilled craftsman to project his image well and develop his competitive reputation; and that some skilled craftsmen work steady at premium pay because they are qualified. In the Los Angeles area the average journeyman works 9½ months each year, he continued, while the poorest qualified work little more than half that time.

He concluded that the public demands a high level of skill to protect their investments, health and safety; that no one wants a partly trained doctor, barber or mechanic.

Nelson Jolly, speaking on "Specialized Related Instruction Versus General Related Instruction", began by asking a series of questions on how many apprentices are taught fabrication and welding of thermo plastics, fundamentals of thermo-set plastics, air balancing, air handling systems, and air conditioning systems.

He said the Sheet Metal Workers and Air Conditioning Contractors Ass'n. are assisting in the preparation of an engineering manual on the subject of plastics. He noted that plastics are receiving increased attention in pollution control systems, and that there is a need for more emphasis on training in this field.

Contractors must have qualified air conditioning service mechanics to service the equipment they install, he explained, and if necessary, he would

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Eloy Rodriguez also spoke on "Specialized Related Instruction Versus General Related Instruction". He favors streamlining the present course of related instruction, and condensing it to two years. He would then consider adding such specialized courses as basic electricity, air balancing, rigging, plumbing and pipe fitting, written communication, and a course on installation.

It was pointed out that many of these topics are currently incorporated in the State Course Books for Sheet Metal apprentices, but because of inadequate facilities in the classrooms, a shortage of materials and equipment, a lack of air-measuring instruments, etc., the apprentice is given no practical training, or even the benefit of a live demonstration.

Mr. Rodriguez recommended the acquisition of an appropriate building for housing facilities. Desirable equipment would include various types of projectors, teaching machines, models of kitchen equipment, blow-pipe systems and air conditioning systems.

"Making these courses available to all apprentices would insure continuous employment, also a stronger and healthier industry", he concluded.

David Wasserman took issue with some of Mr. Rodriguez's proposals. An area such as Los Angeles County is too large, he said, to find a central location for a training facility that would be easily accessible to all apprentices. Other problems he indicated, are costs for the facility and equipment, a shortage of qualified instructors to teach specialized classes, and time needed for developing courses of study. Another problem might be the lack of enough students, in a particular specialized field, to warrant a class. Conversely, there might be an extraordinary interest in a particular field, and a limited number of job opportunities. Slack periods of employment would cause some apprentices to switch from a depressed segment of the trade, he said, to another, making it difficult to maintain the A.D.A. in the former class.

Mr. Wasserman felt that specialization in the final year might be practical. Instead of a central location for specialized related instruction, he proposed a mobile facility to visit on going classes, equipped with the various teaching aids, models, etc., needed to give greater in-depth training in certain areas of the Sheet Metal trade.

Joshua Kheel, speaking on "Are Standards and Selection Procedures Related to the 70s?," discussed some of the socio-economic problems interrelated with apprenticeship. Today's problems, he said, demand a fresh new look at old methods. The nation is in a period of tremendous change, and the traditional journeyman concept must be altered; apprenticeship must be sensitive to changing times.

He quoted President Carlough's (Sheet Metal Workers International Association) prediction, that the decade of the 70s will require 25,000 new journeymen Sheet Metal Workers. This, he said, will provide job opportunities for impatient minority youths, returning veterans, high school graduates, and college dropouts.

Because of innovations in some areas of construction, the same high degree of skills is no longer required of journeymen as in previous years. Those with less skill, and less capacity, he feels, can fit into specialized areas of the trade. Pre-apprenticeship classes can prepare them for entry into apprenticeship programs. Consideration should be given to a two-year

apprenticeship for training specialist, and more publicity is needed to attract applicants.

Mr. Kheel disapproved of forced quota systems, and plans such as the Philadelphia plan. A more effective job must be done by industry, however, to increase minority participation, or big government will do it. "There has to be a revamping of our standards and selection procedures".

William McCauley, on the subject "Are Standards and Selection Procedures Related to the 70s?", siad they were put together years ago and administered by people related to the past. They do not meet conditions as they are today, or for the next 10 years. Both must be changed to meet the needs of industry, and to give equal opportunity to all.

He pointed out that during World War II, persons with a 5th grade education were trained in a relatively short time to do skilled jobs, and asked why does it take four years now to become a journeyman.

Mr. McCauley added;: "You must meet the requirements of the law. The government wants apprenticeship to stay in business, but you must revamp your standards and selection procedures, or Congress will respond to pressure groups and do the job for you."

John L. Reinheimer addressed the conference on the topic "Safety Among Apprentices". He noted erosion taking place in the apprenticeship system, but thinks it can be reinforced through safety training. Basic safety training is as vital as any other part of the training process, he said.

Mr. Reinheimer would teach the apprentice to recognize what an accident looks like, to recognize the purpose of safety equipment, and the hazards of a job. These include a vast array, subjects usually overlooked, such as material handling, machines and equipment, hand tools with ground wires, working surfaces, scaffolds and free standing towers. Basic safety involved in all phases of the job would be included, even safe practices in the operation of the company's vehicles.

He demonstrated a model scaffold and described various safety features. Safety, he said, minimizes the loss in getting the job done. Apprenticeship programs are failing to place enough emphasis on safety.

Larry Darwin commented on the subject "Safety Among Apprentices". Insurance companies budget 2 to 2½% of insurance costs for the purpose of training, he explained. Services available to subscribers are pamphlets on safety, and guidance from insurance company safety engineers. These consultants can only give supervision to training programs, Mr. Darwin added, because safety is an internal problem.

Following the discourse by panel members there was considerable stimulating discussion from the floor, In commenting on the suggestion that the term of apprenticeship be shortened to 2 years, Clyde Ringwood, Business Manager, Local Union No. 108, said he would consider 2 year specialist classifications in discussions with management at the same journeyman rate.

It was noted that a welder is currently a specialty classification and that a person who does only welding is unemployed much of the time. Someone said the technological age we live in demands specialists even in the medical profession. Mr. Bird responded that the medical man must first be an M.D. before specializing.

Members of some J.A.C.'s said they have already gone to 5 year apprenticeship programs, and added specialty classes in plastic and other

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items. Other J.A.C.'s indicated they are considering similar moves.

In answering questions regarding standards and selection procedures, Mr. McCauley said he was not proposing lowering of standards, "but have standards that relate to the requirements of the trade and not a smoke screen for discrimination". He added that standards must be viable, affirmative action must be taken and minorities must be found.

Mr. Darwin was asked how insurance companies look upon long hair. He answered that the State Code requires long hair to be covered, whether on the head or face. Another question was "What can J.A.C.'s do about long hair?". It was suggested that they could set up a code of dress for apprentices and that some have already done so. It was concurred that good grooming, rather than long hair, was the essential consideration.

The industry conference reconvened on Friday morning. Moderator for workshop reports was Paul Healy, Business Manager L.U. 509, Riverside. Following workshop reports, with Robert Bird as moderator, the conference discussed State Course Work Books. Roger Tucker, Dept. of Education, siad that the 4th year book is currently being revised and will be ready this fall.

FINAL GENERAL BUSINESS SESSION

The closing business session of the California Conference on Apprenticeship was convened Friday afternoon. Credentialed delegates, eligible to vote, were distinguished by orange voting cards, which were checked by the Sergeant-at-Arms, Tom Schumaker; Parliamentarian Webb Green was present on the platform.

Chairman Clyde Ringwood presided. He first read the report of the Credentials Committee. This show 383 credentialed delegates and 710 other registrants. The report was by motion accepted.

Chairman Ringwood then asked Francis J. Spaulding to report for the Exhibits Committee Chairman Verne Dahnke. He announced the first place ribbon and letter had been awarded the 41 Northern Counties Carpenters for their exhibit, second place to the Carpenters Fund of Southern California and third place to the Bureau of Industrial Education.

The Chair then called on Conference Co-Treasurer Sam Swisher, who gave the financial report. He noted that the conference was in good financial condition and that copies of his report would be mailed to all concerned. His report was by motion accepted.

Albin J. Gruhn, Recommendations Committee Chairman, was then asked to give his report. He noted that all delegates had been provided booklets containing the original recommendation and that to save time, he would not read each recommendation except where amendments were involved. He asked for any objections to this procedure, and there were none. Chairman Gruhn then presented each recommendation, with the action of the Recommendations Committee. Each was acted on by motion to concur, nonconcur, amend, file, refer, or table. The recommendations are contained in these proceedings, with the action taken by the conference indicated. There was lengthy discussion on several amendments to Recommendations 3 and 8 before their final approval. All recommendations were referred to the California Apprenticeship Council.

Co-Chairman George A. Harter then submitted several non-substantive changes to the Articles of Organization to make the articles compatible with the California Administrative Code. All delegated were given copies, after which the changes were adopted unanimously. The Articles, as amended, are included in these proceedings.

Chairman Ringwood called for the Nominating Committee's report, which was given by Chairman Charles Sanford. The Committee had nominated the following officers to serve for the ensuing term 1970-1972:

Chairman: George A. Harter, Executive Manager, National Electrical Contractors Association, Inc., San Francisco.

Co–Chairman: Fred B. Gough, Coordinator, District Council of Carpenters, San Diego.

Secretary: Sam Swisher, Business Representative, Machinists Lodge 824, IAMAW, Richmond.

Co-Secretary: G. R. Morrison, Personnel Manager, Guy F. Atkinson Co., Long Beach.

Treasurer: Gordon A. Littman, Administrator, Bay Counties Carpenters Apprenticeship Program, San Francisco.

Co-Treasurer: James C. Stamm, Jr., Apprenticeship Coordinator, Kaiser Steel Corp., For

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an, Administrator, Bay Counties Carpenters
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mm, Jr., Apprenticeship Coordinator, Kaiser Steel Corp., Fontana.

Trustees chosen were: Charles Hunt, Controller, Los Angeles Urban League; Ray Carey, Executive Manager, Los Angeles Chaper, National Electrical Contractors Association; and Danny O. Dees, Administrator, Northern California Operating Engineers Program.

One nomination from the floor was declined by the nominee. Mr. Sanford then moved adoption of this slate of officers; the motion was seconded and unanimously carried.

Before installing the new officers, Chairman Ringwood read a tribute to Cecil Hopkins for his over 30 years of service to California Apprenticeship. It was M/S/C the conference delegate of the Executive Board to forward a letter of appreciation to Mr. Hopkins.

Chairman Ringwood then announced that the 1972 conference will be held May 17, 18, 19 at the Jack Tar Hotel in San Francisco. He thanked all who participated in this most successful conference—CCA officers and committee members, staff, and JACs. He then turned the gavel over to incoming Chairman George A. Harter, who thanked the conference for electing him and pledged to do his best. There being no further business to come before the group, Mr. Harter adjourned the conference.

BANQUET

RECOMMENDATIONS

RECOMMENDATION NO. 1

Required Employment of Apprentices on Contracts Awarded by the State or its Political Subdivisions

WHEREAS, at the present time there is a shortage of journeymen in space, electronics and other companies. Some of these companies have an employment total of 20,000 persons but do not have one apprentice in a training program. This causes pirating among companies and the improving of journeymen to California

Our youth need jobs but need apprenticeship training to qualify as journeymen.

The minority population cannot possibly get into Apprenticeship programs as a machinist or other trades in industry due to the lack of Apprenticeship program in industry, and

WHEREAS, there is a need to train apprentices in the manufacturing industries on a basis corresponding to the apprentices on public works. Therefore be it

RECOMMENDED, that requirements similar to those in Section 1777.5 of the Labor Code be applied to contractors receiving contracts from the state or its political subdivisions for materials, supplies or services.

HISTORY:

Submitted by: Alameda and Contra Costa Counties Machinists Joint Apprenticeship Committee.

Reviewed by Recommendations Committee and referred to:

Workshops: Legislation, Equal Opportunity.

Industry Conferences: Aerospace, Automotive, Boilermakers, Culinary, Electronics Service, Machinists, Sheetmetal.

Recommendations Committee: Recommends concurrence.

The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 2

Licensing of Auto Mechanics

WHEREAS, plumbers, electricians, barbers, etc. are required to be licensed in order to be considered as journeymen in their trade.

WHEREAS, Federal and State safety standards regarding automobiles are becoming more stringent.

WHEREAS, increasingly more automobiles are manufactured and California has the largest number of vehicles per family, therefore be it

RECOMMENDED, that the California Conference on Apprenticeship recommend Legislation that has been proposed for many years, in regard to the licensing of all auto mechanics.

HISTORY:

Submitted by: Committee members of Volkswagen Pacific, Inc. Trade Apprentice and Training Commettee.

Reviewed by Recommendations Committee and referred to:

Workshops: Legislation.

Industry Conferences: Automotive.

Recommendations Committee: Recommends non-concurrence.

The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 3

Preserving the Independent and Voluntary Character of the Apprenticeship System

WHEREAS, California has the best apprenticeship system in the nation, with over 700 local joint apprenticeship committees training over 27,000 apprentices and graduating 5,000 to 6,000 skilled journeymen each year, and

WHEREAS, California has for thirty years been the leader in apprenticeship advances, and the model for the rest of the nation, and

WHEREAS, the essential character of the California apprenticeship system is voluntary cooperation of labor and management who together, in a historically independent context, have developed the various individual apprenticeship training programs which enable large numbers of young people to find skilled employment and which provide a substantial proportion of the skilled labor force, and

WHEREAS, the continued success of the California apprenticeship system depends upon the preservation of its independent and voluntary character, and

WHEREAS, recent proposals to force the inclusion of state apprenticeship agencies in comprehensive state manpower agencies seem to be predicated primarily upon the general notion that a comprehensive agency is efficient, or at least administratively neat, and that state control needs to be exercised over apprenticeship for unspecified reasons, and

WHEREAS, such proposals do not seem to have considered the destructive effect of such inclusion on the existing apprenticeship system, and particularly on the over-700 committees of labor and management which actually provide and pay for the training of apprentices throughout California; be it

RECOMMENDED, that Sec. 102(a) of HR 13472 (President Nixon's Comprehensive Manpower Act), and the appropriate Section of Senate Bill S 2838, be amended to exempt state apprenticeship agencies from mandatory inclusion in state comprehensive manpower agencies and that any other federal effort which would force state apprenticeship agenices into some other agency or which would destroy or damage the independent and voluntary character of apprenticeship be halted; and be it further

RECOMMENDED, that any similar effort by the State of California which would destroy or damage independent and voluntary character of apprenticeship also be halted.

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Reviewed by Recommendations Committee and referred to:
Workshops: Legislation.
Industry Conferences: Automotive.
Recommendations Committee: Recommends non-concurrence.
The CCA voted to concur in the motion of the committee.

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RECOMMENDED, that any similar effort by the State of California which would destroy or damage independent and voluntary character of apprenticeship also be halted.

HISTORY:
Submitted by: Workshop on Legislation Affecting Apprenticeship and Training.
Recommendations Committee: Recommended concurrence.
The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 4

Federal Legislation Requiring Employment of Apprentices on Federally Financed Construction Projects

WHEREAS, the State of California, in order to show leadership in the promotion of apprenticeship opportunities to industry in general, enacted Section 1777.5; and

WHEREAS, the State also felt that any increase in apprenticeship opportunities would also increase the opportunities for minorities to enter apprenticeship; and

WHEREAS, since enactment of Section 1777.5 registrations in both apprenticeship and minorities in apprenticeship have been increasing month by month to spectacular new highs;

RECOMMENDED, that this conference's Executive Board recommend to its affiliates to memorialize Congress to enact similar legislation for all federal public works.

HISTORY:
Submitted by: Long Beach and Harbor Area Committee for Equal Opportunity in Apprenticeship and Training for Minority Groups.
Irrigation & Lawn Sprinkler Fitters of Southern California J.A.C.
Reviewed by Recommendations Committee and referred to:
Workshops: Legislation, Equal Opportunity.
Industry Conferences: All.
Recommendations Committee: Recommends concurrence.
The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 5

Review of Related and Supplemental Instruction Regulations

WHEREAS, there has been widespread pressure from the academically oriented Community Colleges to ease out the apprentice training classes from the Community College system; and

WHEREAS, the personnel of the Community Colleges are not able to devote ample time to properly administer and supervise related and supplemental apprenticeship training programs; and

WHEREAS, the Community College personnel presently involved with apprenticeship training are not able to keep up with the technical changes of the industry, thus depending more and more on the J.A.C.'s for the selection of teachers, the revising of course outlines and

the coordination of the instructional material with the on-the-job training; and

WHEREAS, Chapter 4, Division 3, Section 3074 of the Labor Code of the State of California (Shelley-Maloney Act) states that "the preparation of trade analyses and outlines of instruction, and the administration and supervision of related and supplemental instruction for apprentices, coordination of instruction with job experiences, and the selection and training of teachers and coordinators for such instruction shall be the responsibility of state and local boards responsible for vocational education;" and

WHEREAS, there is a growing trend among the trades to establish apprenticeship training for the instructional and material needs of the apprenticeship programs, thus guaranteeing each and every apprentice equal training, therefore be it

RECOMMENDED, that the California Conference on Apprenticeship, the California Apprenticeship Council and the Bureau of Industrial Education of the Department of Education, for the State of California seek legislation to amend Section 3074 of the Shelley-Maloney Apprentice Labor Standards Act of 1939 to allow apprenticeship programs which are self-supporting to establish, operate and conduct related and supplemental apprenticeship classes in accordance with those regulations governing private educational institutions in the State of California.

HISTORY:

Submitted by: Plumbing, Pipefitting, Refrigeration, Heating and Air Conditioning Joint Apprenticeship Committee of Santa Clara and San Benito Counties.

Reviewed by the Recommendations Committee and referred to:

Workshops: Legislation, Equal Opportunity, Responsibility of Public Schools, Economics, Cost and Effectiveness of Apprenticeship.

Industry Conferences: All.

Recommendations Committee: Recommend concurrence with the intent and refer to the outgoing and incoming Executive Boards for further study and to prepare appropriate legislation.

The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 6

Even-date Enrollment Into Apprenticeship Classes

WHEREAS, the State Labor Code Section 3077 provides for a written apprentice agreement which contains among other specifications, the term of apprenticeship and the apprentice's participation in an approved program of training through employment and through education in related and supplemental subjects; and

WHEREAS, the term of apprenticeship starts on the date the apprentice enters employment; and

WHEREAS, many school districts will not provide related and supplemental instruction starting with the employment of the apprentice, but rather confine enrollment, geared to academic instruction, at the start of each school semester only; and

WHEREAS, under such conditions the apprentice is not receiving all the benefits guaranteed him under the apprentice agreement;

RECOMMENDED, that this Conference submit this matter to the Attorney General for his opinion regarding the rights of the apprentice as to when he is entitled to receive related instruction; at the start of a semester or when he starts his apprenticeship; be it further

RECOMMENDED, that the Executive Board of this Conference, upon receipt of said opinion, transmit same to each apprenticeship committee and to appropriate State Boards of Education for their transmittal to each school district.

HISTORY:

Submitted by: Long Beach and Harbor Area Committee for Equal Opportunity in Apprenticeship and Training for Minority Groups.

Reviewed by the Recommendations Committee and referred to:

Workshops: Equal Opportunity, Responsibility of Public Schools.

Industry Conference: All.

Recommendations Committee: Recommends concurrence.

The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 7

Clarification of Differences in Labor Code and Educational Code on Apprentices Related and Supplemental Instruction versus Vocational Student Classes

WHEREAS, related and supplemental instruction is to be provided apprentices through the educational portion of their apprenticeship, pursuant to Sections 3074, 3074.5 and 3077 of the State Labor Code; and

WHEREAS, this related and supplemental instruction is very different from the academic and vocational type instruction provided students through the educational system pursuant to the State's Education Code; and

WHEREAS, many school districts in the state are confusing the two educational endeavors and are simply providing academic and vocational instruction to apprentices; and

WHEREAS, such academic and vocational instruction has been increasing the academic objectives until they now, in many areas, are providing college level of such higher instruction; and

WHEREAS, such academic and vocational instruction levels have a direct bearing on the selection procedures of all apprenticeship programs by increasing the educational background required of all applicants so as to successfully be able to absorb and complete such higher instruction; and

related and supplemental instruction starting with the employment of the apprentice, but rather confine enrollment, geared to academic instruction, at the start of each school semester only; and

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HISTORY:

Submitted by: Long Beach and Harbor Area Committee for Equal Opportunity in Apprenticeship and Training for Minority Groups.

Reviewed by the Recommendations Committee and referred to:

Workshops: Equal Opportunity, Responsibility of Public Schools.

Industry Conference: All.

Recommendations Committee: Recommends concurrence.

The CCA voted to concur in the motion of the committee.

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WHEREAS, such academic and vocational instruction levels have a direct bearing on the selection procedures of all apprenticeship programs by increasing the educational background required of all applicants so as to successfully be able to absorb and complete such higher instruction; and

WHEREAS, by such methods described, many applicants are screened out educationally, during the course of apprentice selection, who would otherwise be very suitable to absorb the related instruction if provided pursuant to the Labor Code, and who most likely could very well master the on-the-job training and ultimately become competent journeymen remaining in the trade rather than seeking higher educational pursuits;

RECOMMENDED, that all school districts should be made very well aware, by action of this Conference, that apprentices attend related classes as a condition of employment.

RECOMMENDED, that this Conference submit this matter for an Attorney General's opinion, to define the differences between the requirements of the State's Educational Code and Labor Code as they pertain to providing related and supplemental instruction to apprentices, and which prevails.

RECOMMENDED, that upon receipt of the Attorney General's opinion, the Executive Board of this Conference be instructed forthwith to duplicate and mail copies of same to each apprenticeship committee in the state; to the appropriate State Boards of Education, requesting them to transmit same to every school district and to comply.

HISTORY:

Submitted by: Long Beach and Harbor Area Committee for Equal Opportunity in Apprenticeship and training for Minority Groups.

Reviewed by Recommendations Committee and referred to:

Workshops: Equal Opportunity, Responsibility of Public Schools.

Industry Conferences: All.

Recommendations Committee: Recommends concurrence.

The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 8

Registration Fee Increase

WHEREAS, there has been a continued increase in the cost for promoting and conducting the California Conference on Apprenticeship; and

WHEREAS, there has been no increase in the "per capita suggested contributions" since the establishment of the credential fee; and

WHEREAS, it is believed the present contribution suggestion of 50c per registered apprentice is the maximum that can be asked of the local Joint Apprenticeship Committees.

RECOMMENDED, that the credentialed delegate registration fee for the 1972 Conference be increased from $10.00 to $15.00.

HISTORY:

Submitted by: Finance Committee, California Conference on Apprenticeship.

Reviewed by Recommendations Committee and referred to:
Workshops: Equal Opportunity.
Industry Conferences: All.
Recommendations Committee: Recommends concurrence.
The CCA voted to concur in the motion of the committee.

RECOMMENDATION NO. 9

Expansion of Apprenticeship Information Program

WHEREAS, the new information program has been approved on a pilot basis, and

WHEREAS, four man-years of D.A.S. are devoted to the information program in nine areas, and

WHEREAS, a limited budget, increased responsibility, and requests for additional services place an added burden upon the D.A.S.;

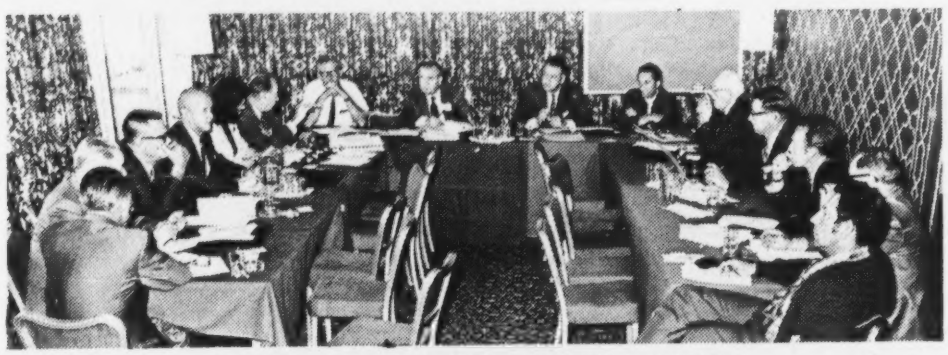
RECOMMENDED, that the Division of Apprenticeship Standards and co-sponsors be commended for the excellent work being done by the information program in recruiting minorities.

RECOMMENDED, that this Conference approve a request for continuation and expansion of information program statewide to take care of the increased responsibility to disseminate information placed by state and federal laws; be it further

RECOMMENDED, that provision be made to service areas not now covered by the program.

HISTORY:

Submitted by: Statewide Committee on Equal Opportunity in Apprenticeship and Training.
Reviewed by Recommendations Committee and referred to:
Workshops: Legislation, Equal Opportunity.
Industry Conferences: All.
Recommendations Committee: Recommends concurrence with the intent and refer to outgoing and incoming Executive Boards for appropriate action.
The CCA voted to concur in the motion of the committee.



RECOMMENDATIONS COMMITTEE AT WORK

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RECOMMENDATION NO. 10
Relevant High School Curricula

RECOMMENDED, that in order to have a realistic vocation program, relevant courses be put into the high school curricula. This should meet selection procedure requirements in all areas and should be submitted to the State Board of Education.

HISTORY:

Submitted by: Statewide Committee on Equal Opportunity in Apprenticeship and Training.

Reviewed by Recommendations Committee and referred to:

Workshops: Equal Opportunity, Responsibility of Public Schools.

Industry Conferences: All.

Recommendations Committee: Recommends concurrence.

The CCA voted to concur in the action of the committee.

RECOMMENDATION NO. 11
Prerequisite for Enrollment in Apprenticeship Classes

WHEREAS, the intent of Sec. 3074 of the Labor Code is not clear as it now reads; and

WHEREAS, there appears to be a conflict between Sec. 3074 and many local board of education rules; and

WHEREAS, the quality of related instruction in the apprentice class is in jeopardy due to these conflicts; therefore be it

RECOMMENDED, that the necessary steps be taken to enact legislation to amend Sec. 3074; and be it

RECOMMENDED, further, that the following statement be added to Sec. 3074 as the amendment;

"Enrollment in such classes of related instruction shall be limited to registered apprentices only."

HISTORY:

Submitted by: Joint Apprenticeship Committee of the Electrical Industry of Orange County.

Round Table of Orange County Joint Apprenticeship Committees.

Reviewed by the Recommendations Committee and referred to:

Workshops: Legislation, Equal Opportunity, Responsibility of Public Schools.

Industry Conferences: All.

Recommendations Committee: Recommends concurrence with the intent and refer to the outgoing and incoming Executive Boards for further study and to prepare appropriate legislation.

The CCA voted to concur in the motion of the committee.

ARTICLES OF ORGANIZATION OF CALIFORNIA CONFER

Preamble and Purpose

We—people in California from labor and management, active and interested in apprenticeship and other on-the-job training—do hereby adopt these articles of Organization in order to:

1. bring into closer relationship all people and organizations active and interested in apprenticeship and other on-the-job training;
2. furnish a means for collecting, exchanging and disseminating information, experience and ideas about apprenticeship and other on-the-job training;
3. improve, expand, and promote apprenticeship and other on-the-job training;
4. foster and promote apprenticeship employment opportunities for youth;
5. assist youth seeking career opportunities;
6. assist in providing California's growing economy and industry with needed skilled manpower;
7. foster and promote the value of craftsmanship;
8. raise the status and standing of the crafts;
9. foster and promote adequate vocational education in schools with labor-management participation and cooperation;
10. engage in joint projects and activities for the advancement of apprenticeship and other on-the-job training and to further the purposes stated herein.

ARTICLE I

SECTION 1—*Organization*

There is a California Conference on Apprenticeship.

SECTION 2—*Composition*

A. The Conference shall be composed of the members of the California Apprenticeship Council and all the Apprenticeship Committees in California, as well as other persons and organizations in California and elsewhere who desire to participate in activities of the Conference and to further its purpose.

B. Local Joint Apprenticeship Committees, State and Regional Joint Apprenticeship Advisory Committees and Federations of Apprenticeship Committees, may each select two representatives to the Conference, one labor and one management.

C. Unilateral Apprenticeship Committees may select one representative to the Conference.

D. Other individuals and organizations may participate and be represented as they desire, subject to the approval of the General Executive Board.

ARTICLE II

SECTION 1—*General Officers*

A. There shall be six (6) General Officers of the Conference, a Chairman and Co-Chairman; a Secretary and Co-Secretary; Treasurer and Co-Treasurer. Each pair of Officers shall be one labor and one management, one from Northern California and one from Southern California.

SECTION 2—*Trustees*

A. There shall be three (3) Trustees, at least one of which shall be a labor representative and at least another of which shall be a management representative.

SECTION 3—*Term of Officers*

A. The term of office of the General Officers and the Trustees shall be two years and each shall serve until his successor is selected.

SECTION 4—*Election of Officers*

A. General Officers and Trustees shall be nominated and elected at general meetings of the Conference.

B. The officers in the Northern California Area will alternate between management and labor from that area and the officers in the Southern California Area will alternate between management and labor from that area.

SECTION 5—*General Executive Board*

A. The six (6) General Officers of the Conference shall constitute the General Executive Board, and shall meet at least once a year.

SECTION 6—*Duties of the Chairman and Co-Chairman*

A. The Chairman, and in his stead the Co-Chairman, shall preside at all meetings of the Conference and of the General Executive Board and the Conference Planning Committee and appoint all Committees; and both shall be ex officio members of all Committees; and either one may call a meeting of the General Executive Board.

B. The Chairman shall appoint a parliamentarian and a sergeant-at-arms to serve at each

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B. The Chairman shall appoint a parliamentarian and a sergeant-at-arms to serve at each biennial Conference meeting.

SECTION 7–*Duties of Secretary and Co-Secretary*

A. The Secretary, and in his stead the Co-Secretary, shall keep all the records, except financial records, of the Conferences; conduct correspondence, and serve as Secretary of the general meeting of the Conference and of the General Executive Board.

SECTION 8–*Duties of the Treasurer and Co-Treasurer*

A. The Treasurer shall receive and deposit all funds in the name of the California Conference on Apprenticeship in a bank approved by the General Executive Board. He shall maintain all financial records and accounts and prepare budgets and financial reports as directed by the General Executive Board. Funds shall be expended only according to the provisions of Article III. The Co-Treasurer shall assist the Treasurer.

SECTION 9–*Duties of the General Executive Board*

A. The General Executive Board shall be the governing body of the Conference and shall have power to act when a general meeting of the Conference is not in session.

B. The General Executive Board shall be responsible for the carrying out of policy, decisions, and activities of the Conference; shall supervise all committees and activities; shall call general or special meetings of the Conference; supervise the planning and organization of a general meeting of the Conference every two years; fill vacated offices for the remainder of the vacated term; approve budgets and ways and means of raising necessary funds and authorize all expenditures of funds in accordance with Article III.

SECTION 10–*Duties of Trustees*

A. The Trustees shall periodically audit the financial accounts of the Conference, review its activities, and report their findings.

ARTICLE III

SECTION 1–*Receiving, Disbursing and Accounting for Funds*

A. The Conference is a nonprofit organization. The Conference may accept monies, materials, equipment, and services from employers,

employer organizations, employee organizations, and other persons and organizations for its use in carrying out its activities and furthering its purposes. In the event of a dissolution of the Conference, such assets as remain shall be returned prorated to the contributors thereof or otherwise used to further the purpose of the Conference as shall be determined by the General Executive Board.

B. All contributions or other monies should be made out to the name of the California Conference on Apprenticeship.

C. The Treasurer, upon receipt of any contributions or other monies, shall immediately deposit them to the account of the Conference, accrediting the individuals or organizations making the payment, issuing receipt therefor, and transmit the receipt to the contributor with an appropriate acknowledgment.

D. When determined by the General Executive Board, at least three cost quotations or bids shall be received or submitted on all expenditures.

E. The General Executive Board, or its duly authorized members, shall approve all expenditures.

F. No cash advances or payments will be made unless specifically ordered by the General Executive Board.

G. All payments shall be supported by appropriate invoices or receipts.

H. All payments must be approved by the General Executive Board or its duly authorized members.

I. All checks must be signed by the authorized members of the General Executive Board.

J. All records shall be subject to audit by the Trusteess.

K. All persons authorized to receive and expend funds shall be bonded.

ARTICLE IV

SECTION 1–*Conference Meetings*

A. There shall be a general meeting of the Conference every two years.

B. The Conference meeting site shall be alternated between Northern and Southern California.

SECTION–*Conference Planning Committee*

A. There shall be a Conference Planning Committee to be appointed by the Chairman soon after each biennial general meeting of the conference, and shall meet at least once a year.

B. The six (6) General Officers of the Conference shall be members and the Officers of the Conference Planning Committee. The California Apprenticeship Council, each State and Regional Joint Apprenticeship Advisory Committee, and each Federation of Apprenticeship Committees shall select representatives to serve as members of the Conference Planning Committee. The General Chairman shall appoint other members of the Conference Planning Committee so as to secure the maximum possible participation and representation on it from all apprenticeship committees and by the craft labor and management organizations from the various sections of the State.

C. The Conference Planning Committee shall plan and organize the succeeding general meeting of the Conference and, for that purpose, arrange the appointment of committees on Arrangements, Participation, Program, Finance, Publicity, Exhibits, Recommendations, and others, and guide, supervise, and approve their activities. It shall also request the Division of Apprenticeship Standards and U.S. Bureau of Apprenticeship and Training and other governmental and school agencies to assign consultants and aides to all committees.

SECTION 3–*Authority of Conference*

A. The Conference, its officers, and its Committees shall exercise no authority or supervision over any persons, apprenticeship committees, or organizations except its own officers and committees as such.

SECTION 4–*Rules of Order*

A. Except as special rules as adopted, Robert's Rules of Order shall prevail at all general meetings of the Conference and at the meetings of the General Executive Board and Committees.

SECTION 5–*Voting*

A. All actions taken by the general meeting of the Conference, its General Executive Board, or its committees, shall be by a majority of those present, entitled to vote.

ARTICLE V

SECTION 1–*Amendments*

A. These Articles of Organization may be amended at any general meeting of the Conference.

We hereby certify that the first Articles of Organization, adopted by the Conference at its May 20, 1960 meeting, have been amended and that the foregoing Articles of Organization were

B. The six (6) General Officers of the Conference shall be members and the Officers of the Conference Planning Committee. The California Apprenticeship Council, each State and Regional Joint Apprenticeship Advisory Committee, and each Federation of Apprenticeship Committees shall select representatives to serve as members of the Conference Planning Committee. The General Chairman shall appoint other members of the Conference Planning Committee so as to secure the maximum possible participation and representation on it from all apprenticeship committees and by the craft labor and management organizations from the various sections of the State.

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A. These Articles of Organization may be amended at any general meeting of the Conference.

We hereby certify that the first Articles of Organization, adopted by the Conference at its May 20, 1960 meeting, have been amended and that the foregoing Articles of Organization were duly approved and adopted by the California Conference on Apprenticeship at its meeting in Los Angeles on April 24, 1970 for approval under Section 221 of Title 8, Chapter 2 of the California Administrative Code.

S/Clyde D. Ringwood, *Chairman*
S/George Harter, *Co-Chairman*
S/Jack Horner, *Secretary*
S/Gunnar Benonys, *Co-Secretary*
S/John L. Meek, *Treasurer*
S/Sam Swisher, *Co-Treasurer*

The foregoing Articles of Organization as amended being in conformity with the Rules and Regulations of the California Apprenticeship Council and the Federal Committee on Apprenticeship are hereby approved this 4th day of June, 1970.

S/William C. Hern
Administrator of Apprenticeship

The Articles of Organization adopted by the California Conference on Apprenticeship and approved by the Administrator of Apprenticeship are hereby approved and certified by the California Apprenticeship Council this 10th day of June, 1970.

S/Harry B. Winston, *Chairman*
S/Charles F. Hanna, *Secretary*

RULES AND REGULATIONS

The following were adopted at the 1964 general business session.

1. *Reimbursement to Special Guests (Speakers)*
   1964 Recommendation No. 11 authorizes the Executive Board to offer an amount up to but not to exceed $500.00 to help defray the cost of travel and expense of one such person for each conference.
2. *Reimbursement of Travel Expense to CCA Officers.*
   1964 Recommendation No. 12 authorizes the Executive Board to reimburse general officers necessary travel expense, not to exceed $50 per day for each of four one-day Executive Board meetings and each biennium $25.00 per day during the Conference.

CALIFORNIA CONFERENCE ON APPRENTICESHIP O

GENERAL OFFICERS AND PLANNING COMMITTEE

Clyde D. Ringwood, Chairman
Jack Horner, Secretary
John L. Meek, Treasurer
George Harter, Co-Chairman
Gunnar Benonys, Co-Secretary
Sam Swisher, Co-Treasurer

Trustees

Charles H. Hunt

John Acosta
Fred V. Adam
James Adams
Jack Alvarez
J. L. Antrim
Elias Arellano
Wilbert J. Azevedo
Jay Balch
Irving K. Baldwin
Homer Bartles
Joseph Belardi
Ralph M. Bell
Khalil Bennett
Noel K. Berry
Robert G. Bird
Dr. Lee D. Bodkin
Richard W. Bonamarte
Frank F. Bottarini
Wesley R. Brazier
E. A. "Al" Brown
Roy Buckley
Floyd Carmichael
Norman Carter
Robert W. Clottu
Robert L. Cochran
John Cope
Kenneth O. Cordy
Vern Dahnke
James Davis
Danny O. Dees
S. H. DeLisle
Bill Denues
Juel D. Drake
John Ebert
Frank Erwood
Clarence A. Feigel
Eddy S. Feldman
W. A. Ferguson
James J. Feruzzi
Lou Finke
Nick Gaetano
William G. Gordon
Lyle Gossman

Ray Carey

Fred B. Gough
Kenneth Graedel
Alfred R. Gray
John Gray
Paul Greenwood
Albin J. Gruhn
Andrew J. Gwin
Lee Hahn
Charles F. Hanna
Richard E. Harden
Roy Harper
Arthur Haskins
Paul Healy
Henry Henneberg
William C. Hern
Edward J. Hibbert
James Hill
F. W. Hobbs
John E. Hochstatter
Kenneth Hower
Kenneth Johnston
Ralp Johonnot
Robert Keyes
Joseph C. Kiefer
Knute Kleinen
William E. Krull
Richard M. Lane
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Seymour Lehrer
Al Lethbridge
Gordon A. Littman
Frank Lombardy
Leonard Loomis
Manuel Lopez
John E. Low
John Lozano
Philip Lygren
William A. Marino
Dale Marr
James H. Martin
Everett L. Matzen
Francis McCarthy
Jack McClenahan

Everett A. Matzen

Frank A. McKitrick
Philip E. Melnick
Josef H. Meredith
Bernard S. Miles
Louis Miller
Philip Mirenda
Gardner Morse
Lloyd F. Moul
Franklin A. Negley, Jr.
Richard S. Nelson
Lawrence Nurisso
Francis O'Conner
Conrad Patch
E. E. Peck
A. A. Pennebaker
John L. Petrini
Lester Popp
Dave Rea
Charles M. Sanford
Doyle Saunders
Paul Schenk
Henry Schinaman
Fred A. Schmitz
A. J. Seiberlich
Harry Sherman
George W. Smith
Louis A. Souza
James Stamm, Jr.
E. F. Stark
Paul Stockburger
William F. Stumpf
Harold O. Swaney
Wayne Thomas
Parnell Tilley
Albert Tully
Jack E. Tummino
Wayne Turner
Max Vance
C. F. Watson
O. J. Whisman
Harry B. Winston, Jr.
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ABSTRACT - To aid in planning community service and educational programs, questionnaires were mailed to a stratified sample of 455 public and private agencies throughout the state, followed by personal interviews at the larger agencies. Based on a 99 percent response, the study projected an increasing role for community services in the future, with a 12 percent increase in community service employment during the next 5 years. Despite the expenditure of $1 million per year for staff training by community service agencies, some training needs were found to be unfulfilled, primarily because of uncoordinated personnel systems and vague policies on training expenditures. (BH)

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COMMUNITY SERVICE MANPOWER IN OREGON

by Bruce McKinlay

University of Oregon
1969

The Community Services Manpower Study is being conducted by the Wallace School of Community Service and Public Affairs and the Bureau of Governmental Research and Service at the University of Oregon, with partial financial assistance from the U. S. Department of Housing and Urban Development under Title VIII of the Housing Act of 1964.

Foreword

Manpower is by far the most important ingredient in the delivery of services, yet management of personnel and planning for manpower needs often receive no more attention in a service organization than in a goods-producing organization where land or equipment is of paramount importance. This failure to recognize the importance of manpower management and planning has led to failures in the delivery of all kinds of services, failures which are just now being recognized.

The Oregon Community Services Manpower Study, conducted during 1969, was an effort to assess the current manpower situation in community service agencies in Oregon and to identify problems. The study was conducted at the University of Oregon by the School of Community Service and Public Affairs and the Bureau of Governmental Research and Service, under contract from the Local Government Relations Division of the State of Oregon Executive Department. The study was conducted with partial financial assistance from the U.S. Department of Housing and Urban Development under Title VIII of the Housing Act of 1964.

The project was directed by Bruce McKinlay. Mrs. Jean Schreiber had major responsibility for the inventory of training institutions. Mrs. Schreiber, Jack Gruber, David Ibbotson, and Mike La Nier conducted the survey of 450 community service agencies.

Mrs. Celeste Schneider and Mrs. Nancy Brownfield served as project secretaries.

A special word of thanks is due the administrators of the 450 community service agencies throughout the State whose efforts made the study data available. The fact that 99 percent of those agencies responded to the survey greatly enhanced the validity of the survey and is greatly appreciated. The special assistance of the staff of the Development and Training Section of the State Personnel Division and the Research and Statistics Section of the State Employment Division also greatly improved the study.

This entire undertaking was intended as an action oriented study. It was done to provide a factual basis for program planning by State agencies, by educational institutions, and by community service agencies themselves. This report is therefore designed to present and analyze survey findings rather than to test hypotheses or to make recommendations. Additional data are available upon request.

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Chapter 1

BACKGROUND AND SUMMARY OF MANPOWER NEEDS

There are some serious inadequacies in the quantity, quality, and utilization of manpower for community services.[1] Employment has grown rapidly in community service agencies, but the supply of adequately trained personnel has frequently not kept pace with the growth and with changing community needs. The problem of attracting personnel with the necessary qualifications is compounded by difficulties in retaining high-caliber personnel.

These are not totally new problems, nor are they unique to Oregon. The U.S. Department of Labor's 1967 Manpower Report said,

> The need for highly qualified professional and supportive personnel is nowhere more accute than in State and local governments. . . . These requirements have been augmented by the need for capable people to staff the many new federally aided programs dealing with urgent social needs which depend on State and local

---

[1] The term "community services" is used in this report to refer to all the services rendered by State and local public agencies and private social, recreational, and economic assistance agencies except hospitals and schools. This definition is intentionally much more comprehensive than the program limits of certain federally funded "community service" programs.

> government agencies for their implementation. These needs have grown as States and localities have accepted the responsibilities implicit in the Federal programs and have developed additional measures to alleviate community problems.[2]

The thing that is new is the recognition which manpower problems in community services are now receiving, and the resources which are now becoming available to alleviate these problems. At a time such as this, when corrective action is being undertaken, there is a more urgent need than ever for documentation and analysis of the problem. That is the purpose of the Community Services Manpower Study.

Purpose of the Study

The Oregon Community Services Manpower Study, conducted during 1969, examines current and future manpower needs, the existing training facilities for community services manpower, and the influence of existing personnel management systems on the utilization of such manpower. It assesses the current manpower situation and its effects on community service agencies' ability to deliver essential services, as well as indicating the labor market conditions which will face community service agencies for the next five years. The study presents some basic information about personnel management practices, and makes some preliminary assessments of those practices in light of current and future needs. Finally,

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[2] United States Department of Labor, Manpower Report of the President (Washington: U.S. Government Printing Office, 1967), p. 172.

the study assesses the State's inventory of training resources in order to determine what training is available for current and potential community service personnel.

The study was conceived and executed as an aide to program planning. As such it concentrates on the manpower informational needs of community service program administrators and educational program planners. It identifies areas in which training institutions can help meet manpower needs by providing additional pre-employment and in-service educational programs, and it suggests changes in personnel administration which could help ameliorate manpower problems. The study does not itself constitute a plan for community service manpower development, but it provides the information upon which such a plan may be based.

Scope of the Study

The findings of this study are based on a large scale survey of community service agency employment and personnel practices and an inventory of training institutions' educational programs as well as upon available published data. In order to achieve maximum usefulness in this and other analyses of manpower problems, the scope of the employment survey was defined rather broadly. Rather than being limited to certain community service functions or certain types of personnel, it was designed to cover all employment in State government, counties, cities, and special districts as well as the

private social agencies which provide social services, recreation, or economic assistance. It did not include public or private agencies whose principal activity is the delivery of health services (hospitals, nursing homes, health research associations, etc.) or educational services (public or private schools, colleges, and universities, day care centers, etc.), nor did it include religious or fraternal organizations. Public and private colleges, universities, and business schools were contacted for information about their training programs, not about their own employment.

(A more complete discussion of methodology is included in the Appendix to this report, and complete statements of the methodology, including lists of the agencies, copies of questionnaires, and a description of coding systems appear in Methodology for the Community Services Manpower Study, and Inventory of Available Training for Community Service Occupations. Both documents are available from the author at the Bureau of Governmental Research and Service at the University of Oregon.)

Any study which focuses on one particular aspect of a large subject, as this one focuses on one particular segment of the entire labor market, runs the risk of myopia. It is especially important to maintain a sense of perspective in a manpower study, because every sector is influenced strongly by conditions and developments in other

sectors. Public employment is no exception.[3]

The types of community service agencies covered by the study employ 6 percent of total employment in the State of Oregon, and rank ninth among the major types of employing establishments in the State. The following table indicates the rank of "State and Local Public Administration," the standard industrial category which most nearly coincides with the types of agencies covered by this study.

The structure of Oregon's employment, except for an emphasis on extractive industries (agriculture and lumber) is much like that of the United States as a whole, and information available from 11 of the 13 western states indicates that Oregon has neither a very high nor a very low proportion of its jobs in community service.

---

[3] Studies show that government is not able to retain a particularly large proportion of its employees, especially younger workers. See Lowell E. Gallaway, U. S. Department of Health, Education and Welfare, Interindustry Labor Mobility in the United States: 1957 to 1960. (Washington: United States Government Printing Office, 1967), Research Report 18.

TABLE 1

MAJOR INDUSTRIES IN OREGON

Rank	Industry	Number of Employees*
1	Retail Trade (SIC 52-59)	110,100
2	Non-farm Self-employed, Unpaid Family, and Domestic Workers	107,900
3	Personal, Business, Recreational, and Professional Services (70-89)	101,800
4	Manufacturing except Food and Wood Products (19-39 except 20 & 24)	77,100
5	Lumber and Wood Products (24)	71,500
6	State and Local Education (9282, 9382)	66,900
7	Agriculture (01-09)	57,500
8	Transportation-Communications-Utilities (40-49)	48,700
9	State and Local Public Administration (92-93 except 9282, 9382)	43,800
10	Wholesale Trade (50)	41,100
11	Finance, Insurance, and Real Estate (60-67)	32,800
12	Construction (15-17)	30,900
13	Federal Government (91)	25,000
14	Food and Kindred Products (20)	23,500
15	Mining (10-14)	1,600

*State of Oregon Employment Division, Research and Statistics, Labor Force in the State of Oregon and Portland, Eugene, and Salem Metropolitan Areas, 1968 annual average data.

TABLE 2

MAGNITUDE OF STATE AND LOCAL NON-EDUCATIONAL EMPLOYMENT IN THE WESTERN STATES

State	Total Employment	State & Local Non-Education Employment	Percent of Total
Alaska	90,901	9,690	11
Nevada	201,800	13,800	7
Oregon	840,400	43,800	6
Arizona	579,000	35,800	6
Montana	258,600	16,000	6
California	7,728,000	468,200	6
Idaho	275,100	16,600	6
Colorado	820,900	47,800	6
Hawaii	295,730	17,300	6
Washington	1,309,700	73,600	6
Utah	387,700	21,065	5
New Mexico	339,200	INA	INA
Wyoming	133,890	INA	INA

Source: State Employment Security Agencies.

Summary of Findings

Community service activities will continue to be one of the fastest growing types of employment in the State. Employment in community service agencies is expected to increase 12 percent in the next five years, creating 6,000 new positions in the process. Additional staff positions for social services and for the control of social problems will be emphasized. While all types of community service jobs are expected to grow, social service occupations and protective service occupations will then make up an appreciably larger part of the total five years hence.

The need for manpower to fill new positions will be more than matched by replacement demand. In all, some 7,700 new people will be needed just to replace current community service staff who retire, die, leave work to raise families or leave the labor force for other reasons. This is a large figure, caused by the heavy proportion of women and older workers now employed in community service agencies.

The demand for new personnel for community service jobs is increased to 14,000 by the 416 positions which were vacant at the time of the survey. This total demand of 14,000 will affect all areas of community service, but over half of the demand will occur in just three areas--general office occupations, social service (especially guidance) occupations, and protective (police and fire) service occupations.

These high demand occupations are the very areas in which community service agencies already have trouble recruiting and retaining enough qualified staff. Large numbers of agencies report recruiting difficulties in these occupational groups, and turnover rates are high. There were also substantial numbers of unfilled vacancies in these occupational groups at the time of the survey.

Two of these groups--social services and protective service occupations--are among those in which community service agencies are the principal employers. As such they are among the occupational groups for which the study found training resources to be generally inadequate. Unmet in-service training needs were found in many occupational areas, but especially in occupational areas unique to community service. Short-course training appears to be needed in planning and budgeting, board-administration relationships, and other topics of operational concern to agencies.

Such training needs exist despite the fact that community service agencies spend one million dollars per year for staff training. Fragmented personnel systems (especially in counties, which exhibited numerous manpower problems) and a lack of explicit training expenditure policies appear to be major contributors to training and other personnel problems.

Chapter 2

COMMUNITY SERVICES MANPOWER

All told this survey covered 48,600 employees in community service agencies. Each brings his own unique combination of education, training, experience, and perception to his job. Just as there is great variety among community service jobs, there is diversity among community service workers, but certain patterns do emerge when one looks at the group as a whole.

Age of Community Service Workers

As can be seen from the table below, there are some four thousand community service employees who are under 22 years of age (mostly young women in clerical positions) and more than a thousand who are past retirement age. This latter figure is somewhat surprising in view of the strong civil service personnel systems with their "mandatory" retirement age which exist in many community service agencies. It appears that extensions are more common than might be expected.

TABLE 3

AGE OF OREGON
COMMUNITY SERVICES MANPOWER

Age	Number
TOTAL, ALL AGES	48,600
Under 22	4,300
22-34	10,000
35-44	11,100
45-54	12,800
55-64	9,100
65 and over	1,300

Taken as a group, Oregon's community service personnel are substantially older than employees in other industries. Just how much older can be seen in the following table, which compares the age profile of community service employees with the age profile of all workers in the State.

TABLE 4

COMPARISON OF AGE PROFILES

Age	All Oregon Employees*	Community Service Personnel	Difference (+ or -)
TOTAL, ALL AGES	100%	100%	
Under 22	12	9	-
22-34	24	21	-
35-44	27	23	-
45-54	23	26	+
55-64	12	19	+
65 and over	2	2	+
Median Age	39 years	43 years	+

*Includes non-agricultural wage and salary employees in 1968; data provided by State of Oregon Employment Division, Research & Statistics Section.

The age profile for community service personnel is consistently heavy at the upper end. Half of the community service manpower in the state is over 43 years of age, while the comparable mid-point for all workers is 39.

The high median age of community service workers is especially noteworthy, considering the large number of clerical positions in community service agencies, many of which are filled by young women. The offsetting factor, of course, is the rather high median age of men. Half the men in community service agencies, according to the reports of employing agencies, are over 49 years of age.

The common civil service practice of promoting from within the organization is undoubtedly part of the reason for the older work force in community service agencies. But long tenure with the agency is not the only reason for the older work force in community service agencies. A substantial number of older workers apply to such agencies when they make major employment changes. A good many retired military personnel, for instance, consider community service work an appropriate "second career."

This large number of older workers is not itself a bad thing, but it does have some implications for manpower planning and personnel policies. One obvious consequence of an older work force is a sizeable attrition due to death and retirement. It can be anticipated that 7,700 community service workers will retire in the

next five years. That is 16 percent of all employees, half again as much as the percentage for all employees in the State. This attrition will, of course, be especially severe in occupations such as managers and executives, which put a premium on experience.

One of the implications of the older age of community service manpower is the need to plan for regular replacement of experienced, older employees.

There are other major implications as well, which relate to personnel administration. The big advantage of an older work force is that it tends to be more stable than one composed largely of young people, but such a work force requires more skill updating and more frequent infusion of new skills. A strong, carefully designed training program would seem to be an essential ingredient of effective personnel administration in community service agencies.

Women in Community Service

One of the predominant labor market developments of the past few decades has been the rising employment of women. At the present time, well over a third of the working-age women in the country are in the labor force, and they hold down one-third of all the jobs. This same pattern prevails generally in Oregon.

The pattern is different in community services; here women hold closer to 40 percent of the jobs. In community service

agencies as elsewhere, they tend to be concentrated in certain occupational areas, and in certain specific occupations.

As can readily be seen from the accompanying table, by far the largest numbers, nearly half, are in general office occupations, principally the traditional women's jobs: secretary, clerk, clerk-typist, stenographer, etc. Women do work in other capacities, however, and the table shows the principal ones.

TABLE 5

PRINCIPAL OCCUPATIONAL AREAS IN WHICH WOMEN ARE EMPLOYED IN COMMUNITY SERVICE

Occupational Clusters	Number of Women	Percent of All Women
TOTAL, ALL CLUSTERS	19,183	100%
Administration	288	2
General Office Work	8,227	43
Accounting and Finance	950	5
Library	579	3
Office Machines	369	2
Laboratory	353	2
Building Maintenance	778	4
Food Service	705	4
Health Services	1,902	10
Education, Guidance	2,971	15
Corrections, Recreation	730	4
Legal	143	1
Police	325	2

Traditional educational and work patterns have led to the view that women are short-term workers with minimum job commitment, but these patterns are changing and the career woman is becoming an important part of the employment scene. However, employment

practices often do not change rapidly enough to make full use of career women's abilities. Certain types of work remain largely closed to them, and they have difficulty advancing to supervisory and managerial positions in almost any field.

TABLE 6

WOMEN'S POSITIONS ON CAREER LADDERS

Occupational Clusters	Percent of Personnel Who Are Women: Community Service Agencies	All Employers*
OFFICE OCCUPATIONS		
Office Manager	44%	34%
Secretary	98	96
Clerk-Stenographer	98	97
Clerk-Typist	98	96
DATA PROCESSING OCCUPATIONS		
Electronic Data Processing Managers	13	06
Programmer	20	14
Digital Computer Operator	44	24
Mcahine Records Unit Supervisor	50	46
Tab Machine Operator	48	45
Key Punch Operator	99	98
BOOKKEEPING AND ACCOUNTING OCCUPATIONS		
Treasurer	40	27
Accountant	34	17
Bookkeeper	79	86
Accounting Clerk	88	85

*Based on data from State of Oregon Employment Division, Research and Statistics Section, The 1967 Manpower Resource of the State of Oregon and Its Metropolitan Areas, Table V.

Though the reason cannot be identified with certainty, the failure of women to advance in the organizational hierarchy is apparent from

this study. Despite the fact that nearly 40 percent of the community service workers in the State are women, only 2 percent have become executives. Among managers, only 7 percent are women, and only 21 percent of the department heads are women.

Despite these somewhat discouraging statistics, it appears that promotional opportunities for women are better in community service than in most other types of employment in the State. A look at some career ladders indicates that, while there are few women at the higher organizational levels in community service agencies, there are even fewer in most other types of organizations.

Part-Time Work in Community Service

The greatest increase in jobs for women have been in the form of part-time employment opportunities, though men, especially young men and older men, have also participated in this means of gaining more leisure time.[4]

Part-time positions are commonplace in Oregon community service agencies, especially among the smaller ones. Discounting State Government, for which information is not available, fully a fourth of the positions in community service agencies are part-time, i.e. they normally involve less than 35 hours work per week.

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[4] Seymour L. Wolfbein, Occupational Information (New York: Random House, 1968), p. 70.

The following table shows the occupational areas in which substantial numbers of part-time positions are found.

TABLE 7

PART-TIME EMPLOYMENT IN COMMUNITY SERVICE

Principal Occupational Clusters	Number of Part-Time Positions
TOTAL, ALL CLUSTERS	4,525
General Office Work	604
Accounting and Finance	240
Library	241
Building Maintenance	509
Construction	134
Utilities Operation	103
Health Services	277
Education	369
Guidance and Recreation	734
Legislative	98
Legal	205
Police	197
Fire	399

Part-time employment accounts for a third or more of the employment in: library, guidance and recreation, legislative, and legal work.

The four thousand part-time jobs described above are, of course, paid positions. Additional community services are provided by the 48,000 persons who assist community service agencies on an unpaid volunteer basis.

Geographic Distribution of Community Service

(Information about the geographic distribution of State employees and employees of a few statewide private agencies is not available from the study, so the following analysis covers only local government and the private social agencies for which geographic data are available.)

Nearly half of the community service jobs in local government and private social agencies are to be found in the Portland area. Another 30 percent are in the other major population centers: Eugene (with 10 percent), Salem (9 percent), Medford (6 percent), and Corvallis (5 percent).

There is some deviation in the linkage between community service employment and population. As the following table shows, there are an average of 13 local government and private social agency employees per 1,000 population in the State, but the ratio varies from one district to another.

There does appear to be something of a pattern to this variation. The employees-per-1,000 population ratio is high in the State's one large metropolitan area. This is not surprising in light of the attention now being given to urban problems, the fact that central offices of many private agencies are located in Portland, and the fact that some agencies attempt to provide services to large portions of the State from a single location in Portland.

TABLE 8

LOCAL GOVERNMENT AND PRIVATE SOCIAL AGENCY EMPLOYMENT IN OREGON PLANNING DISTRICTS

District	Current Employment	Population	Employment per 1,000 Population
TOTAL (excluding Multi-County)	26,713	2,050,900	13.0
1 Clatsop, Tillamook	751	45,205	16.6
2 Clackamas, Columbia, Multnomah, Washington	12,536	881,295	14.2
3 Marion, Polk, Yamhill	2,519	227,955	11.1
4 Benton, Lincoln, Linn	1,420	140,465	10.1
5 Lane	2,708	206,300	13.1
6 Douglas	734	72,000	10.2
7 Coos, Curry	829	68,815	12.0
8 Jackson, Josephine	1,504	131,500	11.4
9 Hood River, Sherman, Wasco	643	38,540	16.6
10 Crook, Deschutes, Jefferson	575	47,625	12.1
11 Klamath, Lake	670	55,625	12.0
12 Gilliam, Grant, Morrow, Umatilla, Wheeler	896	60,840	14.7
13 Baker, Union, Wallowa	539	42,470	12.7
14 Harney, Malheur	389	32,265	12.1
15 Multi-County	21,891	-	-

It is interesting to note that the ratio of community service employees to population is also high in the rural, sparsely populated areas of Eastern Oregon. It is the Western Oregon counties, outside Portland, which show the lowest ratio.

Area	Employees Per 1,000 Population
State Average	13.0
Portland	14.2
Other Western Oregon	11.7
Eastern Oregon	13.3

Major Community Service Activities

The agencies covered by this study are engaged in a wide variety of activities, but the principal activity is popularly thought to be such direct services as guidance, recreation, police protection, health services, etc. The data reported by Oregon community service agencies indicates, however, that only about one-third of the employees in Oregon community service agencies are actually engaged in direct service. (This percentage varies from approximately a third of State and county personnel to half of the personnel in private social agencies.) The rest of the manpower covered by this study are engaged in activities having to do with administration and office operations, construction, engineering, building maintenance, and other activities. The following table presents a ranking of Oregon community service employment in terms of the major activity of the workers involved. It shows that the largest single type of activity is general office work, with construction ranking second. As can be seen, slightly over half of the employees in Oregon community service agencies are engaged in five types of activities: general office work, construction, education and guidance, police work, and building maintenance.

TABLE 9

MAJOR COMMUNITY SERVICE ACTIVITIES

Type of Occupation	Employment	Percent	Cumulative Percent
TOTAL	48,604	100.0%	-
General Office Work	8,753	18.0	18.0%
Construction	5,470	11.3	29.3
Education and Guidance	5,334	11.0	40.3
Police	3,200	6.6	46.9
Building Maintenance	3,130	6.4	53.3
Accounting and Finance	2,691	5.5	58.8
Health Services	2,574	5.3	64.1
Fire Fighting	2,381	4.9	69.0
Engineering	2,112	4.3	73.3
Corrections and Recreation	1,952	4.0	77.3
Administration	1,144	2.4	79.7
Food Service	927	1.9	81.6
Utilities Operation	835	1.7	83.3
Mechanical	818	1.7	85.0
Legal	728	1.5	86.5
Transportation	689	1.4	87.9
Office Machines	667	1.4	89.3
Library	666	1.4	90.7
Agriculture	657	1.4	92.1
Laboratory	613	1.3	93.4
Inspection	491	1.0	94.4
Stock Control	430	0.9	95.3
Retail Sales	385	0.8	96.1
Planning	310	0.6	96.7
Other Occupations	1,647	3.3	100.0

Chapter 3

INDICATORS OF CURRENT MANPOWER PROBLEMS

One of the fundamental purposes of this study is to identify occupational areas in which community service agencies have manpower problems and to document those problems so that corrective actions can be planned. Unfortunately there is no single best indicator of manpower problems, because manpower problems are of various types and exhibit different symptoms.

Three indicators of current manpower problems are analyzed in this chapter. Two are standard statistical measures: labor turnover and job vacancies. The third is employing agencies' collective opinion about the recruiting difficulties. Each is analyzed in turn in the following sections of the chapter. All three of these measures are good indicators of problems, and there is a high degree of congruence among them in this case, lending confidence to the conclusion that a lack of qualified manpower or inadequate personnel management systems and non-competitive compensation plans are posing definite problems to Oregon community service agencies.

Labor Turnover in Community Service

All told, community service agencies lost or terminated nearly a thousand employees during the month of the survey, and they hired a like number to replace those who left. Staff turnover is one of the costs which a personnel system is intended to minimize. Turnover is therefore a frequently used indicator of weaknesses in personnel management. However it can also be symptomatic of several manpower shortages.

There are a number of labor turnover statistics which are used in analyses of staffing problems, but the one most commonly used in calculating a "turnover rate" is the number of separations during a month. This figure includes all termination of employment for whatever cause, including quits, discharges, lay-offs (seasonal, temporary, and permanent), retirements, deaths, permanent disabilities, military leave lasting more than 30 days, and all other separations. The turnover rate is simply the total number of separations during a month expressed as a percent of employment in the relevant occupation or industry.

The average turnover rate for all community service agencies and all types of occupations was 1.9 percent for the survey month (December 1968). A monthly rate of 1.9 percent amounts to nearly a fourth of total employment over a year's time.

The following table lists the occupations in which there were 10 or more separations or a turnover rate of 2.5 percent or more in

Oregon community service agencies. (Turnover rates for all occupations are found in the tables in Chapter 5.) The largest number of separations were found in large occupations, especially those to which employees show little career attachment.[5] Secretaries (73 separations), psychiatric aides (40 separations), sales clerks (34 separations), and some other clerical and service occupations fall in this group. A particularly large number of separations together with consistently high turnover rates are found in two areas--social services and police. With about 20 percent of the employment, these two groups account for 35 percent of the turnover, and social services show a turnover rate more than twice as high as the overall average. Five social service occupations--special education teachers, psychiatric aides, foster parents, recreation leaders, and recreation facility

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[5] Public agency failure to develop career commitments in their employees is a frequently mentioned problem, documented in a recent study in North Dakota.

"Most state employees do not recommend state employment as a lifetime career, but view state employment as a valuable experience leading to a better position in non-state employment. More women than men, and more employees from higher occupational and educational levels than from the lower levels, view state employment as a means of gaining experience rather than a 'lifetime career.'

The negative attitudes of state employees toward 'lifetime career' appears to be directly related to the state employees' dissatisfaction with salary and the lack of opportunities for promotion in the state service." (see Richard L. Wakefield, Personnel Attitudes of State Employees of North Dakota (Grand Forks, North Dakota: University of North Dakota, Bureau of Governmental Affairs) December 1968)

attendants--are among the nine occupations with both large numbers of separations and high turnover rates. (The others are secretaries, sales clerks, cooks, and kitchen helpers.) As will be seen later, the pattern which appears in this listing of occupations with large numbers of separations and high turnover rates is much the same pattern which appears in other indicators of manpower problems.

TABLE 10

OCCUPATIONS WITH 10 OR MORE SEPARATIONS
OR A TURNOVER RATE OF 2.5 PERCENT OR MORE

Occupation	Separations	Turnover Rate
TOTAL	941	1.9
Administrative Occupations	25	2.2
City Managers	3	4.9
County Commissioners	3	3.8
Industrial Development Men	3	33.3
General Office Occupations	124	1.4
Secretaries	73	2.7
General Office Clerks	14	1.4
General File Clerks	9	2.5
Clerk-Typists	18	0.5
Accounting & Finance Occupations	22	0.8
Treasurers	7	2.9
Library Occupations		
Library Aides	3	2.5
Office Machines Occupations	10	1.5
Key Punch Operators	8	3.4
Building Maintenance Occupations	48	1.5
Caretakers	11	1.5
Janitors	16	1.5
Charwomen	12	2.2
Housekeepers	3	3.2
Construction Occupations	44	0.8
Highway Maintenance Men	10	0.9
Construction Workers	23	1.5

TABLE 10

OCCUPATIONS WITH 10 OR MORE SEPARATIONS
OR A TURNOVER RATE OF 2.5 PERCENT OR MORE
(CONT.)

Occupation	Separations	Turnover Rate
Printing Occupations		
Linotype Operators	1	3.7
Transportation Occupations		
Truck Drivers	6	3.0
Utilities Operations Occupations		
Public Works Commissioners	3	2.7
Water & Sewer Systems Foremen	1	3.7
Retail Sales Occupations	36	9.4
Sales Clerks	34	11.5
Food Service Occupations	38	4.1
Cooks	20	7.7
Kitchen Helpers	14	2.7
Health Services Occupations	16	0.6
Dental Hygienists	1	4.3
Office Nurses	1	3.0
Social Services Occupations	285	3.9
Special Eduation Teachers	15	5.3
Teacher Aides	6	3.4
Economic Assistant Program Directors	6	3.7
Psychiatrists	1	5.3
Psychiatric Aides	40	3.0
Psychologists	3	3.5
Guidance Counselors	4	4.1
Juvenile Counselors	5	2.5
Caseworkers	23	2.2
Psychiatric Social Workers	3	4.3
Foster Parents	15	7.1
Case Aides	5	2.7
Group Supervisors	8	6.5
Park & Recreation Superintendents	1	4.8
Recreation Superintendents	3	5.0
Recreation Agency Directors	3	3.2
Recreation Leaders	26	5.7
Recreation Facility Attendants	15	8.2
Protective Services Occupations	63	1.1
Police Chiefs	5	2.9
Police Captains	3	4.1
Patrolmen	32	1.9
Fire Dispatchers	5	10.6

Job Vacancies in Community Service

Job vacancies consist of positions which are unfilled and immediately available to workers who are being actively recruited from outside the firm or agency. A certain number of temporary vacancies are a natural consequence of turnover and employment growth, but a large number or long vacancy periods can indicate problems. These problems may be: an inadequate supply of qualified manpower in the labor market, non-competitive wages or working conditions in the establishment, or excessively slow recruitment and selection procedures.

The following table lists the occupations in which there were four or more vacancies reported in the survey. (See the tables in Chapter 5 for complete listings.) In interpreting these data it should be borne in mind that they include vacancies in local government and private social agencies only; vacancy data for the State of Oregon were not available.

All told, there were an estimated 416 positions vacant in local government and private social agencies at the time of the survey. This constituted 1.5 percent of the positions in those agencies.

The largest number of vacancies are found in the large occupations which experience substantial turnover such as general office clerks (27 vacancies), clerk-typists (23 vacancies), and highway maintenance men (18 vacancies). Beyond that there are two groups

of occupations in which vacancies seem to be especially numerous--social services and police. With about 20 percent of the employment, these two groups account for 40 percent of the vacancies; institution teacher, teacher aide, recreation aide, case aide, caseworker, and patrolmen are among the occupations with the largest numbers of vacancies. Employment size and turnover are obviously factors determining the number of vacancies in some of these occupations, but the list suggests that there may be problems of manpower supply or compensation as well.

TABLE 11

OCCUPATIONS WITH FOUR OR MORE JOB VACANCIES

Occupation	Current Employment	Job Vacancies*	Percent of Total
TOTAL	48,604	416	100.0
Administrative Occupations	1,144	11	2.6
Administrative Assistant	454	4	1.0
General Office Occupations	8,753	70	16.8
Secretaries	2,730	8	1.9
General Office Clerks	994	27	6.5
Clerk-Stenographers	382	7	1.7
Clerk-Typists	3,575	23	5.5
Accounting & Finance Occupations	2,691	21	5.0
Accounting Clerk	442	8	1.9
Property Appraisers	485	7	1.7
Planning Occupations	310	5	1.2
Urban Planners	76	4	1.0
Engineering Occupations	2,112	20	4.8
Rod Men	331	7	1.7
Inspection Occupations	491	5	1.2
Building Inspectors	115	4	1.0

TABLE 11

OCCUPATIONS WITH FOUR OR MORE
JOB VACANCIES
(CONT.)

Occupation	Current Employment	Job Vacancies*	Percent of Total
Building Maintenance Occupations	1,347	9	2.2
Janitors	1,088	6	1.4
Construction Occupations	4,629	27	6.5
Operating Engineers	1,181	4	1.0
Highway Maintenance Men	1,158	18	4.3
Transportation Occupations	689	10	2.4
Bus Drivers	133	4	1.0
Utilities Operations Occupations	835	20	4.8
Meter Readers	115	6	1.4
Water Distric Managers	108	5	1.2
Water Treatment Plant Operators	124	5	1.2
Health Services Occupations	2,574	6	1.4
Registered Nurses	769	4	1.0
Social Services Occupations	7,286	130	31.2
Institutional Teachers	123	18	4.3
Teacher Aides	175	15	3.6
Economic Assistance Program Directors	162	9	2.2
Psychologists	85	4	1.0
Guidance Counselors	98	7	1.7
Juvenile Counselors	199	5	1.2
Caseworkers	1,044	10	2.4
Psychiatric Social Workers	69	6	1.4
Case Aides	156	12	2.9
Recreation Facility Attendants	183	6	1.4
Recreation Aides	221	21	5.0
Protective Services Occupations	5,699	51	12.2
Patrolmen	1,726	26	6.2
Fire Chiefs	132	6	1.4
Firemen	1,526	4	1.0

*Jobs vacant at the time of the survey, January 1969, includes reports from local government and private social agencies only; data for the State of Oregon are not available.

As was mentioned earlier, the length of time positions remain unfilled is one good indicator of the extent of the problem. It has become common practice to label as "hard to fill" those positions which employers have been unsuccessfully trying to fill for 30 days or more. Data from this study indicate that some types of agencies have more difficulty than others with hard-to-fill openings. As can be seen from the following table, counties have the greatest difficulty, with 43 percent of the positions they are trying to fill remaining unfilled for a month or more. By contrast, only 10 percent of the positions in small cities go unfilled that long.

TABLE 12

AGENCY DIFFICULTY IN FILLING VACANT POSITIONS

Type of Agency	Number of Vacancies	Positions Vacant 30 Days	Percent Vacant 30 Days
COUNTIES	79	34	43%
SPECIAL DISTRICTS	61	18	30
LARGE CITIES	129	38	29
PRIVATE SOCIAL AGENCIES	117	33	28
SMALL CITIES	30	3	10

Agency Recruiting Experience

In addition to reporting certain basic data about their various positions, community service agencies were asked to evaluate their recent recruiting experience. On the basis of their recent experience, they were asked to indicate "how difficult it is to recruit applicants" for each of their occupations. In about 20 percent of the cases individual agencies said that they had not had enough recent experience to have an informed opinion about recruiting, and in about half of the cases they indicated that their experience was satisfactory i.e. normal recruiting procedures attract a sufficient number of applicants who meet minimum hiring requirements. There were a good number of cases, however, in which agencies said they were having varying degrees of difficulty in filling their vacancies.

The following table lists the occupations in which five or more agencies indicated that recruitment was difficult. (Complete data are to be found in the tables in Chapter 5.)

The list indicates that community service agencies have much the same recruitment problem as other employers. That is, they report difficulty in the occupations where there is a shortage of manpower generally. These are the professional and technical occupations such as computer programmers, civil engineers, draftsmen, and registered nurses.

TABLE 13

OCCUPATIONS IN WHICH 5 OR MORE AGENCIES REPORT RECRUITMENT DIFFICULT

Occupations	Number of Agencies
Administrative Occupations	
City Managers	8
General Managers or Superintendents	9
Administrative Assistants	15
Personnel & Training Officers	8
Office Managers	18
General Office Occupations	
Secretaries	29
General Office Clerks	25
Clerk-Stenographers	12
Registrar of Vital Statistics	5
Accounting & Finance	
Treasurers	14
Accountants	13
Auditors	11
Bookkeepers	9
Library Occupations	
Librarians	10
Office Machines Occupations	
Electronic Data Processing Managers	5
EDP Systems Analysts	7
Business Programmers	14
Computer Operators	5
Planning Occupations	
Urban Planners	14
Engineering Occupations	
Civil Engineers	24
Traffic Engineers	5
Draftsmen	16
Surveyors	6
Instrument Men	7
Rod Men	10
County & City Engineers	5
Inspection Occupations	
Building Inspectors	5
Building Maintenance Men	5

TABLE 13

OCCUPATIONS IN WHICH 5 OR MORE AGENCIES REPORT RECRUITMENT DIFFICULT (CONT.)

Occupations	Number of Agencies
Building Maintenance Occupations	
Caretakers	8
Janitors	6
Construction Occupations	
Operating Engineers	7
Utilities Operation Occupations	
Public Works Commissioners	11
Water District Managers	5
Sewage Plant Operators	14
Food Service Occupations	
Cooks	10
Health Services Occupations	
Public Health Officers	9
Physicians	5
Nurse Supervisors	5
Registered Nurses	16
Public Health Nurses	16
Sanitarians	7
Social Services Occupations	
Special Education Teachers	5
Economic Assistance Program Directors	11
Psychologists	14
Guidance Counselors	5
Juvenile Counselors	19
Caseworkers	12
Psychiatric Social Workers	9
Foster Parents	8
Directors of Juvenile Department	7
Recreation Agency Directors	6
Recreation Facility Attendants	5
Legal Occupations	
City Attorneys	5
Protective Services Occupations	
Police Chiefs	10
Radio Dispatchers	6
Patrolmen	28
Matrons	5

Beyond that, there is some indication that community service agencies have problems in occupational areas where there are not general shortages. The large number of agencies reporting difficulty in hiring for the various clerical occupations as well as the custodial and maintenance positions indicate again that community service agencies are not always fully competitive for available labor supplies.

Also apparent from this list is the predominance of difficulty in recruiting for social service and police categories, the same pattern which was apparent in both the listing of job vacancies and the reporting of turnover rates. Agencies also report substantial difficulty in planning, even though there are few vacancies and few separations in those occupations.

Before attempting to compare the results of the three indicators of current manpower problems, we shall examine the nature of future manpower demand, because that is an extremely important element in an understanding of manpower problems as well as in planning corrective programs. The indicators of current manpower problems discussed here will be summarized along with data on future demand in Chapter 4.

Chapter 4

FUTURE COMMUNITY SERVICE MANPOWER NEEDS

Where will community service job openings occur? Besides analyzing indicators of current labor market imbalances, the Community Services Manpower Study attempted to assess the future demand for community service personnel. That demand--the number of new people who will be needed in various occupations--has two major components. The first component is the demand created as employed workers leave the labor force because of retirement or for other reasons. This "replacement demand" is the largest source of opportunities for new workers.

The second major component of manpower demand is job expansion, which creates new positions as existing agencies expand and new ones are created. A third, minor component of demand for new people are job vacancies. Job vacancies in community service have already been discussed.

There are two limitations to this study's future demand estimates which should be borne in mind. One is that it was not possible to take explicit account of the demand generated when employees leave community service agencies for jobs in other types of employment. Such inter-industry shifting is known to be a

significant factor in manpower demand, but economical research techniques by which it can be satisfactorily measured have not been developed. This unmeasured loss of personnel to other industries is at least partly compensated for by the people who shift from other employment into community service work, of course. To the extent that wages, working conditions, and the other benefits of community service employment are competitive, the demand generated by the out-flow and the supply generated by the in-flow will tend to off-set each other.

Information about the supply of manpower, from inter-industry shifts, from training institutions, and from other sources, is very difficult to come by. This study's inventory of training resources attempted to obtain estimates of current enrollment and the number of persons completing the various pre-employment educational programs, but that effort provided only fragmentary results because many schools were unable to provide that basic information. In addition, until very recently, the science of manpower forecasting contained no methodology for estimating the supply of manpower which would be generated by other supply sources, such as persons moving into the State from other areas, persons transferring from one job to another, military returnees, females, labor force re-entrants, etc. The methodology which is now available has not as yet been applied to the State of Oregon, so precise and comprehensive data about alternative manpower supplies are not available for use in this study. It must therefore

be remembered that the forecasts presented here are forecasts of the demand for new workers, not indications of net manpower shortages.

Replacement Demand in Community Service

Replacement demand is the demand for new workers created when current employees withdraw from the labor force. They do so usually because of retirement, poor health, death, or when women leave their jobs to assume family responsibilities. Estimates of replacement demand do not include persons transferring from one job to another within the same occupation, because such activity does not create a demand for new workers. (Replacement demand estimates also do not include persons shifting from community service jobs to jobs in other industries or persons moving from one occupation to another within community service agencies.)

Replacement is frequently the largest component of manpower demand, and such is the case in Oregon community service agencies. It is estimated that over 7,700 employees in community service agencies will leave the labor force in the next five years. That is about one out of every six persons currently on the payroll.

Estimates of replacement demand are based upon historically stable "working-life" patterns for men and women. While there is geographic and occupational variation, labor force withdrawals occur with reasonable predictability. Labor force withdrawal rates are calculated for various age-sex cohorts of employment and applied to the

age-sex profiles of employed persons in the study. The rates are a function of age as expressed in deaths and retirements and of sex, reflecting the interruptions in work patterns typically experienced by women who quit work to raise their children. The rates used in this study are based upon national data prepared by the Bureau of Labor Statistics.

TABLE 14

5-YEAR LABOR FORCE WITHDRAWAL RATES

Age	Male	Female
Under 22	.00790	.3977
22-34	.00960	.2220
35-44	.02455	.0685
45-54	.07520	.1597
55-64	.30300	.4093
65 & over	.67320	.7055

Source: U.S. Department of Labor, Bureau of Labor Statistics, Tomorrow's Manpower Needs, Volume I: Developing Area Manpower Projections (Bulletin No. 1606), Based on Tables 14, 16, and 20.

The largest number of replacements can be expected in the occupations with large number of employees, especially in those where older employees predominate and in the occupations most frequently filled by young women. This pattern is revealed by the following brief listing of the occupations with 100 or more replacement demand. A complete listing of replacement demand estimates for each occupation in the study is included in the basic tables in Chapter 5.

TABLE 15

OCCUPATIONS WITH 100 OR MORE REPLACEMENT DEMAND EXPECTED IN NEXT 5 YEARS

Occupation	5-Year Replacement Demand
Secretaries	656
General Office Clerks	221
Clerk-Typists	854
Caretakers	139
Janitors	202
Charwomen	140
Operating Engineers	126
Highway Maintenance Men	116
Construction Workers	177
Kitchen Helpers	119
Registered Nurses	178
Psychiatric Aides	268
Caseworkers	116

Because of the common practice of filling openings by means of internal promotion where possible, it would be misleading to infer that all positions requiring replacements will be open to persons from outside the agency. In a good number of cases, in fact, a vacancy in a position fairly high in the organizational hierarchy starts a chain reaction in which numerous staff members change postions and a new person is brought into the organization at the bottom of the ladder. Thus, while openings will initially occur much as indicated in the tables, recruitment from outside the organization may well take place at a lower level. For this reason, it sometimes makes more sense from a manpower point of view to look at entire promotional

ladders rather than specific occupations in order to see what occupational areas will need new personnel. (This approach also makes allowance for changes in staffing patterns which are frequently accomplished at the time of staff separation.) This approach is taken in the following table, which shows the anticipated replacement demand and replacements as a percent of current employment in the various job clusters.

TABLE 16

REPLACEMENT DEMAND IN COMMUNITY SERVICE OCCUPATIONAL GROUPS

Occupational Group	Employment	5-Year Replacement Demand	Percent of Total
TOTAL	48,604	7,722	100%
Administrative	1,144	174	2
General Office	8,753	2,053	27
Accounting & Finance	2,691	440	6
Library	666	163	2
Office Machines	667	98	1
Planning	310	46	1
Engineering	2,112	161	2
Inspection	491	73	1
Laboratory	613	116	2
Mechanical	818	128	2
Building Maintenance	3,130	624	8
Agriculture	657	105	1
Construction	5,470	635	8
Printing	137	15	0
Transportation	689	87	1
Utilities Operation	835	116	1
Stock Control	430	63	1
Retail Sales	385	86	1
Food Service	927	214	3
Health Services	2,574	523	7
Social Services	7,286	1,150	15
Legal	728	99	1
Protective Services	5,699	366	5
Non-Classified	1,392	187	2

As would be expected the greatest replacement demand will occur in general office occupations, a large type filled largely by young women, many of whose attachment to the labor force is temporary. More than a fourth of the total replacement demand will develop in these occupations. General office occupations also have one of the highest replacement rates (replacements as a percent of current employment). Also showing high replacement rates are library, sales, and food service occupations, where nearly a fourth of the current staff will be lost to labor force withdrawals in the next five years. These very substantial anticipated losses result from two factors discussed earlier--the high proportions of older workers and the large number of women found in community service employment.

Expansion Demand

The other major component of future manpower demand is created by job expansion. Employment growth usually receives much more attention than replacement demand, even though it is usually no more important numerically.

In addition to receiving more attention than replacement demand, expansion demand is the harder to forecast, because forecasts must be based upon much less stable predictors. The preparation of occupational employment forecasts involves two elements--a projection of total employment in the relevant industry or industries--in this case community service--and a projection of occupational staffing patterns.

The projection used to forecast community service employment five years into the future was based on three sources: a multiple regression model, employer forecasts, and judgment.

The multiple regression model covered state and local agencies and was based upon the following: (1) A ten year historical series for state government excluding education and for local government excluding education for the years 1959-1969 was obtained from the State Employment Division's Research Section; (2) Ten year historical series were compiled for other potentially useful state and national indicators of state-wide employment in these industries; (3) The computerized BMD Stepwise Regression program was enlisted to determine the regression constant and coefficients of the forecasting equations. The resulting regression equations were:

State Public Administration (SIC 92x9282) = $393.68 - .50382\ X_1 + 12.488\ X_2 - .03693\ X_3 + .00862\ X_4$

X_1 = State Government (lagged)
X_2 = National Employment in State Government
X_3 = Individual and Corporate Income Taxes (Oregon)
X_4 = Oregon Population

Local Public Administration (SIC 93x9382) = $5320.58 + .16595\ X_1 + 4.4732\ X_2 + .011917\ X_3 - .000352\ X_4$

X_1 = Local Government (lagged)
X_2 = National Employment in Local Governments
X_3 = Property Taxes (Oregon)
X_4 = Oregon Population

These regression equations explain 97 and 99 percent respectively of the deviation from the true regression. (4) Since this model was

originally constructed to make one year as well as five year projections, it lags the independent variables one year. Thus to make five-year projections for this study, 1973 estimates of the independent figures were substituted in the forecasting equations to produce 1974 forecasts. The estimates for the independent variables were obtained by linear regression in all cases except National Employment for which the U. S. Bureau of Labor Statistics projections were used. Those BLS projections

> . . . depend on combining the results of three approaches to projecting industry employment. In one, GNP is distributed to final demand sectors. The output of each industry then is determined through input-output relations which show the value added to output in the industry of final demand and in all supplying industries per dollar of output in each industry of final demand. Productivity in each industry also is projected to derive labor required per unit of output. Total output and labor required per unit determine total labor requirements. In another approach, employment was projected through a system of equations which relate total employment in each industry to significant variables, such as GNP, population, the unemployment rate, the size of the Armed Forces, and time, and estimates or assumptions concerning the level of selected variables in the projection year. Independent intensive studies of some industries also were available. The results of industry employment projections arising from the three procedures were compared and evaluated to arrive at the estimates which were adopted. Final adjustments made the estimates consistent with the projection of total employment.[6]

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[6]Manpower Administration, Occupational Employment Patterns for 1960 and 1975, (Washington: U. S. Department of Labor, Bureau of Labor Statistics, December 1968) Bulletin No. 1599, p. 11.

The model for Oregon, based on the four variables indicated, yielded the following projections:

State Public Administration (SIC 92x9282)	20,878
Local Public Administration (SIC 93x9382)	30,882

Following the development of these projections, they were adjusted for differences in coverage between these categories and the employment covered by the Community Services Manpower Study: conversion from an annual average to a January basis, deletion of hospital employment, and the addition of private social agencies.

The second approach to forecasting was simply to ask employing agencies to forecast their employment five years hence. Aggregated, these individual agency forecasts yielded forecasts for local government agencies and for private social agencies. (Forecasts of employment were not available for the State of Oregon.)

The final step was the reconciliation and amendment of these projections on a judgment basis. The one category for which both a regression projection and employer forecasts were available was local government. A comparison yielded an unexplained discrepancy of 3.2 percent, with the employer forecast being the more conservative.

With projections for the various types of employing agencies, it was then possible to generate occupational forecasts by the use of forecast staffing patterns. The staffing patterns used for both the current occupational estimates and the forecasts are based principally upon the patterns reported by sample agencies. However, certain

minor modifications were made in the forecast staffing patterns on the basis of other analyses of occupational trends in various types of agencies. Because forecasts were not available for the State of Oregon, that staffing pattern is essentially static.

A brief analysis of the current and projected staffing patterns and the employment projections shows a general employment increase of about 12 percent during the forecast period and a modest amount of staff re-deployment. Most occupations are expected to grow because of the general increase in community service employment. However some are expected to grow much faster than average while others will grow more slowly and a few may even decline.

The pattern of staff re-allocation is best seen by looking at the occupational group data rather than specific occupational data. Data for the occupational groups are presented in the following table, which shows each group's share of total employment and its anticipated growth rate.

It is apparent from the table that employment in state and local government and private social agencies can be expected to increase in all categories, but at somewhat differing rates. In general, occupations related to administration and public works are expected to grow relatively less important while greater emphasis is placed on social service and protective service functions. A comparison of the current and future "percent of employment" columns shows that the occupational groups showing a declining

TABLE 17

EXPANSION DEMAND IN COMMUNITY SERVICE OCCUPATIONAL GROUPS

Occupations	Current Employment	Current Percent	Forecast Employment	Forecast Percent	Change Number	Change Percent
TOTAL	48,604	100.0%	54,480	100.0%	+5,876	+12.1
Administrative Occupations	1,144	2.4	1,236	2.2	+ 92	+ 7.7
General Office Occupations	8,753	18.0	9,638	17.7	+ 885	+10.1
Accounting & Finance Occupations	2,691	5.5	2,984	5.4	+ 293	+10.9
Library Occupations	666	1.4	751	1.4	+ 85	+12.8
Office Machines Occupations	667	1.4	720	1.3	+ 53	+ 7.9
Planning Occupations	310	0.6	349	0.6	+ 39	+12.6
Engineering Occupations	2,112	4.3	2,376	4.4	+ 264	+12.5
Inspection Occupations	491	1.0	544	1.0	+ 53	+10.8
Laboratory Occupations	613	1.2	658	1.2	+ 45	+ 7.3
Mechanical Occupations	818	1.7	932	1.7	+ 114	+13.9
Building Maintenance Occupations	3,130	6.5	3,416	6.2	+ 286	+ 9.1
Agriculture Occupations	657	1.3	798	1.5	+ 141	+21.5
Construction Occupations	5,470	11.3	6,031	11.1	+ 561	+10.3
Printing Occupations	137	0.3	150	0.3	+ 13	+ 9.5
Transportation Occupations	689	1.4	750	1.4	+ 61	+ 9.0
Utilities Operation Occupations	835	1.7	937	1.7	+ 102	+12.2
Stock Control Occupations	430	0.9	454	0.8	+ 24	+ 5.6
Retail Sales Occupations	385	0.8	471	0.9	+ 86	+22.3
Food Service Occupations	927	1.9	1,001	1.8	+ 74	+ 8.0
Health Services Occupations	2,574	5.3	2,871	5.3	+ 297	+11.5
Social Services Occupations	7,286	15.0	8,326	15.3	+1,040	+14.3
Legal Occupations	728	1.5	774	1.4	+ 46	+ 6.3
Protective Services Occupations	5,699	11.7	6,866	12.6	+1,167	+20.5
Non-Classified Occupations	1,392	2.9	1,447	2.8	+ 55	+ 4.0

share of community service employment will be: administrative, general office, accounting and finance, office machines, construction, and stock control. Those increasing their share are: protective service occupations (police, fire, and related), social services, agricultural occupations, and retail sales. Other types of occupations are expected to grow at roughly the average rate and thus maintain their present shares of total employment.

As can readily be seen from the table, the greatest numerical increase as well as the greatest emphasis in creating new positions will come in social services and in protective services. These are the same two areas where the indicators presented in the preceding chapters point to current problems. The numerical and percentage increases for the other occupational groups can be seen in the table.

Summary of Forecast Demand

The three components of demand--replacements, expansion, and vacancies--have been discussed individually in preceding sections. The purpose of this section is to present a summary of the demand which will come from all three sources.

All told, Oregon community service agencies will need to hire and retain over 14,000 new staff members in the next five years. Put another way, for every four employees on the staff now, community service agencies will have to hire and retain one new person. These new persons will be needed to fill vacancies, to replace

employees who leave the labor force, or to fill new positions, not to mention replacing those who leave for work elsewhere.

Forecasts of the total manpower demand which will arise in each of the specific occupations are to be found in the detailed tables of Chapter 5. Here, as in the preceding two sections, the analysis is conducted in terms of broader job categories.

In the accompanying table, occupational groups are ranked in accordance with their total 5-year manpower demand.

By far the largest requirement will be for general office personnel, of which some 3,000 will be needed. Second in size of staff need will be the social service occupations which will require 2,300 new personnel. The greatest part of this need will be for caseworkers, counselors, and other guidance related occupations. The third largest hiring need will be for protective service personnel, where about 1,600 new people will be needed, with about equal numbers in police and in fire fighting occupations. These three groups alone will account for over half of the manpower needs of community service agencies in the next five years. Other major manpower requirements will appear in construction, building maintenance, health service, and accounting and finance occupations.

How difficult will it be to meet the forecast manpower demand? A satisfactory prediction would require data about the future supply of manpower for various occupations, data which are not now available.

TABLE 18

SUMMARY OF COMMUNITY SERVICE MANPOWER DEMAND

Occupational Group	Current Employment	5-Year Manpower Demand	Percent of Employment
TOTAL	48,604	14,014	29%
General Office Occupations	8,753	3,008	34
Social Services Occupations	7,286	2,320	32
Protective Services Occupations	5,699	1,584	28
Construction Occupations	5,470	1,226	22
Building Maintenance Occupations	3,130	926	30
Health Services Occupations	2,574	826	32
Accounting & Finance Occupations	2,691	754	28
Engineering Occupations	2,112	445	21
Food Service Occupations	927	289	31
Administrative Occupations	1,144	277	24
Library Occupations	666	251	38
Agriculture Occupations	657	247	38
Mechanical Occupations	818	246	30
Utilities Operation Occupations	689	238	35
Retail Sales Occupations	385	172	45
Laboratory Occupations	613	161	26
Office Machines Occupations	667	158	24
Transportation Occupations	689	158	23
Legal Occupations	728	148	20
Inspection Occupations	491	131	27
Planning Occupations	310	90	29
Printing Occupations	137	29	21

However, it can be said with confidence that much of the demand will occur in occupations where problems are already apparent. Fully 70 percent of the total future demand will occur in occupations with large

number of vacancies, or with high turnover, or in which agencies say they now experience difficulty recruiting. At least two of these three indicators are present in occupations which will account for 42 percent of the demand, and all three are present in eleven occupations with 19 percent of the total demand. Thus it is apparent that community service agencies will continue to need manpower in the very categories where they already have problems, and the shape of future demand will only pose more difficult problems unless other corrective action is taken.

The table accompanying this section lists all of the occupations in which one or more of the indicators of current problems is present to a significant degree. A brief look at that table reveals that this is not a list of new or obscure occupations, but major community service occupations. Admittedly the character of the list stems partly from the fact that the indicators are, to some extent, measures of occupation size as well as indicators of manpower problems. Nevertheless, the occupations in which current problems are indicated are also the occupations in which 5-year manpower demand will be large in proportion to the size of the occupation, and that fact indicates that it is not sheer occupation size which underlies the foregoing analysis.

As a matter of fact, there is a positive relationship between the extent of current problems (as indicated by the number of indicators present) and the intensity of future demand (as indicated by the size of forecast demand in relation to current employment

in the occupation). As can be seen from the following table, the demand for new manpower will be most intense in the occupations where the most indicators of current problems are present.

TABLE 19

CURRENT PROBLEMS AND
5-YEAR DEMAND

Occupations With Current Problems	Number of Occupations	5-Year Demand as a Percent of Current Employment
TOTAL, ALL OCCUPATIONS	181	29%
3 Indicators Present	11	31
2 Indicators Present	21	30
1 Indicator Present	60	27
No Indicators Present	89	28

The specific occupations with the greatest current problems and with the greatest future demand have already been discussed, and the social services occupations have repeatedly made up a major portion of those lists. It is no surprise, then, to see them dominate in this summary list. There are 21 different social service occupations listed here, and seven of the eleven occupations in which all three indicators are present are social service occupations. The seven are: economic assistance program directors, psychologists, guidance counselors, juvenile counselors, caseworkers, psychiatric social workers, and recreation facility attendants.

As can be also seen from the table, there are substantial numbers of occupations in protective services (especially police), health service, engineering, and other functional areas where current problems are indicated and where future demand will be substantial.

TABLE 20

SUMMARY OF CURRENT PROBLEMS AND FUTURE DEMAND

Occupation	Employment	Vacancies[1]	High Labor Turnover[2]	Recruitment Difficult[3]	5-Year Manpower Demand	Percent
Administrative Occupations						
City Managers	61		+	+	13	21%
County Commissioners	79		+		21	27
Administrative Assistants	454	+		+	124	27
Personnel & Training Officers	85			+	10	12
Industrial Development Men	9		+		7	78
Office Managers	117			+	16	14
General Office Occupations						
Secretaries	2,730	+	+	+	933	34
General Office Clerks	994	+	+	+	375	38
General File Clerks	353		+		119	34
Clerk-Stenographers	382	+		+	140	37
Clerk-Typists	3,575	+	+		1,233	35
Registrar of Vital Statistics	243			+	58	24
Accounting & Finance Occupations						
Treasurers	244		+	+	48	20
Accountants	202			+	55	27
Auditors	341			+	73	21
Bookkeepers	202			+	64	32
Accounting Clerks	442	+			145	33
Property Appraisers	485	+			145	30
Library Occupations						
Librarians	124			+	48	39
Library Aides	118		+		52	44

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TABLE 20

SUMMARY OF CURRENT PROBLEMS AND FUTURE DEMAND
(CONT.)

Occupation	Employment	Vacancies[1]	High Labor Turnover[2]	Recruitment Difficult[3]	5-Year Manpower Demand	Percent
Office Machines Occupations						
Electronic Data Processing Managers	26			+	5	20
EDP Systems Analysts	63			+	11	17
Business Programmers	124			+	28	23
Computer Operators	80			+	16	20
Key Punch Operators	234		+		79	34
Planning Occupations						
Planning Directors	25			+	2	8
Urban Planners	76	+		+	35	46
Engineering Occupations						
Civil Engineers	913			+	164	18
Traffic Engineers	25			+	12	48
Draftsmen	236			+	57	24
County & City Engineers	43			+	8	19
Surveyors	106			+	25	24
Instrument Men	227			+	50	22
Rod Men	331	+		+	72	22
Inspection Occupations						
Building Inspectors	115	+		+	52	45
Building Maintenance Occupations						
Building Maintenance Men	414			+	69	17
Caretakers	739		+	+	222	30
Janitors	1,088	+	+	+	302	28
Charwomen	552		+		186	34

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TABLE 20

SUMMARY OF CURRENT PROBLEMS AND FUTURE DEMAND
(CONT.)

Occupation	Employment	Vacancies[1]	High Labor Turnover[2]	Recruitment Difficult[3]	5-Year Manpower Demand	Percent
Construction Occupations						
Operating Engineers	1,181	+		+	249	21
Highway Maintenance Men	1,158	+	+		299	26
Construction Workers	1,584		+		288	18
Linemen	95			+	21	22
Linotype Operators	27		+		4	15
Transportation Occupations						
Bus Drivers	133	+			24	18
Utilities Operations Occupations						
Meter Readers	115	+			44	38
Public Works Commissioners	113		+	+	24	21
Water District Managers	108	+		+	26	24
Water Treatment Plant Operators	124	+			37	30
Water & Sewer Systems Foremen	27		+		9	33
Sewage Plant Operators	184			+	59	32
Retail Sales Occupations						
Sales Clerks	296		+		154	52
Food Service Occupations						
Cooks	298		+	+	98	33
Kitchen Helpers	514		+		167	32
Health Services Occupations						
Public Health Officers	126			+	23	18
Physicians	123			+	24	20
Dental Hygienists	23		+		8	35

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TABLE 20

SUMMARY OF CURRENT PROBLEMS AND FUTURE DEMAND
(CONT.)

Occupation	Employment	Vacancies[1]	High Labor Turnover[2]	Recruitment Difficult[3]	5-Year Manpower Demand	Percent
Nurse Supervisors	95			+	32	34
Registered Nurses	769	+		+	220	31
Office Nurses	34		+		12	35
Public Health Nurses	247			+	88	36
Sanitarians	123			+	19	15
Social Services Occupations						
Institutional Teachers	123	+			65	53
Special Education Teachers	284		+	+	63	22
Teacher Aides	175	+	+		49	28
Economics Assistant Program Directors	162	+	+	+	49	30
Psychiatrists	19		+		5	26
Psychiatric Aides	1,315		+		377	29
Psychologists	85	+	+	+	37	44
Guidance Counselors	98	+	+	+	41	42
Juvenile Counselors	199	+	+	+	96	48
Caseworkers	1,044	+	+	+	302	29
Psychiatric Social Workers	69	+	+	+	27	39
Foster Parents	211		+	+	105	50
Case Aides	156	+	+		139	89
Directors of Juvenile Department	40			+	11	28
Group Supervisors	123		+		52	42
Park & Recreation Superintendents	21		+		4	19
Recreation Superintendents	60		+		20	33
Recreation Agency Directors	93		+	+	20	22

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TABLE 20

SUMMARY OF CURRENT PROBLEMS AND FUTURE DEMAND
(CONT.)

Occupation	Employment	Vacancies[1]	High Labor Turnover[2]	Recruitment Difficult[3]	5-Year Manpower Demand	Percent
Recreation Leaders	454		+		113	25
Recreation Facility Attendants	183	+	+	+	68	37
Recreation Aides	221	+			146	66
Legal Occupations						
City Attorneys	93			+	18	19
Protective Service Occupations						
Police Chiefs	175		+	+	28	16
Police Captains	73		+		20	27
Radio Dispatchers	132			+	46	35
Patrolmen	1,726	+	+	+	401	23
Matrons	115			+	37	32
Fire Chiefs	132	+			25	19
Firemen	1,526	+			435	29
Fire Dispatchers	47		+		14	30

[1] Four or more reported
[2] Ten or more separations or a turnover rate of 2.5 percent or more
[3] Reported by 5 or more agencies

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Chapter 5

BASIC COMMUNITY SERVICE MANPOWER DATA

The fundamental purpose of this study has been the development of basic data about Oregon community service jobs and community service manpower. The large volume of data generated by a comprehensive employer survey of the type used in this study cannot all be analyzed in a summary report, and all of the issues to which they might be applicable cannot be studied. Nevertheless, it is important that those data be available for further use in analysis and program planning. Therefore, the most pertinent data for most of the occupations in the study have been tabulated and are presented in the tables which make up this chapter.

The data are to be found grouped by the following occupational categories:

Occupation	Table	Occupation	Table
Administrative	21	Construction	33
General Office	22	Printing	34
Accounting & Finance	23	Transportation	35
Library	24	Utilities Operation	36
Office Machines	25	Stock Control	37
Planning	26	Retail Sales	38
Engineering	27	Food Services	39
Inspection	28	Health Services	40
Laboratory	29	Social Services	41
Mechanical	30	Legal	42
Building Maintenance	31	Protective Services	43
Agriculture	32		

TABLE 21

COMMUNITY SERVICE MANPOWER IN ADMINISTRATIVE OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Administrative Occupations (General)		1,144	37	295	163	685	296	11	2.2	-	174	92	277
City Managers	City	61	6	0	3	49	9	3	4.9	8	5	5	13
County Commissioners	Co.	79	5	1	1	29	49	0	3.8	2	21	0	21
General Managers or Supts.	SD, Pvt.	47	0	0	1	24	22	0	0	9	10	0	10
Program Executives (Staff)	St.	108	0	3	3	69	36	0	0.9	1	17	8	25
Administrative Assistants	All	454	5	227	70	286	98	4	0.4	15	73	47	124
Personnel and Training Officers	St., City	85	2	8	22	59	4	0	2.4	8	6	4	10
Public Relations Men	St., SD	106	6	45	28	52	26	1	1.9	3	19	9	29
Industrial Development Men	SD, Pvt.	9	0	0	3	5	1	3	33.3	1	1	3	7
Safety Coordinators	St.	103	0	0	6	64	33	0	0	0	14	7	21
Civil Defense Directors	Co.	18	8	0	0	11	7	0	0	0	3	0	3

1 St.=State of Oregon; Co.=Counties; City=Cities; SD=Special Districts; Pvt.=Private Social Agencies

2 Employment for the pay period including January 12, 1969 in all community service agencies

3 Less than 35 hours per week

4 Job openings unfilled and immediately available to workers which agencies are actively seeking from outside the agency

5 Total separations during December 1968 stated as a percent of employment

6 Number of agency job classifications for which recruitment was reported as requiring intensive efforts or for which applicants do not meet all hiring requirements

7 Estimated number of positions vacated in a five-year period due to death or retirement of present employees

8 Estimated number of new positions created in a five-year period due to agency expansion

9 Vacancies plus replacement demand plus expansion demand

NOTE: Columns may not add to group totals due to omission of very small occupations and non-classifiable positions.

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TABLE 22

COMMUNITY SERVICE MANPOWER IN GENERAL OFFICE OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
General Office Occupations (General Clerical)		8,753	604	8,227	3,492	3,839	1,422	70	1.4	-	2,053	885	3,008
Office Managers	All	117	10	51	18	73	26	1	0	18	12	3	16
Secretaries	All	2,730	66	2,685	1,385	1,030	315	8	2.7	29	656	269	933
General Office Clerks	All	994	252	854	204	549	241	27	1.4	25	221	127	375
General File Clerks	All	353	16	306	146	146	61	0	2.5	1	86	33	119
Clerk-Stenographers	All	382	12	376	119	189	74	7	0.8	12	83	50	140
Clerk-Typists	All	3,575	109	3,498	1,494	1,564	517	23	0.5	3	854	356	1,233
Receptionists	All	146	38	132	56	56	34	0	0.7	2	36	25	61
Telephone Operators	All	170	4	152	43	76	51	1	1.2	0	40	8	49
(Vital Statistics)													
Registrar of Vital Statistics	Co., City	243	89	151	23	131	89	3	1.6	5	52	3	58

See Footnotes Table 21

TABLE 23

COMMUNITY SERVICE MANPOWER IN ACCOUNTING AND FINANCE

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
Accounting and Finance (General)		2,691	240	950	363	1,600	728	21	0.8	-	440	293	754
Treasurers	Co., City	244	74	97	20	156	66	1	2.9	14	43	4	48
Accounting Supervisors	Co., SD	47	3	17	3	29	15	0	0	1	9	-1	8
Accountants	All	202	6	70	25	125	53	3	0.5	13	30	22	55
Auditors	St.	341	0	12	55	183	103	1	0.3	11	43	29	73
Bookkeepers	All	202	68	161	33	119	50	0	1.5	9	43	21	64
Accounting Clerks	All	442	31	389	79	265	98	8	1.1	3	86	51	145
(Credit and Collections)													
Purchasing Agents	All	38	0	0	1	27	10	0	0	1	5	7	12
Collectors	St., Co., City	119	13	19	8	70	41	1	0	1	21	5	27
Cashiers	Co., City, SD	137	25	96	39	60	38	0	0.7	0	27	25	52
(Assessing)													
Assessors	Co.	45	0	8	2	25	18	0	0	0	9	0	9
Property Appraisers	Co.	485	0	11	62	294	129	7	0.2	4	60	78	145
Right of Way Agents	St., Co.	88	0	1	10	46	32	0	1.1	2	13	5	18
(Insurance and Related)													
Insurance Examiners	St.	151	0	29	9	88	54	0	1.3	3	24	11	35
Veterans Service Officers	Co.	32	7	4	0	17	15	0	0	1	8	-2	6

See Footnotes Table 21

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TABLE 24

COMMUNITY SERVICE MANPOWER IN LIBRARY OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Library Occupations		666	241	579	205	283	178	3	1.4	-	163	85	251
Head Librarians	St.,Co.,City	48	15	41	2	27	19	0	0	2	12	1	13
Departmental Librarians	St.,Co.,City	66	17	61	8	23	35	0	0	3	19	1	20
Librarians	Co., City	124	38	116	16	62	46	2	0	10	32	14	48
Library Assistants	Co., City	278	84	247	94	126	58	1	2.2	1	62	41	104
Library Aides	Co., City	118	82	98	79	28	11	0	2.5	1	31	21	52
Museum Curators	Co., City	11	4	7	1	4	6	0	0	0	4	-1	3

See Footnotes Table 21

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TABLE 25

COMMUNITY SERVICE MANPOWER IN OFFICE MACHINES OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
Office Machines Occupations (Bookkeeping)		667	6	369	351	251	65	7	1.5	-	98	53	158
Bookkeeping Machine Operators	Co.	32	0	31	12	15	5	0	0	0	7	0	7
Calculating Machine Operators	St., Co.	19	0	10	4	5	10	0	0	0	4	-8	-4
(Electronic Data Processing)													
Electronic Data Processing Managers	St., Co.	26	0	3	6	16	2	1	0	5	1	3	5
EDP Systems Analysts	St., Co., City	63	0	1	23	40	0	2	0	7	2	7	11
Business Programmers	St., Co., City	124	2	29	88	83	3	1	0	14	9	18	28
Computer Operators	St., Co., City	80	1	25	45	30	5	0	0	5	9	7	16
Tabulating Machine Operators	St., City	48	0	22	19	20	9	0	2.1	3	7	2	9
Key Punch Operators	Co., City	234	0	231	139	75	20	2	3.4	3	55	22	79

See Footnotes Table 21

TABLE 26

COMMUNITY SERVICE MANPOWER IN PLANNING OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Planning Occupations		310	38	60	86	144	80	5	0.3	-	46	39	90
Planning Directors	Co., City	25	1	0	5	18	2	0	0	5	1	1	2
Urban Planners	Co., City	76	1	5	25	43	8	4	1.3	14	4	27	35
Social Researchers	All	148	35	55	45	52	51	0	0.7	3	32	8	40

See Footnotes Table 21

TABLE 27

COMMUNITY SERVICE MANPOWER IN ENGINEERING OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Engineering Occupations		2,112	32	46	767	1,041	304	20	0.4	-	161	264	445
County (City) Engineers	Co., City	43	7	0	5	24	14	0	0	5	6	2	8
Engineers, Civil	St., Co., City, SD	913	1	1	247	514	152	3	0.1	24	79	82	164
Traffic Engineers (Drafting)	Co., City	25	0	1	9	15	1	3	0	5	1	8	12
Draftsmen (Surveying)	St., Co., City, SD	236	12	19	106	99	31	2	0.4	16	17	38	57
County Surveyors	Co.	24	3	0	0	18	6	0	0	2	3	2	5
Surveyors	Co., City	106	1	0	21	63	22	1	0.9	6	11	13	25
Instrument Men	Co., City	227	1	4	69	120	38	1	0	7	18	31	50
Rod Men	Co., City	331	3	5	194	113	24	7	0.9	10	14	51	72
Engineering Aides	Co., City	163	4	4	96	55	12	3	1.2	2	8	23	34

See Footnotes Table 21

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TABLE 28

COMMUNITY SERVICE MANPOWER IN INSPECTION OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
Inspection Occupations		491	10	2	26	288	177	5	0.2	-	73	53	131
Building Inspectors	Co., City	115	9	1	2	66	47	4	0.9	5	20	28	52
Construction Inspectors	Co., City	85	0	0	11	50	24	0	0	2	10	3	13
Plumbing Inspectors	Co., City	29	1	0	0	16	13	0	0	2	5	-1	4
Electrical Inspectors	City	43	0	0	0	13	30	0	0	2	9	4	13
Weighmasters	St., Co.	87	0	1	12	60	15	0	0	0	8	5	13

See Footnotes Table 21

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TABLE 29

COMMUNITY SERVICE MANPOWER IN LABORATORY OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Laboratory Occupations		613	14	353	261	247	105	0	2.0	-	116	45	161
Laboratory Technicians	St., Co.	456	10	274	211	176	69	0	2.0	6	93	38	131

See Footnotes Table 21

TABLE 30

COMMUNITY SERVICE MANPOWER IN MECHANICAL OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5- Year Expan-sion Demand[8]	Total Manpower Demand[9]
Mechanical Occupations (Automotive)		818	15	0	76	453	289	4	0.6	-	128	114	246
Shop Foremen	Co., City	54	0	0	0	32	22	0	1.9	0	9	2	11
Auto Mechanics	Co., City	406	3	0	20	237	149	2	0.5	4	62	46	110
Automobile Servicemen	Co., City	76	1	0	18	38	20	2	0	2	9	10	21
Heavy Equipment Mechanics (Heavy Machinery)	St., Co., City, SD	43	0	0	0	15	28	0	0	0	16	1	17
Maintenance Mechanics (Small Machinery)	Co., City, SD	127	3	0	28	59	40	0	1.6	2	19	25	44
Parking Meter Maintenance Men	City	57	7	0	3	40	14	0	0	0	8	15	23

See Footnotes Table 21

TABLE 31

COMMUNITY SERVICE MANPOWER IN
BUILDING MAINTENANCE OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
Building Maintenance Occupations (Commercial Building)		3,130	509	866	584	1,348	1,198	16	1.5	-	624	286	926
Building Maintenance Superintendents	All	61	7	1	2	33	26	0	1.6	0	11	2	13
Building Maintenance Men	All	414	31	3	55	189	170	3	0.5	5	69	1	73
Caretakers (Cleaning)	All	739	234	113	235	285	219	3	1.5	8	139	80	222
Janitors	All	1,088	192	124	185	438	465	6	1.5	6	202	94	302
Charwomen	All	552	11	524	95	261	196	0	2.2	0	140	46	186
Housekeepers	St, Co, Pvt.	94	15	87	7	45	42	0	3.2	0	27	1	28

See Footnotes Table 21

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TABLE 32

COMMUNITY SERVICE MANPOWER IN AGRICULTURE OCCUPATIONS

	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Horticultural Service Occupations		184	4	0	33	92	59	1	0.5	-	24	12	37
Park Foremen	Co., City	44	1	0	10	25	9	0	0	1	4	7	11
Gardeners	All	123	3	0	13	61	49	0	0.8	0	19	15	34

See Footnotes Table 21

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TABLE 33

COMMUNITY SERVICE MANPOWER IN CONSTRUCTION OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Construction Occupations (Highway)		5,470	134	6	994	3,028	1,448	30	0.8	-	635	561	1,226
Road Superintendents	Co., City	77	0	0	3	48	26	0	0	3	11	6	17
Highway Maintenance Foremen (Equipment Operators)	St., Co., City, SD	517	0	0	10	315	192	0	0.6	4	79	49	128
Equip. Superintendents	Co., City, SD	22	0	0	1	12	9	1	0	1	3	1	5
Operating Engineers	St., Co., City, SD	1,181	6	3	147	750	281	4	0.5	7	126	119	249
Highway Maintenance Men (Crusher)	St., Co., City	1,158	9	0	257	661	240	18	0.9	2	116	165	299
Crusher Foremen (Labor)	Co.	14	0	0	0	9	5	1	0	1	2	0	3
Work Crew Foremen	St., Co., City, SD	59	3	0	11	34	14	2	0	0	7	16	25
Construction Workers (Special Trades)	St., Co., City, SD	1,584	115	1	472	702	410	1	1.5	1	177	110	288
Plumbers	St., Co., SD	56	0	0	7	22	27	0	0	0	10	9	19
Water Meter Installers	City	56	0	0	1	41	14	2	0	0	7	4	13
Painters	All	108	0	0	9	55	44	0	0	0	17	14	31
Line Foremen	City	29	0	0	1	23	5	0	0	2	3	3	6
Linemen	City, SD	95	0	0	30	57	8	0	0	5	6	15	21
Electricians	St., Co., City, SD	137	0	1	16	73	48	1	0	2	19	11	31
Electric Servicemen	City	27	0	0	3	20	4	0	0	1	2	5	7
Electric Metermen	Co., City	22	0	0	3	13	6	0	0	2	3	6	9
Carpenters	St., Co., City, SD	204	0	0	6	121	77	0	0	0	30	13	43

See Footnotes Table 21

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TABLE 34

COMMUNITY SERVICE MANPOWER IN PRINTING OCCUPATIONS

	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Printing Occupations		137	0	16	34	73	30	1	0.7	-	15	13	29
Offset Pressmen	St., Co.	61	0	9	24	29	8	1	0	0	6	5	12
Linotype Operators	St.	27	0	0	3	14	10	0	3.7	0	3	1	4

See Footnotes Table 21

TABLE 35

COMMUNITY SERVICE MANPOWER IN TRANSPORTATION OCCUPATIONS

	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Transportation Occupations		689	56	39	155	352	182	10	0.9	-	87	61	158
Bus Drivers	St., Co., Pvt.	133	35	35	47	69	17	4	0	1	14	6	24
Truck Drivers	Co., City, Pvt.	297	2	1	72	159	66	0	3.0	1	29	34	63
Port Managers	SD	22	4	0	3	12	7	3	0	2	3	2	8
Basin Attendants	SD	16	6	0	0	8	8	0	0	0	4	8	12
Cable Ferryboat Operators	SD	31	3	0	3	20	8	0	0	1	5	0	5

See Footnotes Table 21

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TABLE 36

COMMUNITY SERVICE MANPOWER IN
UTILITIES OPERATION OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Utilities Operation Occupations (Electric)		835	103	1	123	461	251	20	1.0	-	116	102	238
Power Plant Operators	City, SD	30	0	0	7	14	9	0	0	0	4	0	4
Dam Caretakers	Co., City, SD	19	6	0	1	9	9	0	0	1	3	0	3
Load Dispatchers	City	14	0	0	3	10	1	3	0	0	1	-2	2
Meter Readers	Co., City, SD	115	19	0	25	64	26	6	0.9	3	14	24	44
(Water and Sewer)													
Public Works Commissioners	St., Co., City	113	10	0	13	62	38	0	2.7	11	15	9	24
Water District Managers	City, SD	108	26	0	2	65	41	5	0	5	21	0	26
Water Treatment Plant Operators	Co., City, SD	124	16	1	11	69	44	5	0.8	1	20	12	37
Pumping Station Operators	City, SD	19	5	0	1	9	9	0	0	1	3	5	8
Water & Sewer Systems Superintendents	City, SD	47	6	0	5	26	16	0	0	2	7	1	8
Water & Sewer Systems Foremen	City	27	3	0	6	10	11	0	3.7	1	4	5	9
Sewage Plant Operators	Co., City, SD	184	12	0	46	104	34	1	0	14	18	40	59

See Footnotes Table 21

TABLE 37

COMMUNITY SERVICE MANPOWER IN STOCK CONTROL OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Stock Control Occupations		430	44	68	87	215	128	1	1.4	-	63	24	88
Stock Supervisors	St.,Co.,City	45	10	5	3	27	15	0	0	1	8	1	9
Stock Clerks	All	254	21	39	39	131	84	1	2.0	4	39	3	43
Warehousemen	St.,City, Pvt.	128	13	21	45	54	29	0	0	0	17	19	36

See Footnotes Table 21

TABLE 38

COMMUNITY SERVICE MANPOWER IN
RETAIL SALES OCCUPATIONS

	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Retail Sales Occupations		385	27	123	82	137	166	0	9.4	0	86	86	172
Store Managers	St., Pvt.	77	6	18	5	32	40	0	2.6	0	12	7	19
Sales Clerks	St., Pvt.	296	18	102	77	95	124	0	11.5	0	74	80	154

See Footnotes Table 21

TABLE 39

COMMUNITY SERVICE MANPOWER IN
FOOD SERVICE OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Food Service Occupations		927	48	657	235	391	301	1	4.1	-	214	74	289
Food Service Managers	St.	68	0	31	12	37	19	0	0	1	11	4	15
Cooks	St., Co., Pvt.	298	20	251	14	145	139	1	6.7	10	77	20	98
Kitchen Helpers	St., Co.	514	18	357	191	190	133	0	2.7	0	119	48	167

See Footnotes Table 21

TABLE 40

COMMUNITY SERVICE MANPOWER IN
HEALTH SERVICES OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
Health Services Occupations		2,574	277	1,902	818	1,177	566	6	0.6	-	523	297	826
Health Institution Superintendents	St., Co., Pvt.	25	1	2	0	20	5	0	0	2	3	0	3
Public Health Officers	St., Co., Pvt.	126	20	61	24	76	26	0	0	9	21	2	23
Physicians	St., Co.	123	20	13	53	41	29	0	0	5	21	3	24
Dentists	St., Co.	20	4	0	6	13	1	0	0	4	1	23	24
Dental Hygienists	St.	23	0	23	0	10	11	2	4.3	0	5	1	8
(Nursing)													
Nurse Supervisors	St., Co.	95	1	93	7	54	34	1	0	5	22	9	32
Registered Nurses	St., Co., Pvt.	769	108	759	318	312	139	4	1.2	16	178	38	220
Office Nurses	Co., Pvt.	34	3	32	12	14	8	0	3.0	0	8	4	12
Public Health Nurses	St., Co.	247	20	233	69	122	56	0	0	16	52	36	88
Licensed Practical Nurses	St., Co.	184	19	172	53	88	43	1	0.5	3	41	16	58
Nurse Aides	Co.	301	45	250	109	120	72	0	0	3	62	10	72
Home Attendants	Co.	103	22	68	12	59	32	0	1.0	3	21	36	57
(Sanitation)													
Sanitarians	St., Co.	123	10	3	33	72	18	0	0	7	10	9	19
Food & Drug Inspectors	St., Co.	103	0	0	8	51	43	0	1.0	0	20	7	27

See Footnotes Table 21

TABLE 41

COMMUNITY SERVICE MANPOWER IN
SOCIAL SERVICE OCCUPATIONS

	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
Social Services Occupations		7,286	1,103	3,701	2,735	3,308	1,243	130	3.9	-	1,150	1,040	2,320
(Education)													
Special Education Agency Directors	Pvt.	34	3	13	6	20	8	3	0	4	5	-2	6
Institutional Teachers	Co., Pvt.	123	60	89	37	55	31	18	2.4	4	23	24	65
Public Health Educators	St., Co.	17	0	8	7	8	2	0	0	1	2	2	4
Special Education Teachers	St., Pvt.	284	49	182	102	128	54	0	5.3	5	47	16	63
Teacher Aides	St., Pvt.	175	75	128	100	66	9	15	3.4	2	28	6	49
(Guidance)													
Directors of Guidance	Co., Pvt.	15	1	2	2	12	1	0	0	4	1	0	1
Casework Supervisors	St., Co., Pvt.	83	0	50	16	52	15	0	0	3	13	9	22
Economic Assistance Program Directors	St., Pvt.	162	18	45	28	91	43	9	3.7	11	25	15	49
Directors of Guidance Agencies	Pvt.	41	6	9	12	23	6	0	0	0	4	5	9
Psychiatrists	St., Co.	19	9	1	0	17	2	0	5.3	2	3	2	5
Psychiatric Aides	St.	1,315	0	832	415	568	351	0	3.0	0	268	109	377
Psychologists	St., Co., Pvt.	85	25	19	19	61	5	4	3.5	14	6	27	32
Guidance Counselors	St., Co., Pvt.	98	10	28	40	41	17	7	4.1	5	12	22	41
Juvenile Counselors	St., Co., Pvt.	199	7	58	94	99	6	5	2.5	19	16	75	96
Caseworkers	St., C., Pvt.	1,044	45	699	411	445	139	10	2.2	12	176	116	302
Psychiatric Social Workers	Co., Pvt.	69	8	27	14	53	2	6	4.3	9	6	15	27

TABLE 41

COMMUNITY SERVICE MANPOWER IN
SOCIAL SERVICE OCCUPATIONS
(CONT.)

	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Foster Parents	Co, Pvt.	211	16	125	85	61	65	0	7.1	8	45	60	105
Case Aides (Corrections)	St., Co., Pvt.	156	24	130	78	61	17	12	2.7	2	31	96	139
Directors of Juvenile Department	Co, Pvt.	40	0	1	6	29	5	1	0	7	3	7	11
Group Supervisors	Co., Pvt.	123	21	39	24	78	21	1	6.5	4	16	35	52
Correction Officers (Recreation)	St., Co., Pvt.	509	0	118	201	256	52	1	1.0	4	45	47	93
Park & Recreation Superintendents	Co., City	21	0	0	5	10	6	1	4.8	4	3	0	4
Park Superintendents	St., Co., City	34	1	1	5	22	7	0	0	1	4	2	6
Recreation Superintendents	City, Pvt.	60	2	29	31	23	6	3	5.0	3	8	9	20
Community Center Supervisors	St., Co., Pvt.	61	7	35	28	25	8	3	1.6	2	9	3	15
Recreation Agency Directors	Pvt.	93	25	40	23	58	12	1	3.2	6	11	8	20
Recreation Leaders	St, Co, Pvt, SD	454	296	253	239	142	73	1	5.7	4	78	34	113
Recreation Facility Attendants	City, SD, Pvt.	183	166	101	149	31	3	6	8.2	5	31	31	68
Recreation Aides	City, SD, Pvt.	221	213	89	181	36	4	21	0	1	30	95	146

See Footnotes Table 21

TABLE 43

COMMUNITY SERVICE MANPOWER IN
PROTECTIVE SERVICES OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turn-over Rate[5]	Recruitment Difficult[6]	5-Year Replace-ment Demand[7]	5-Year Expan-sion Demand[8]	Total Manpower Demand[9]
Protective Services Occupations		5,699	598	335	2,032	3,174	493	51	1.1	-	366	1,167	1,584
(Police)													
Police Chiefs	Co., City	175	9	0	26	112	37	0	2.9	10	19	9	28
Police Captains	Co., City	73	3	2	9	44	20	2	4.1	0	9	9	20
Police Lieutenants	Co., City	101	0	0	8	72	21	0	0	0	10	11	21
Police Sergeants	Co., City	282	0	0	53	206	23	1	0	2	17	54	72
Detectives	Co., City	151	0	0	20	111	20	1	0	0	12	23	36
Policewomen	City	28	0	28	9	19	0	0	0	0	10	2	12
Indentification Officers	Co., City	26	0	1	6	19	1	0	0	0	2	0	2
Radio Dispatchers	Co., City	132	13	88	36	68	28	1	0.8	6	25	20	46
Police Corporals	City	23	0	0	8	15	0	0	0	0	1	10	11
Patrolmen	St., Co., City	1,726	104	15	910	741	75	26	1.9	28	69	306	401
Bailiffs	Co.	80	24	44	10	35	35	0	0	0	20	2	22
Parking Enforcement Officers	City	48	3	39	11	34	3	0	2.1	0	6	7	13
Dog Catchers	Co., City	52	15	1	3	36	13	2	0	3	6	10	18
(Jail)													
Jailers	Co.	84	9	1	11	61	12	1	0	4	8	4	13
Matrons	Co., City	115	14	115	34	68	13	0	0	5	19	18	37

TABLE 43

COMMUNITY SERVICE MANPOWER IN
PROTECTIVE SERVICES OCCUPATIONS
(CONT.)

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
(Fire)													
Fire Chiefs	City, SD	132	29	0	5	94	33	6	1.5	3	16	3	25
Battalion Chiefs	City, SD	55	0	0	0	47	8	1	0	0	5	15	21
Fire Captains	City, SD	193	3	0	9	163	21	1	0.5	0	14	67	82
Fire Lieutenants	City, SD	220	3	0	57	153	10	2	1.4	0	11	84	97
Firemen	City, SD	1,526	354	0	716	779	31	4	0.5	2	47	384	435
Enginemen	City, SD	105	0	0	32	73	0	0	0	0	3	35	38
Fire Dispatchers	City, SD	47	10	6	13	24	10	0	10.6	1	5	9	14
(Prevention)													
Fire Marshalls	St., City, SD	59	0	0	3	32	24	1	0	3	8	7	16
Fire Inspectors	City, SD	44	0	0	7	34	3	2	0	0	3	28	33
(Security)													
Watchmen	St., City, SD	54	2	2	9	13	32	0	1.9	0	15	20	35

See Footnotes Table 21

TABLE 42

COMMUNITY SERVICE MANPOWER IN LEGAL OCCUPATIONS

Occupations	Major Employers[1]	Employment[2]	Part-Time Positions[3]	Females	Under 35	35-54	55+	Vacancies[4]	Monthly Turnover Rate[5]	Recruitment Difficult[6]	5-Year Replacement Demand[7]	5-Year Expansion Demand[8]	Total Manpower Demand[9]
Legal Occupations		728	205	143	118	430	180	3	0.4	-	99	46	148
(Judicial)													
Judges	Co., City	107	84	12	5	56	46	0	0	3	21	0	21
Justices of the Peace	Co.	45	19	5	1	15	29	1	0	1	13	1	15
(Legal)													
City Attorneys	City	93	63	1	14	60	19	1	0	5	9	8	18
District Attorneys	Co.	20	6	1	1	15	4	0	0	0	2	0	2
Deputy District Attorneys	Co.	67	1	1	31	35	1	0	0	0	2	10	12
Investigators	St., Co.	103	0	2	11	71	21	0	0	0	10	8	18
(Court Operations)													
Chief Civil Deputies	Co.	14	0	2	0	10	4	0	0	0	2	0	2
Civil Deputies	Co.	36	5	0	3	24	9	0	0	0	4	4	8
Court Clerks	St., Co.	200	27	113	45	117	38	1	0.5	0	30	11	42

See Footnotes Table 21

SECTION II

MEETING COMMUNITY SERVICE MANPOWER NEEDS: PERSONNEL MANAGEMENT AND TRAINING

The preceding section described the present character of community services manpower and assessed community service agency needs for manpower. The character of community service manpower and its adequacy for community service needs are in part a function of manpower resources in the state and in part a function of the way in which manpower resources are managed within community service agencies.

Thus it is appropriate to inquire into the systems in community service agencies which attempt to meet agency manpower needs as well as to examine the training resources which are available to prepare people to perform community services.

That is the purpose of this section of the report. Chapter 6 describes some of the features of the manpower resource management in community service agencies: who handles the personnel and training functions, agency policies and expenditures on training, pay levels, and agency suggestions for improving personnel practices in community service agencies.

Chapter 7 looks specifically at the amount and types of training which are available in Oregon for community service personnel and identifies some unmet training needs.

Chapter 6

MANAGEMENT OF COMMUNITY SERVICE MANPOWER

The American labor market provides considerable freedom for workers to choose the occupation and type of employer for whom they will work. The choice of an occupation is based partly on personal interests and aptitudes, partly on experience and training, and reflects the value system of the individual worker. The choice of an employer, especially by professional and technical personnel, depends much more upon an opportunity for interesting work, wages and working conditions, and promotional opportunities.[7] Employers must therefore remain competitive in order to attract and retain competent personnel. Community service agencies are no exception.

Remaining competitive is especially important at the present when manpower in the prime age range 35 to 45 is becoming more scarce than ever and the most capable young people are impatient with slow-moving, unresponsive organizations. Remaining competitive is difficult

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[7]see Philip Meranto, "Competing for P.A.T. Personnel: State and Local Governments vs. Private Industry" Manpower for Illinois Governments, Joseph P. Pisciotte, ed. (Urbana, Illinois, University of Illinois, June 1968) University of Illinois Bulletin vol. 65, No. 143, July 24, 1968

for community service agencies at a time like the present when revenue seems always to lag behind urgent needs. Such a situation requires maximum utilization of all resources--including manpower resources.

One of the tasks of this study was to determine how community service agencies handle their personnel and training activities so that program planners could intelligently plan and implement improvements.

Who Handles Personnel and Training in Community Service Agencies?

Personnel administration is generally recognized as a specialized field of management, but "personnel manager" positions are the exception rather than the rule. Aside from the State of Oregon, many of whose departments have personnel officers, only about a dozen of the 1,600 or so community service agencies in the State have personnel managers, and those which do are mostly the largest cities and counties. Other agencies assign personnel and training as part-time functions to staff members who have other principal responsibilities while a few contract some personnel functions to private consulting firms.

All told, the Community Services Manpower Study found about 85 personnel officers, training officers, and other personnel technicians in community service agencies. Compared with other employers in Oregon, the State of Oregon has a large number of personnel managers, while local governments and private social agencies have a small number.

TABLE 44

PERSONNEL OFFICERS IN
COMMUNITY SERVICE AGENCIES

Type of Employer	Number of Personnel Officers	Personnel Officers Per 1,000 Employees
State of Oregon	58	2.7
ALL OREGON EMPLOYERS*	949	1.5
Local Governments	24	1.0
Private Social Agencies	3	0.9

*from State of Oregon Employment Division, Research and Statistics Section, The 1967 Manpower Resource of the State of Oregon, June 1969.

As noted above, the common practice is to assign personnel and training functions to other staff members. In addition to the 85 community service agency staff members specifically assigned to personnel and training functions, there are about 150 positions in which personnel and/or training are major responsibilities i.e. they occupy one-third or more of the person's time. Secretaries or administrative assistants are frequently the ones to handle personnel, while private agency directors, casework supervisors, fire chiefs, and production foremen are the persons who most frequently devote a third or more of their time to training.

In the vast majority of cases, however, personnel and training are minor responsibilities, occupying less than a third of the staff member's time. Many county governments make personnel management a minor function of several people. In those counties personnel management

is totally decentralized, and recruitment, hiring, training, and even payroll record keeping is done by individual departments. Consequently there is no central source of information, let alone decision making, regarding employment in many Oregon counties.

The more common practice in community service agencies is for personnel to be handled as a minor function of a single person. The table below shows the positions of people identified by community service agencies as handling personnel and training functions and the amount of time they devote to these functions.

It is apparent that personnel and training are part of the responsibilities of a good many persons, more than a thousand in all. The list includes such occupations as agency administrators, department heads, and general office personnel, secretaries, librarians, road superintendents, police and fire chiefs. The primary responsibilities of these people often have little relationship to personnel management or staff training, and many have had little or no special preparation for their added responsibilities.

How well any particular arrangement works depends on the agency's location and type of personnel it hires as well as upon the interest, the training, and the time available to the responsible person. Though data are lacking, it appears that few of the people handling personnel matters in community service agencies have had appropriate training, and there is considerable evidence that the present personnel management structure is not very satisfactory. As was seen

TABLE 45

STAFF RESPONSIBLE FOR PERSONNEL MANAGEMENT AND STAFF TRAINING

Principal Occupations[1]	Type of Agency[2]	Employment in the Occupation	Personnel and Training Responsibilities		
			Number of Persons	Percent of Time[3]	Function[4]
City Managers	City	61	47	10	P
County Commissioner	Co.	79	6	10	P
General Managers and Superintendents	S. D.	47	20	7	P
Administrative Assistant	City, Pvt.	470	40	26	P & T
Personnel Manager	City	85	85	90	P & T
Office Manager	S. D.	117	15	20	P & T
Secretary	Pvt.	2,730	30	36	P
General Office Clerk	City, S. D.	994	19	19	P
Registrar of Vital Statistics	City	243	25	9	P
Treasurer	Co., City	244	17	14	P & T
Head Librarian	City	48	7	8	P & T
Librarian	City	124	7	4	T
Planning Director	Co.	22	4	22	P & T
Engineer	Co., City	956	7	9	P & T
Automotive Shop Foreman	Co., City	461	7	14	P & T
Production Foremen	Pvt.	30	18	44	T
Road Superintendent	Co., City	77	12	6	T
Port Manager	S. D.	22	10	16	P
Branch Manager	City, S. D.	8	4	8	P & T
Public Works Commissioner	City	113	13	7	P & T
Water District Manager	S. D.	108	18	31	P & T

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TABLE 45

STAFF RESPONSIBLE FOR PERSONNEL MANAGEMENT
AND STAFF TRAINING
(CONT.)

Principal Occupations[1]	Type of Agency[2]	Employment in the Occupation	Personnel and Training Responsibilities		
			Number of Persons	Percent of Time[3]	Function[4]
Public Health Officer	Co.	126	7	9	P & T
Education Agency Director	Pvt.	34	24	19	P & T
Casework Supervisor	Pvt.	83	12	32	P & T
Economic Assistance Program Director	Pvt.	162	36	16	P & T
Director of Guidance	Pvt.	56	24	14	P
Director of Juvenile Department	Co.	40	10	12	P & T
Recreation Superintendent	City, Pvt.	115	22	17	P & T
Recreation Agency Director	Pvt.	93	26	24	P & T
Police Chief	City	175	50	11	P & T
Fire Chief	City	132	68	22	P & T

[1]Includes only the occupations which frequently exercise personnel and/or training responsibilities.
[2]St. = State of Oregon
Co. = Counties
City = Cities
S.D. = Special Districts
Pvt. = Private Social Agencies
[3]Average percent of time spent on personnel and training by the persons with personnel and training responsibilities.
[4]Personnel (P) and/or Training (T) responsibilities most commonly exercised by persons in the occupation.

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in the previous section, community service agencies have difficulty attracting and retaining needed staff. There are also indications that substantial training funds are being spent, but without maximum benefit to the agency. Wages and working conditions are often non-competitive, and job structures are frequently out of date.

The importance of effective personnel administration was enunciated by the Project 70's Task Force in their report to Governor McCall,

> The problems of the 1970's are going to put vast and new burdens on all agencies of the state government. Personnel will have to be recruited and encouraged to function and mature in a system that emphasizes change, flexibility, problem-solving and complexity. Many of the existing ideas about what is a government activity will change, and government workers will have to learn to function in strange and novel ways.
>
> Job entry qualification concepts will be under heavy pressures, and on-the-job and mid-career refresher work may become far more important in the state civil service than entry standards and testing.[8]

The need for change is recognized, however. A third of the agencies in the survey reported a need for major changes in personnel practices, and more training in personnel matters was requested by many agencies.

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[8]Project 70's Task Force, Oregon State Government for the 1970's; (Salem: Office of the Governor) December 1968, p. 36.

Training Policies and Practices

Considering the fragmented way in which personnel administration is generally handled in community service agencies, it is surprising to find that these same agencies are spending considerable sums of money and involving substantial amounts of staff time in staff training. In local governments alone, nearly 2,000 employees receive reimbursement or paid release time for tuition courses in a years time; this figure constitutes 8 1/2 percent of the total staff of local government agencies. In addition there were some 73 employees (almost 2/3 of them from State agencies) who are on full-time educational leave at some time during the year. This is not the extent of training; agencies estimate that at least 1,300 of their employees take tuition courses at their own expense, and neither of these figures includes the much larger number of staff who attend training sessions for which tuition is not charged.

The cost of this educational reimbursement is conservatively estimated at a million dollars for the out-of-pocket costs of tuition, fees, books, supplies, and travel, not including the value of staff time devoted to arranging and attending such courses. (Exact figures are generally not available from agency records, and the actual figure may be substantially higher.) This works out, in the case of large cities, to an average expenditure of $187 per trainee or $18 per employee; comparable figures for the other types of agencies are pre-

sented in the accompanying table. As that table reveals, the State of Oregon has the most intensive tuition reimbursement program with an average expenditure of $31 per employee per year. This is followed closely by special districts who expend an average of $28 per employee per year. Counties are lowest on the list with an average expenditure of just $8 per employee per year. For sake of comparison, it should be noted that the Federal Government spends an average of $11 per employee per year for tuition reimbursement.

Despite this rather substantial sum of money and the number of community service employees who attend tuition reimbursed courses during a year, agency managers complain that there is a lack of commitment to training. They say that training funds are frequently the first ones cut in a budget review, and many of them are apologetic for what they consider to be the inadequate size of their training budgets. Moreover, staff training is the most frequently suggested improvement in community service agency personnel practices.

Despite the substantial sums involved in tuition reimbursed training and the apparently even greater need, agencies generally do not have formalized training policies; almost none had written policy statements that they could make available to the survey interviewers. Lacking formal policies which could be analyzed, the study asked agency administrators to indicate what they would do in response to three types of requests for training reimbursement: (1) individual courses

TABLE 46

TRAINING ACTIVITY IN OREGON COMMUNITY SERVICE AGENCIES

	Counties	Large Cities	Small Cities	Special Districts	Private Agencies	State	Federal (total U.S.)
Total Employment	7,601	8,666	1,182	2,824	2,247	21,472	2,737,800
Number of employees who received reimbursement or paid release time for tuition courses during 1968	320	1,004	162	296	156	INA	215,055
Number of employees on full-time educational leave during 1968	10	8	3	3	6	43	2,004
Number of employees taking training courses on their own time and at their own expense (estimated)	183	599	129	197	201	INA	INA
Total training expenditures during 1968	$45,045	$138,467	$13,182	$42,748	$20,970	$666,428	$30,757,899
Average expenditure per trainee	$138	$187	$81	$196	$179	INA	$142
Average expenditure per employee	$8	$18	$11	$28	$10	$31	$11
Percent of employees receiving reimbursed training	7%	12%	14%	11%	7%	INA	8%

Sources: Local Government: Community Services Manpower Study
State: Oregon State Civil Service Commission, Training in Oregon State Government (Salem: Oregon State Civil Service Commission) July 1968
Federal: U.S. Civil Service Commission, Bureau of Training, Statistical Annex to Employee Training in the Federal Service, Fiscal Year 1968 (Washington: U.S. Government Printing Office) February 1969

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directly related to the employees present position, (2) individual courses not directly related to the employees present position but of career value, and (3) educational leave for full-time schooling. They were asked to indicate how much, if anything, the agency would contribute toward tuition, books and supplies, and travel for each type of request. The results are tabulated in the following table, "Training Policies of Oregon Community Service Agencies: Expenses Paid by the Agency." When faced with these types of situations agency managers said simply, "If we send the person, we pay for everything. If we don't, we pay for nothing."

Thus it is that the table shows the vast majority of agencies willing to pay for tuition, books, supplies, and travel for courses directly related to employees' present jobs, and an equally overwhelming number saying they would make no contribution toward the cost of courses which are of career value but not directly related to employees' present positions. Some personnel and training experts think this is a short-sighted policy.

The data presented above relate to only one type of staff training--reimbursement for the costs incurred in attending tuition courses. The training available to community service personnel also includes training sessions conducted by employing agencies, courses co-sponsored by the employing agency and an agency with broader training responsibilities, and professional institutes for which no

TABLE 47

TRAINING POLICIES OF OREGON COMMUNITY SERVICE AGENCIES: EXPENSES PAID BY THE AGENCY

Agency	Tuition			Books & Supplies			Travel		
	None	Part*	All	None	Part*	All	None	Part*	All
Individual Courses Directly Related to the Employee's Present Position									
State	0	0	1	0	0	1	0	0	1
Counties	0	3	15	3	2	13	3	1	14
Large Cities	0	6	31	2	5	29	6	2	28
Small Cities	4	1[a]	14	5	0	14	4	1	14
Special Districts	5	1[b]	16	6	1	15	9	1	12
Private Agencies	10	1	15	11	0	15	13	0	13
Individual Courses Not Directly Related to Present Position, But of Career Value									
State	0	1	0	optional			optional		
Counties	14	2[c]	1	14	2[d]	1	15	1[e]	1
Large Cities	29	4[f]	3	30	3[g]	2	33	0	2
Small Cities	17	0	2	18	0	2	19	0	1
Special Districts	15	0	6	15	1	5	18	0	3
Private Agencies	23	0	2	23	0	2	23	0	2
Educational Leave for Full-Time Schooling**									
State	0	0	1	1	0	0	one	round	trip
Counties	17	0	1	17	0	1	17	1	0
Large Cities	32	1	3	31	1	3	32	1	2
Small Cities	20	0	0	20	0	0	20	0	0
Special Districts	20	0	0	20	0	0	20	0	0
Private Agencies	24	0	1	24	0	1	25	0	0

*50 percent unless otherwise indicated

[a] 20 percent
[b] 60 percent
[c] one pays 40 percent
[d] one pays 40 percent
[e] 40 percent
[f] one pays 25 percent
[g] one pays 25 percent

**Some agencies also pay salary during educational leave. The State pays full salary up to $525 per month; one county pays 33 percent, one large city pays 100 percent, one pays 30 percent, and one pays 25 percent; one special district pays 100 percent; and one private social agency pays 100 percent. Others who reported pay none of the employee's salary.

NOTE: This table includes only agencies responding to this question. Respondents included 18 of the 36 counties, all 37 large cities, 20 of the 63 small cities, 22 of the 218 special districts, and 26 of the 90 special districts surveyed.

charge is made.

How adequate is community service agency training? The opinion of many agency administrators has already been reported: there is not enough money for training. Perhaps equally serious, and much less costly to correct, is the general lack of affirmative agency training policies.

Nearly everybody is favorably disposed toward the notion, but without a positive policy personnel managers have no real basis for choosing one type of training expenditure over another. The result is a loss of initiative on the part of management, and a situation where available funds are spent because an enterprising instructor promotes his course or because an ambitious employee sees an opportunity for personal improvement. It seems that the employees who are most likely to need the training and who are most likely to stay with the agency after being trained are often the least likely to request it. While the needs of employees and the needs of the employing agency are often in harmony, they are not always synonymous; and as things now stand the needs of the agency are often secondary. An unfortunate result is that budget committees tend to view training as a fringe benefit to employees rather than a directly productive expenditure for the agency.

Pay in Community Service Occupations

Adequate employee compensation, in the form of wages and other tangibles, is perhaps the single most important item in the management

of personnel. Pay ranks higher than "interesting work," "security," "use of talent," "feeling of satisfaction," and "co-workers" in the eyes of employed adults.[9] Yet, wages in the public sector are frequently not competitive with those paid elsewhere for comparable work requiring comparable preparation. In 1962 the Municipal Manpower Commission concluded that, "The salaries paid to administrative, professional, and technical personnel are inadequate to enable local government to compete for scarce talent."[10]

Comparisons of wages are always difficult to make, and a thorough analysis of compensation is beyond the scope of this study, but available data indicate that wages in community service are below those of other employers.[11] The following table shows both the State of Oregon and the local governments currently lagging substantially behind the prevailing rates in both Eugene and Portland for several types of occupations.

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[9] U. S. Department of Labor, Manpower Report of the President, 1968, p. 51.

[10] Municipal Manpower Commission, Governmental Manpower for Tomorrow's Cities, (New York: McGraw-Hill Books Co., Inc. 1962) p. 70.

[11] The Governor's Project 70's Task Force recommended ... "a 'blue ribbon' Pay and Benefits Commission to study wage, salary and benefit requirements for all positions ... " Project 70's Task Force, Oregon State Government for the 1970's (Salem: Office of the Governor) December 1968, p. 38.

TABLE 48

COMPARATIVE WAGE RATES FOR SELECTED OCCUPATIONS

KEY PUNCH OPERATORS		
State of Oregon	Key Punch Operators	$310 -$400
Oregon Local Governments	Key Punch Operators	366 - 466
Eugene Private Employers	Key Punch Operators	INA
Portland Private Employers	Key Punch Operators:	
	Class A	404 - 499
	Class B	350 - 436
SECRETARIES		
State of Oregon	Secretary 3	380 - 460
Oregon Local Governments	Secretaries	382 - 481
Eugene Private Employers	Secretaries	INA
Portland Private Employers	Secretaries	436 - 549
JANITORS		
State of Oregon	Custodial Workers	342 - 420
Oregon Local Government	Janitors	407 - 469
Eugene Private Employers	Janitors	479 - 485
Portland Private Employers	Janitors	396 - 492
AUTOMOBILE MECHANICS		
State of Oregon	Automobile Mechanic 1 and 2	500 - 575
Oregon Local Governments	Automobile Mechanics	539 - 631
Eugene Private Employers	Automobile Mechanics	605 - 634
Portland Private Employers	Automobile Mechanics	711 - 759

NOTE: Rates are for January 1969 unless otherwise noted. Data for State of Oregon are entry and maximum steps, for Local Governments, average entry and maximum rates for full-time journeyman positions; for private employers, the interquartile range.

Sources: Private Employers: U.S. Department of Labor, Area Wage Surveys. Eugene Oregon April 1969 data. Portland, Oregon May 1969.

Another recently completed study shows counselors in Oregon Juvenile Departments lagging as much as $100 to $150 per month behind comparable positions in Federal Service and in California.

One of the great competitors for community service talent has always been the Federal Government. The Federal Salary Reform Bill of 1962 set the objective of comparability of salaries in Federal and private employment. Disparities between Federal pay and the rates paid in private industry were to be eliminated by July 1969. The result has been a 40 percent increase in basic salary scales.[12] The adoption of the principle of pay comparability by the Federal Government has serious consequences for state and local governmental personnel programs. State and local government salaries have traditionally lagged behind Federal salaries, and many of their best employees have responded accordingly. Now the gap is greatly widened.

Improving Personnel Practices

The data compiled by the Community Services Manpower Study indicate a number of manpower problems, but analysis of such data is not enough. People on the scene have a perspective on such problems which cannot be overlooked. Another study, conducted by the Bureau of Labor Statistics in several large cities found many administrators feeling that

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[12] Calculated from data in Albert A. Belman, "Trends in Salaries of Classified Federal Workers," Monthly Labor Review, July 1968.

civil service restrictions often impede efficient recruitment. These include unrealistic examinations, residency requirements, and time lags between application and employment. Agency managers and personnel officers were asked in the Oregon survey to react to some suggestions for improving personnel practices in community service agencies. The survey questionnaire contained the following item: "Several suggestions have been made for ways in which agencies could improve personnel practices. Please check those which you think are especially appropriate to your agency and other agencies like yours." Nine suggestions were then listed.

In all, about a third of the agencies checked one or more suggestions. Those not responding were predominantly the very small, one or two man agencies for whom most of the suggestions seemed inappropriate. Agencies most frequently suggested more and better training. As the following table shows, by far the most frequent suggestion was for more staff training. The suggestion that schools do a better job of pre-employment training received the second greatest support.

Following the training items were suggestions which would improve the mechanics of personnel systems: conducting more prevailing wage surveys, up-dating hiring requirements, and standardizing occupational class specifications.

Falling last were institutional changes which have been promoted as "innovative" ways of solving personnel and manpower problems.

These include the proposal for a centralized recruitment center, the "new careers" idea, and the transfer of staff among employing agencies.

TABLE 49

COMMUNITY SERVICE AGENCY SUGGESTIONS FOR IMPROVING PERSONNEL PRACTICES

Rank	Item	Number of Agencies Reporting
1	More training for present staff.	98
2	Better pre-employment training by schools.	69
3	More frequent or more comprehensive prevailing wage surveys.	68
4	Re-evaluation of hiring requirements in the light of present job duties.	63
5	Development of standarized occupational class specifications which could be used by several agencies.	62
6	Restructuring jobs to better utilize professional manpower.	53
7	Establishment of a centralized recruitment center for professional, technical, and administrative personnel.	43
8	Restructuring jobs to make use of applicants with marginal qualifications.	38
9	Development of ways to encourage the movement of staff between employing agencies.	29

Not all types of agencies agree exactly on the ranking, but the pattern just described holds up quite consistently. The responses of individual types of agencies are reported in the following table.

TABLE 50

AGENCY SUGGESTIONS FOR IMPROVING PERSONNEL PRACTICES

NOTE: Respondents were asked to check the suggestions for improving personnel practices which would be "especially appropriate to your agency and other agencies like yours."

1. Re-evaluation of hiring requirements in the light of present job duties.
2. Development of standarized occupational class specifications which could be used by several agencies.
3. Restructuring jobs to better utilize professional manpower.
4. Restructuring jobs to make use of applicants with marginal qualifications.
5. More frequent or more comprehensive prevailing wage surveys.
6. Better pre-employment training by schools.
7. More training for present staff.
8. Establishment of a centralized recruitment center for professional, technical, and administrative personnel.
9. Development of ways to encourage the movement of staff between employing agencies.
10. Other

	AGENCY GROUP	AGENCIES IN THE SAMPLE	AGENCIES REPORTING SUGGESTIONS	SUGGESTION NUMBER 1	2	3	4	5	6	7	8	9	10
	Total	444	140	63	62	53	38	68	69	98	43	29	20
3	Counties	36	22	13	10	10	5	12	8	12	4	4	4
4	Large Cities	37	30	15	22	8	7	18	23	25	16	8	6
5	Small Cities	63	23	7	7	4	7	12	8	15	5	2	2
6	Selected Special Districts	53	20	8	6	10	2	7	9	14	4	3	1
7	Other Special Districts With Substantial Employment	119	8	2	3	2	1	3	3	5	1		1
8	Other Special Districts With Minimal Employment	46	0										
9	Private Social Agencies	90	37	18	14	19	16	16	18	27	13	12	6

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Chapter 7

INVENTORY OF AVAILABLE TRAINING FOR COMMUNITY SERVICE OCCUPATIONS

There is considerable training available for community service occupations, but the existing training can in no sense be viewed as a systematic program. There is little knowledge among training institutions and employing agencies of the types of training which are available, and there has generally been a lack of inter-institutional planning. For these reasons the development of comprehensive and systematic information about present training activities was established as one of the main activities of the Community Services Manpower Study.[13] The value of such an inventory is discussed in the International City Managers' Association study of Post-Entry Training in the Local Public Service. In talking about the dissemination of information about training programs, that study concludes that:

> There is presently no central agency to which local jurisdictions can turn for assistance in developing courses, in identifying programs that are being offered, and in finding materials of use in particular programs. The

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[13]See Application for 1969 Oregon Title VIII program, p. 8.

> community seeking to establish a program too often must depend upon incomplete data with results that are not wholly satisfying. This lack of a central clearinghouse for information in this field is viewed by almost all concerned as one of the major obstacles in the organization and execution of effective post-entry training programs at the local level.
>
> A national clearinghouse, while extremely desirable, would need to be supplemented by a comparable effort at the state or regional level. This could be done by states as part of an expanded technical assistance service, or by the extention of adult education agencies of state universities and colleges.[14]

One outgrowth of the inventory conducted by the Community Services Manpower Study is the establishment of a Training Resource File, now being housed and operated by the School of Community Service and Public Affairs at the University of Oregon

This chapter lists the types of training available and identifies certain major unmet training needs. A more complete report on the training resource inventory has been published under the title Inventory of Available Training for Community Services Occupations.

Types of Community Service Training

Training covers an extremely wide range of activity taking place in classrooms and on-the-job, conducted by many kinds of organizations, and preparatory for a host of different occupations. The work of this project was limited to inventorying a particular type of training, namely training which is designed to prepare or upgrade professional, technical,

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[14]The International City Managers' Association, Post-Entry Training in the Local Public Service, (Chicago: The International City Managers' Association) 1963, pp. 55-56.

or administrative manpower in community service occupations.

In talking about training, it is useful to distinguish between "programs" and "courses." Programs are designed to provide a comprehensive preparation for employment in an occupation or an occupational area. They are usually made up of a number of specific courses, and they may require from a few months to several years to complete. Because of their length and their comprehensive nature, training programs are usually found in specialized institutions such as colleges, business schools, and technical institutes. Such is the case in Oregon; all of the training programs were found in educational institutions.

In contrast to the comprehensive nature of programs, courses have a specific objective, and usually have a specific content as well. They normally last from a few hours to a few weeks in time. In educational institutions, of course, courses are the building blocks for the more comprehensive programs. The Community Services Manpower Study inventory did not undertake the identification of all the specific courses used principally as parts of pre-employment educational programs, because those courses are listed and described in the catalogues of the various educational institutions. The contribution of this inventory is in identifying the courses, most of them outside of regular program curricula and many of them very specific and very short in duration, which are of particular value to professional, technical, and administrative personnel practicing in community service functions. Information for the inventory was collected from 450 employing

agencies, 55 schools, as well as various State and Federal agencies and professional associations. (See Methodology for explanation)

The inventory of training resources identified programs and short courses sponsored by 91 different organizations. (See Table below)

TABLE 51

SPONSORS OF COMMUNITY SERVICE TRAINING

Type of Institution	Number
TOTAL, ALL TYPES	91
Educational Institutions	55
Public & Private Colleges & Universities	23
Community Colleges	12
Private Business Schools	20
Governmental Agencies	26
Federal	2
State	9
Local	15
Professional Associations and Private Social Agencies	9
Private Business Firms	1

Pre-Employment Educational Programs

All of the pre-employment educational programs identified by this study are conducted by educational institutions. Those 55 institutions range from large universities to small business schools. Despite the somewhat specialized nature of the individual schools, there are some pre-employment educational programs for nearly every type of community

service function. Of the 29 functional occupational areas identified during the employment survey, only one, legislative, is without pre-employment educational programs which are intended explicitly to prepare people for careers at some levels in that occupational area, (and that omission is consistent with this State's policy of part-time citizen legislators).

TABLE 52

TRAINING PROGRAM SUMMARY

Functional Area	Total All Types of Schools	Community Colleges	Colleges & Universities	Business Schools
NUMBER OF SCHOOLS	55	12	23	20
Administration	31	12	15	4
General Office	36	12	9	15
Accounting and Finance	33	7	12	14
Library	11	2	8	1
Office Machines	30	7	7	16
Planning	6	1	4	1
Engineering	16	9	6	1
Inspection	1	1		
Laboratory	12	2	9	1
Mechanical	13	10	2	1
Building Maintenance	3	2		1
Agriculture	11	9	2	
Construction	8	7		1
Printing	2	1		1
Metal Working	9	8	1	
Transportation	4	3	1	
Utilities Operation	2		2	
Stock Control	2	1	1	
Food Service	6	3	2	1
Medical	21	9	12	
Sanitation	2	2		
Education	17	1	16	
Guidance and Recreation	11	3	8	

TABLE 52

TRAINING PROGRAM SUMMARY
(CONT.)

Functional Area	Total All Types of Schools	Community Colleges	Colleges & Universities	Business Schools
Legislative				
Legal	4		4	
Police	12	10	2	
Fire	7	7		
Security	1	1		
Art and Entertainment	14	2	12	

Programs for Community Service Professional, Technical, and Administrative Personnel From the programs listed in the catalogues of the educational institutions, 154 were selected as being especially appropriate for professional, technical, and administrative personnel in community service agencies. One-half of these programs are to be found in community colleges, one-fourth in private business schools. As is the case with educational programs generally, these 154 programs tend to be concentrated in certain occupational areas, but, because of the selective nature of this list, the areas of concentration are somewhat different from the areas of concentration identified earlier. As can be seen from the accompanying table, the selected programs fall most frequently in the areas of administration and engineering, with accounting and finance, mechanical occupations, agricultural occupations, metal working, and guidance being other

major areas in which a substantial number of training programs are available.

(The complete inventory of educational programs and short courses is not included in this report because of its sheer length. It contains over 400 entries, each reported on a 5 by 8 inch file card. Information about specific programs is available on request from the School of Community Service and Public Affairs at the University of Oregon.)

TABLE 53

SELECTED EDUCATIONAL PROGRAMS FOR COMMUNITY SERVICE PROFESSIONAL, TECHNICAL, AND ADMINISTRATIVE OCCUPATIONS

Occupational Area	Number of Programs	Occupational Area	Number of Programs
Administration		Mechanical	12
General Management	19	Agriculture (including landscaping and forestry)	16
Supervision	3	Metal Working	9
Public Relations	3	Stock Control	1
Negotiating	1	Health Services (including public health, care of patients, first aide)	3
Accounting and Finance (including Bookkeeping and Accounting, Taxation and Government Finance, and Budgeting)	15	Guidance, Recreation	
Library	2	Fundamentals of Counseling	3
Office Machines (including Data Processing)	11	Personal and Social Problems	3
Planning	4	Consumer Problems	1
Engineering	31	Research	1
Inspection (Building and Environmental Quality)	1	Recreation	2
Laboratory	3	Police	8
		Fire Fighting	1
		Art (commercial art)	1

Length of Programs Different occupations require different amounts of education and training. The amount of specific occupational

preparation required for entry into an occupation is often specified by convention and frequently enforced through licensing requirements; however, most occupations are open to persons with various combinations of education, experience, and related attributes. The result of this flexibility is that hiring requirements for particular occupations vary from one employing establishment to another, and the backgrounds of individual workers vary from one person to another. Nevertheless, there is a prevailing presumption that jobs at the professional, technical, and administrative levels require at least a baccalaureate degree, and in many cases post-graduate college work.

The lengths of programs which serve in practice to prepare people for employment in community service occupations at the professional, technical, and administrative levels are therefore of interest. Fully 70 percent of such programs are either 18 or 24 months in length. Another 20 percent last nine months (one academic year), and only 10 percent require four years to complete (usually four academic years).

Two observations should be made in reference to these data which show an overwhelming preponderance of two-year preparatory programs. One is that the inventory includes only programs with clear, specific career objectives, and, for the most part, does not include four-year college curricula in the social sciences, education, and business administration. While specific career preparation does not necessarily require less time than a general academic program,

such programs frequently are shorter than the four-year bachelor's degree program of most colleges and universities.

The second fact to be considered is that the above data represent a count of programs, not of the number of people completing those programs. Consequently, while only 10 percent of the programs are four years in length, the chances are that more than 10 percent of the trained manpower comes from the longer programs. Nevertheless, pre-employment educational programs for community service professional, technical, and administrative personnel are still predominantly two years rather than four years in length.

Cost of Program Information about program costs to students in terms of tuition, fees, books and supplies for most of the programs is included in the inventory. As the following table indicates, almost all of the programs involve less than $2,000 in direct cost, and a majority costs less than $1,000.

TABLE 54

COSTS OF PRE-EMPLOYMENT EDUCATIONAL PROGRAMS

Cost to Student for Tuition, Fees, Books and Supplies	Percent of Programs
TOTAL, ALL PROGRAMS	100%
Under $500	20
$500-$999	35
$1,000-$1,999	28
$2,000-$4,999	2
$5,000 and over	0
Information Not Available	15

If these programs do provide adequate preparation for employment, (and that is a judgment which is beyond the scope of this study), it appears that the development of community service professional, technical, and administrative personnel is financially feasible for many individuals and operating agencies, especially considering the fact that community service agencies alone spend nearly one million dollars a year for training.

The areas in which the various types of schools most frequently offer programs are areas such as administration, accounting, and engineering in which community service agencies are not the dominant employers. There are areas, however, in which community service agencies are predominant: areas such as library work, planning, inspection, utility operation, sanitation, guidance and recreation, police, and fire fighting. The table of education programs indicates that the number of schools offering programs in these particular areas is small and that there are practically no programs designed specifically for professional, technical, and administrative jobs in these occupational areas. In planning, for instance, aside from the traditional programs in architecture and landscape design, which are related but not directly applicable to the community service function of urban planning, the inventory identified only three programs. These were a twelve-month program in "Planning and Creative Design" at Oregon Polytechnic Institute, a two-year certificate program in urban studies for pre-professional personnel offered by Portland State University, and a two-year graduate program in urban planning at

the University of Oregon.

In the field of inspection, which includes building inspection and the increasingly important matter of environmental quality control, only one school, Mount Hood Community College, was found to offer a full pre-employment program, and that was in the specific area of food inspection and quality control.

Short Courses

There is much talk about the need for people to continue learning throughout their productive careers in order to acquire the new skills and knowledge required by advances in technology and business methods. The Municipal Manpower Commission, in their landmark study of Governmental Manpower for Tomorrow's Cities, recommended that,

> The chief executive and the department head should insure that APT [administrative, professional, and technical] personnel in each functional department are stimulated and aided to expand their own understanding and technical skills. This 'continuing growth' will be furthered by application of the full range of training techniques, instructional methods, and materials. In addition, incentives for training should be established as an inducement to APT personnel.[15]

One of the distinguishing features of existing short courses is their very specific content. Titles such as "Work Simplification Techniques," "Behavior Modification as a Rehabilitation Tool," and

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[15]Municipal Manpower Commission, Governmental Manpower for Tomorrow's Cities, (New York: McGraw-Hill Book Company, Inc. 1962) p. 113.

"Methods and Procedures for Teaching Swimming to Physically and Mentally Handicapped" are more common than the "Survey" or "Principles" titles found in college catalogues. Such specialized courses require instructors who are themselves experienced in their subjects, thus, it is not surprising to find organizations other than educational institutions sponsoring short courses. For the types of courses included in this inventory (courses directly related to community service work at the professional, technical, and administrative levels), there are nearly 50 sponsoring organizations in Oregon, and the vast majority of them are governmental agencies, operating community service agencies themselves, professional associations and private firms rather than educational institutions.

The inventory of training resources identified nearly 275 courses on subjects of use to the professional, technical, and administrative personnel most often employed by community service agencies.[16] These courses vary in length from a few hours to several weeks; however, a substantial majority require less than a week to complete. The most common scheduling of these courses involve six to eight hours per day for the number of days required to complete the

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[16]The difficulties of identifying the courses and selecting the ones which are most appropriate to the file have already been discussed, but these problems must not be overlooked in any quantitative analysis, for the particular selections have a noticeable influence on the character of the file.

course work. Courses which are part of the regular curriculum of educational institutions, however, tend to be offered one evening per week for ten weeks. Such courses are found most frequently in guidance and recreation and in police and fire fighting.

TABLE 55

LENGTH OF SHORT COURSES

Length of Courses	Percent of all Courses
1 - 8 hours (or, one day)	8%
9 - 40 hours (or, 2-5 days)	57
More than 40 hours (or, more than one week)	14
Information Not Available	21

The following table reports the number of courses which are available in each of the various topic areas. It reveals that there are courses on almost every functional topic area. There is a concentration in the area of administration and the related area of accounting and finance, a concentration which was also apparent in the listing of educational programs. The social services (education, guidance and recreation) is another area in which there is a concentration of courses. Police work and fire fighting also have an appreciable number.

TABLE 56

SELECTED SHORT COURSES FOR COMMUNITY SERVICE PROFESSIONAL, TECHNICAL, AND ADMINISTRATIVE OCCUPATIONS

Occupational Area	Number of Programs
Administration	
General Management	33
Supervision	20
Personnel Administration	19
Public Relations	6
Negotiating	4
Writing	9
Civil Defense	12
Accounting and Finance	
Bookkeeping and Accounting	1
Taxation and Government Finance	7
Budgeting	1
Library	3
Planning	7
Engineering	
Engineering	4
Drafting	6
Inspection (Building and Environmental Quality)	3
Maintenance	2
Agriculture (including landscaping and forestry)	4
Transportation (including Defensive Driving)	1
Utility Operation (including water-works, power, and sewage treatment)	10
Food Service	3
Health Services (including public health, care of patients, first aide)	11
Sanitation	10
Education (including programmed instruction, drug, smoking, alcohol education)	12
Guidance, Recreation	
Fundamentals of Counseling	8
Personal and Social Problems	9
Consumer Problems	9
Recreation	14
Legislative (courses for elected officials and candidates)	4
Legal (conduct of investigations and hearings)	3
Police	14
Fire Fighting	15

It was noted in the discussion of pre-employment educational programs that there were very few programs in the areas of especial interest to community service agencies: library, planning, inspection, utility operation, sanitation, guidance and recreation, police, and fire fighting. Such is not the case with short courses. As can be seen

from the table, there are courses available in each of these areas, and some, such as guidance and recreation, police, and fire fighting, have a substantial number of courses. In fact, fully 40 percent of the short courses deal with subjects in these particular areas, and an even heavier proportion of the courses which are designed specifically for new employees are in these areas, especially in the community service areas of sanitation, guidance and recreation, and police work. While in-service training is not a substitute for adequate pre-employment preparation, the existence of so many courses in these areas indicates that staff training needs can be at least partially met by means of short courses. (It may be that the large number of courses in these areas is in part a response to inadequate pre-employment preparation.)

Most program sponsors indicated that the purpose of the course was to improve the performance of employees already working in that occupation; although a substantial number of courses are reportedly designed to prepare new employees in the occupation. In spite of the fact that promotion from within the organization is a frequent way of filling positions in community service agencies, there are very few courses intended specifically to prepare employees for promotion. As can be seem from the accompanying table, some course sponsors believe that their courses can serve all three purposes. Most of the courses for which this claim is made are found either in the area of administration, or in police work and fire fighting.

TABLE 57

PURPOSES OF "SHORT COURSES"

Purpose	Percent of All Courses
TOTAL	100%
Train New Employees	15
Improve Performance on Present Job	34
Prepare Employees for Promotion	5
All Three Purposes	9
Information Not Available	37

Training Needs

The question now becomes: "How adequately do these training resources meet the needs of community service agencies in Oregon?" One can get some indication of the areas in which more short-course training is needed by asking what unmet training needs employing agencies see. Such observations revealed some rather specific areas in which agencies believe there is a need for additional training. It is noteworthy that agency managers usually reported needs for training of the type most suitably handled by short courses; fully 90 percent of the comments were of this type, while only 10 percent were of a type which indicated a need for more pre-employment training.

It should also be noted that the requests were predominantly for training on rather specific subjects. Topics such as "Implementation of a PPBS System," "Short Schools in Narcotics Control, Proper Police Arrest Methods, and Liability Laws," "Meter Repair

and Maintenance," "Tree Trimming," or "Techniques for the Utilization of Volunteer Skill" were found much more frequently than the more general requests for training in "public relations," or "principals of local government." Fully three-fourths of the suggestions and requests were specific, while only one-fourth suggested training in a general knowledge area.

The other significant feature of these requests is that only about a third of the training needs reported by the community service agencies were in the professional, technical, and administrative occupational areas. A slightly larger number of the requests dealt specifically with the training needs of clerical personnel, public works employees, and other types of occupations. The other third of the requests did not refer to training for any specific category of employees; in fact, many were clearly intended to refer to the training needs of community service agency personnel at all levels. Whatever conclusions an outside observer might draw about the training needs of community service personnel, it is clear that agency administrators themselves are most conscious of, and apparently most concerned about, the needs for specific, technical training for all levels of staff, not just for professionals, technicians, and administrators.

What specific subjects were requested? The reported unmet training needs ranged from general comments on the quality of pre-employment education to suggestions for innovative methods of

providing in-service training opportunities. While many of the comments showed thoughtful analysis, the interviews revealed that most agencies have no on-going process for identifying training needs.

A considerable variety of needs can readily be seen, but a number of topics were mentioned repeatedly. The subject of "public relations" appears repeatedly, and it is followed by another human relations topic, "supervision." There were also a number of suggestions that training is needed in the management of private, non-profit agencies.

Another major area of concern seems to be program planning, budgeting, and accounting. Counties and the private agencies expressed similar needs for training in financial support systems, multiple source accounting, and financial reporting techniques. Counties also expressed interest in taxation of land and properties. Cities requested bookkeeping courses, and training for elected officials in municipal financial affairs. Program planning and budgeting techniques, especially PPBS, were mentioned by all three groups.

Techniques of providing social services to families in family settings was mentioned a number of times, as was the need for training of members of advisory and directory boards.

In addition to the requests for specific types of training, there were a number of references to a need for a better geographic distribution of training resources. These comments came predom-

inantly from agencies east of the Cascades. This same sentiment was noted at the personnel administration workshop held in La Grande during April. However, there is no clearly discernable geographic pattern to the reporting of unmet training needs.

It would seem that training needs might be reported most frequently by small agencies; that a variety of types of short courses would be especially important to small agencies, where several different functional responsibilities are frequently combined into a single position. Positions with titles like "Recorder-Treasurer-Municipal Judge" or "Director-Treasurer" require a particular combination of skills which is not frequently found in a single employee. Moreover, the fact that personnel are encouraged to remain with agencies, moving from one type of position to another would seem to require in-service development of additional skills. Among small agencies, only the private social agencies seem to recognize this sort of need.

Adequacy of Short-Course Training Resources

In some cases it is possible to identify a course or a number of courses which seemed to be directly related to the needs originally stated by the agency. Such situations only demonstrate the importance of having training information readily available.

In other cases, however, the available training courses did not seem to fit agency needs very well at all. Some of the most obvious

incongruities will be noted here, for they may indicate areas in which additional types of training need to be made available.

Public Relations

A need for additional training in "public relations" was mentioned frequently. There are a number of courses and programs which teach agency managers how to deal with the mass communication media, but that is apparently not the bothersome aspect of public relations. It appears from interviews with community service agency managers that they are more concerned with individual staff contacts with individual members of the public, as well as with their own job of "selling" programs and budgets to advisory committees, policy making boards, and the general public. Training in these activities is scarce. While techniques for dealing with the public are frequently discussed during agency orientation sessions, the inventory of training resources identified only one on-going course emphasizing what employees as individuals can do to improve communications with members of the public. That is a one-day course entitled "You Serve the Public" sponsored by the Seattle Regional Training Center of the U.S. Civil Service Commission. (The resources of the Seattle Regional Training Center have only recently been made available to state and local governmental agencies.) Using another approach, the City of North Bend has its chief administrative officers brief department heads on current issues which may effect their public relationships and recommend methods for departmental contact with the public. The purpose of

these sessions is to improve overall agency performance rather than to provide training for just new employees.

There are no courses which instruct agency personnel in the techniques of reporting on their programs, preparing proposals for program changes, and packaging budgets in ways which are meaningful to policy making boards and members of the general public.

Supervision

Numerous community service agencies mentioned a need for training in supervision, especially on the part of department heads. This need probably grows out of the common practice in community service agencies of filling supervisory and second-level management positions by promoting from within the organization. There are a substantial number of courses which deal with various aspects of supervision. The Regional Training Center is an especially large source of such courses, but it has not been used much by Oregon community service agencies, because its resources have only recently been made available to local governments.

It should be recognized in considering a list of reported training needs that problems in dealing with the public (public relations) and in dealing with agency personnel (supervision) may reflect conditions other than a lack of training. Substandard wages or working conditions or an organizational structure which impedes rather than encourages productivity can create dissatisfaction among personnel which, in turn, may manifest itself in public relations

and supervision problems. This is not to deny the relevance of training, but only to indicate that it should not be expected to solve problems which it is not designed to solve. The large number of courses which deal with supervision suggests either that available resources are not being used fully or that there are problems which cannot be solved by training.

There is one specialized type of supervision for which courses are not available--supervision of volunteers. The training resource file does not contain appropriate course offerings for the large number of public and private agencies which depend upon volunteer staff to carry out the agencies' programs.

Planning and Budgeting

The processes of identifying high priority program needs, determining the budget costs for those program components, identifying available financial and other resources, and accounting for the expenditure of those resources are related in such a way that it is difficult to discuss them separately. Management science has recently turned a great deal of attention to the interrelatedness of these processes, with a result that the Planning, Programming, and Budgeting System (PPBS) has won a great many advocates, particularly in the public sector. Many community service agencies recognize that they have problems with these processes and wish to know more about the new techniques, particularly PPBS. The list of reported unmet training needs contains a good number of references

to the need for more knowledge about program planning, including the related matters of program evaluation and the identification of community resources. Several references were also made to the need for a system for establishing priorities in budget allocation.

Course offerings in these areas are almost non-existent. Only one course on PPBS was identified, and that is a workshop for community college administrative personnel sponsored by Oregon State University. So far as the inventory of training resources was able to tell, there is no training available on program evaluation techniques and nothing on the organization of community resources. All of the courses on planning deal with physical planning; none with program planning. Thus, it appears that there is a substantial unmet need for short courses dealing with program planning, program evaluation, program budget preparation, and the identification of available community resources. These needs are, of course, related to the problem of effectively communicating budget needs, which was identified by administrators as a public relations problem.

The final component of the planning and budgeting system is the need to keep accurate and meaningful records of resource expenditures. This is the phase of the process traditionally dealt with in bookkeeping and accounting courses of which there are a great many. While the available bookkeeping and accounting courses and educational programs seem to be adequate for most purposes, some private social agencies reported a need for additional training

in the techniques of budgeting and financial record keeping. It appears from their comments that the existing courses do not meet some of the peculiar needs of private social agencies, organizations which tend to be very small in size and frequently derive their funding from a variety of sources. The development of simplified bookkeeping systems and training in the use of such systems seems to be a serious need of the smaller social agencies.

This example illustrates a common problem for private social agencies. In a great many cases the available courses are actually intended for governmental bodies, and often do not meet the peculiar needs of the private organizations. These agencies requested training for administrators, especially in the handling of volunteer boards and volunteer staff workers, the training and utilization of volunteers, and community organization tasks, as well as the development of sound funding, budgeting, and program planning systems. Problems of this sort are made more difficult because administrators in such agencies frequently come up through the ranks without management training and because they have little or no administrative support staff. Courses directly applicable to the needs of private agency managers are frequently not available.

Board--Administration Relationships

Nearly all community service agencies, both public and private, are governed by or advised by lay boards and committees. These boards, commissions, and committees are usually unpaid, and this

limits the time their members have available to spend on agency business. The fact that these board members are generally not trained in the administration of a city, the management of a public utility, or the operation of an educational program limits their areas of competence. These characteristics of boards, commissions, and committees, combined with the "strong administrator" type of organization within most agencies, leads frequently to awkward, if not destructive, relationships between board members and administrators. Administrators from all types of agencies complained of this problem, yet there is very little training available which prepares board members to execute their responsibilities and helps them understand their proper relationship to the administration of an agency. There are some general courses dealing with the concepts of American government and politics, but there are practically no courses which deal explicitly with the problem identified so frequently by administrators. One course of this type deals with the legal framework of local government, local government finance, intergovernmental relations, and organizational concepts; it is held biennially for county commissioners and city councilmen, and sponsored by the Bureau of Governmental Research and Service at the University of Oregon. There are also two courses intended specifically for planning commission members and elected public officials dealing with physical planning. These are also sponsored by the Bureau of Governmental Research and Service.

Despite the large number of people involved in lay boards and advisory committees, and the presumed importance of these boards and committees to the functioning of community service agencies, there is no training available for these boards and commissions, except in a few special areas. A series of short seminars dealing with the authority and responsibility of lay boards would seem to be a highly appropriate addition to the training resources of the state.

APPENDIX: METHODOLOGY

The term "community service manpower" is used to denote different types of occupations depending upon the context within which the term is used. At times, it is used broadly to include all types of occupations which serve some facet of the community; at other times, it is used to describe only planning and closely related activities within governmental entities. Faced with this vagueness in basic terminology, the planners of this study chose to develop a complete set of basic employment data about a certain rather large but clearly defined category of employing agencies--state and local governments and private social agencies, excluding schools and hospitals.[17] This coverage makes it possible to relate this study to other basic employment data already in existence, and it eliminates the need for other research organizations to conduct similar surveys of governmental employment in the near future.

With the population for the survey thus defined conceptually, it was necessary to identify the relevant agencies by name. This

[17]Data for the State of Oregon are not entirely consistent with this definition, in that they cover all civil service employees, including some in hospitals and schools and excluding certain exempt positions in other agencies.

task was not as simple as it should have been. There are complete lists of counties, incorporated cities, and certain types of special districts and private social agencies, but there is no complete registry of special districts in the State. A similar situation exists in the case of private social agencies. Consequently, it was necessary for the project staff to develop its own lists of special districts and private social agencies in Oregon. Those lists and the sources from which they were compiled appear in a separate report entitled Methodology for the Community Services Manpower Study. In all, nearly 1,100 special districts and about 270 private agencies providing social, recreational, or economic assistance services were identified. A serious effort was made to prepare complete and accurate lists; however, there are undoubtedly some errors and omissions remaining in the list.

Once the population members had been identified, it was possible to proceed with the selection of a survey sample. The population was stratified on the basis of type of agency and size of employing units, and random samples were drawn on a statewide basis. The populations, sampling ratios, and sample size are recorded in the following table.

TABLE 58

POPULATION AND SAMPLE SIZE

Type of Agency	Population Size	Sampling Ratio	Sample Size
2 State Non-educational Agencies	1*	1.00	1
3 Counties	36	1.00	36
4 Large Cities (population of 5,000 or more in 1968)	37	1.00	37
5 Small Cities (population less than 5,000 in 1968)	189	.33	63
6 Selected Special Districts (Types of special interest)	60	1.00	53
Public Utility Districts	4	1.00	4
Port Districts	23	1.00	23
Housing Authorities	8	1.00	8
Park and Recreation Districts	18	1.00	18
Hospital Districts**	16	0	0
7 Other Special Districts of Types Judged to have Substantial Employment	565(approx.)	.20	119
Fire Protection			47
Water Districts			34
Sanitary Districts			14
Irrigation Districts			19
Road Districts			5
8 Other Special Districts for Types Judged to have Minimal Employment	460(approx.)	.10	46

TABLE 58

POPULATION AND SAMPLE SIZE
(CONT.)

Type of Agency	Population Size	Sampling Ratio	Sample Size
Cemetery			6
Water Control			5
Soil Conservation			6
Drainage			7
Lighting			14
Service			0
Vector Control			0
Week Control			3
Chemical Control			0
Livestock Control			2
Zoning			3
Diking			0
9 Selected Types of Private Social Agencies	270(approx.)	.33	90
Social Service			
Recreation			
Economic Assistance			

*All data obtained from State Civil Service Commission.
**Omitted from the study.

The resulting sample of 445 agencies represents slightly more than a third of the agencies in the population. However, because of the way in which it was structured, it includes 84 percent of the employment in those agencies.

Survey Procedure and Response

Initial contact with the sample members was made by mail. The chief executive officer in each agency was sent a copy of the questionnaire, a set of instructions, and a cover letter explaining the purpose of the survey and requesting participation. The larger agencies (generally those with 20 or more employees) were advised that they would be contacted by a survey interviewer; smaller agencies were asked to complete the questionnaires and mail them back. This process concentrates expensive interviewer time on the agencies where most of the employment is to be found and where the greatest problems in completing the questionnaires are likely to occur, but it also makes follow-up of small non-respondents feasible. While the interviewers were completing questionnaires for the agencies to be interviewed, the mail-back questionnaires were being processed in the office. When the response rate for the mail-back agencies began to wane, a reminder letter was mailed out; that brought a substantial increase in the responses. At the time that the scheduled interviews were drawing to a close, the interviewers were assigned to telephone and visit the mail-back agencies which had not as yet responded.

Four field interviewers, two working full-time and two half-time, were used to conduct the personal interviews and follow-up contacts. (This was in addition to the project secretary who handled most of the mail-in questionnaires and the project director who did

some of the occupational coding.) The interviewers spent a total of about 1,200 hours collecting and coding the data. Interviews, including the compilation of data from agency records, averaged just under three hours each. The fact that the survey was conducted in all parts of the State required a substantial amount of time for travel. In all, interviewers spent nearly a fifth of their time on the road, adding somewhat over an hour to the time required for an interview. Interviewers also spent a substantial amount of time editing and coding questionnaires, both those completed in interviews and some of those received by mail or by telephone. All told, the interviewers' time was allocated as follows:

Receiving Training	5%
Preparing Material and Other Office Work	8
Making Appointments	2
Traveling	19
Interviewing	36
Editing and Coding	30
TOTAL TIME	100%

The combination of mail-back and visit procedure used in this study increases consistency in over-all data quality by collecting information from large employers by means of personal visits; in addition it makes possible an intensive follow-up effort of reluctant small employers. The end result was that 440 of the 445 agencies

in the sample actually responded. This was an over-all response rate of 99 percent. Information was gathered by personal visits from 25 of the 36 counties; 33 of the 37 large cities; and smaller proportions of the other categories. The following table presents in detail the type of contact with each category of employing agency. As was noted previously, this study sample includes reported data from slightly more than a third of the agencies in the population, but because of the way in which the sample was structured, it includes 84 percent of the employment in the population.

TABLE 59

TYPE OF RESPONSE FROM SAMPLE AGENCIES

Code	Agency Type	Total	Visit	Mail	Phone	None
	TOTAL	445	133	227	80	5
2	State	1	1	0	0	0
3	Counties	36	25	8	2	1
4	Large Cities	37	33	4	0	0
5	Small Cities	63	17	36	10	0
6	Selected Special Districts	60	21	28	11	0
7	Special Districts judged to have substantial employment	112	0	85	27	0
8	Special Districts judged to have minimal employment	46	0	31	15	0
9	Private Social Agency	90	36	35	15	4

Data Processing

The procedures followed in the administration, editing, and processing of questionnaires affects not only the cost but also the content and quality of the final data. This section outlines the system that was used in the agency survey phase of the Community Services Manpower Study; the specific procedures are described in the "Instructions to Inverviewers for Preparing, Administering, and Editing the Employer Survey Questionnaire."

Part I of the questionnaire, the part dealing with current employment in community service occupations, was structured to permit the preparation of punch cards directly from the questionnaire. Once completed, this part of the questionnaire required only: (1) a visual review to insure that all of the appropriate columns had been completed and (2) the application of an occupational code (column 8-12). A special five-digit occupational code system was designed specifically for this study, based upon the concept of a "functional classification of occupations." The decision to prepare a separate occupational classification system for this study, rather than to use one of the existing systems, was not made lightly. It was recognized that there are substantial advantages in comparability with other data if an existing system can be used; moreover, the preparation of a new system is a great deal of work. There are two overriding reasons for deciding to develop a separate system. The first is that none of the existing classification

systems, including the socio-economic systems such as the Dictionary of Occupational Titles and the Census Classification System, adequately reflects the organizational realities in governmental employment. Governmental employment tends to be organized along functional terms, and the use of one of the existing systems would therefore not facilitate either the forecasting or the analysis which are required aspects of this study. The second major reason for developing a new classification system is that both the D. O. T. and Census System are extremely difficult to use accurately, and far beyond the competence of inexperienced coders.

The system which was designed uses the D. O. T. definitions with very little modification, but organizes them in a way which is both more convenient and more analytically useful for studies of government employment (and possibly of other employment also). The five digit code represents a two-variable, multi-level classification of "function" and organizational level. (A fuller explanation of the code system is contained in Methodology for the Community Services Manpower Study.)

The design, editing, and coding of the personnel administration part of the questionnaire was much more difficult because of the nature of the material covered. It proved very difficult to construct a set of questions which touched upon all of the issues of interest to the study but which were equally applicable to all types of agencies. In general these questions dealing with personnel

management and training proved to be more relevant to large agencies than to those with only a few employees. As a result, a fair number of small agencies indicated that this section of the questionnaire was not applicable to them.

A general problem in this section of the questionnaire is that some of the information requested is not easily quantifiable. For instance, while it is important to have some idea of how much time persons working in personnel expend on that function, such an estimate is difficult to make. It is also difficult for some agencies to estimate the number of volunteers involved in all of their various programs, to identify immediate training needs without a fairly extensive staff review, or to report the amount of money spent on training. Therefore information in this part of the questionnaire is less technically precise than that in Part I, and probably somewhat less complete. Nevertheless, substantial effort was made to produce data of sufficient completeness and accuracy to serve the main purpose of this section, which was to give an overall impression of personnel management and training acitivity in community service agencies and to serve as an indicator of problem areas which would warrant further attention.

In order to facilitate statistical analysis, some of these personnel and training data were entered on code sheets for addition to the basic computerized record. For each agency completing Part II of the questionnaire, the following information was added to the

computerized record: their suggestions for improving personnel practices, the number of training courses sponsored by the agency, and their indication of whether follow-up evaluation is made. The record also shows whether or not they identified other training courses, identified un-met training needs, identified needs for technical assistance, or provided a printed training policy. Information about the number of employees involved in training activity and the total expenditure on training activity has also been made a part of the basic record. Staff positions which carry some responsibilities for either personnel management or for training, or for which attendance at agency sponsored training is either required or optional, are also identified in the record.

Once the data had been transferred to punch cards and from there to magnetic tape, a number of editing checks were made. These included, first, a visual review of all information in the record to insure that no questionnaires and no sections of questionnaires had been omitted.

This step was followed by a mechanical check of all mathematical necessities, to see that: full-time plus part-time employment equals current employment; the number of females does not exceed current employment; the sum of employment by age group equals current employment; positions vacant 30 days or more does not exceed the number of total job vacancies; and that base pay does not exceed

maximum pay. The records were then sorted by occupational code and reviewed to insure that all occupational entries had received the correct occupational code and to double check the forecasts.

Upon completion of these editing checks and the necessary modification of basic records, calculations were made to produce several analytically useful ratios. These included employees per capita, job vacancy rate, long term vacancy rate, separation rate, and pay range. These additions constituted the completion of the processing of the survey data. Subsequent activity included the generation of general and analytical data printouts which were designed to serve a variety of uses, including the preparation of project reports.

INTRODUCTION, DEFINITIONS, AND INSTRUCTIONS
FOR THE
COMMUNITY SERVICES MANPOWER STUDY

Introduction

This project will study the employment and training needs of state and local governments and private social agencies in Oregon. It is being conducted by the Bureau of Governmental Research and Service and the School of Community Service and Public Affairs at the University of Oregon, with financial assistance from the U. S. Department of Housing and Urban Development under Title VIII of the Housing Act of 1964.

Scope of the Study - The study will examine current and future manpower needs, the contribution of existing training facilities to the supply of community service manpower, and the influence of existing personnel management systems on the supply of and demand for such manpower.

End Product Analysis - The study will concentrate on the manpower informational needs of educational program planners and community service program administrators. It will identify functional and occupational areas in which manpower shortages exist or can be anticipated. More specifically, it will identify areas in which training institutions and employing agencies can help meet manpower needs by providing pre-employment and in-service educational programs. The project will also provide information to local government administrators about action they can take in their personnel systems to meet these manpower needs.

General Outline of the Research Methodology - The basic employment data on community service manpower are being gathered from a large, stratified sampling of state and local governmental entities and private social agencies throughout the state. General information about in-service training is being collected from the same sample.

Educational programs in colleges, universities, and business schools are being inventoried, as are training programs sponsored by professional associations.

Throughout the study, maximum use is being made of existing data in order to avoid unnecessary duplication and to improve the final analysis.

DEFINITIONS AND INSTRUCTIONS
FOR
PART I: EMPLOYMENT

This part of the questionnaire is designed to provide basic information about your employment pattern. It will be used, in conjunction with reports from other agencies, to analyze manpower needs in community service agencies.

Position Title - Each position title in your organization should be listed separately in this column. Include all types of personnel.

Number of Employees - Report the total number of persons on the payroll who worked or received pay for any part of the pay period which includes January 12, 1969. Include salaried officials, part-time paid employees, and persons on paid leave status, but do not include unpaid volunteers, unpaid officials, pensioners, or contractors.

Job Vacancies - A job vacancy is a job opening that is unfilled and immediately available to workers which your agency is actively seeking from outside your agency.

Vacant 30 Days or More - Of the total number of vacant positions, indicate the number that have been vacant 30 days or more.

Total Separations During December, 1968 - Include all terminations of employment, for whatever cause. Include quits, discharges, lay-offs (seasonal, temporary, and permanent), retirements, deaths, permanent disabilities, military leave lasting more than 30 days, and all other terminations of employment.

Recruiting Experience - Based on your recent experience, how difficult is it to recruit applicants for this occupation.

Satisfactory - Normal recruiting procedures attract a sufficient number of applicants who meet your minimum hiring requirements.

Difficult - Recruitment requires intensive efforts, or applicants do not meet all hiring requirements.

Very Difficult - There are few, if any, applicants available, or the available applicants fall seriously short of minimum hiring requirements. Vacancies are exceedingly difficult to fill.

No Recent Experience - Check this column if you have not had enough recent experience to have an informed opinion about recruiting.

Estimated Number of Employees in Each Occupation Five Years Hence - Make the best estimate you can of the number of employees who will be employed in each occupation five years from the survey date; i.e., January, 1974. Include estimates for occupations you expect to add in the next five years. Assume there will be no major natural disaster, depression, or war. Assume that the population and the economy will continue to grow. Assume that restraints will still be imposed on public spending, but that revenues will permit hiring of essential employees. Try to reflect the changing composition of public services in your forecasts.

DEFINITIONS AND INSTRUCTIONS FOR PART II: PERSONNEL MANAGEMENT AND TRAINING

In this part of the questionnaire, we hope to discover how your agency handles certain personnel matters, what training your employees receive, and your evaluation of the unmet needs in personnel management and training.

Improving Personnel Practices - Information gathered in this question will be used to indicate areas in which agencies are especially interested. Implementation of any of these suggestions would be undertaken only with the concurrence and active participation of the agency personnel concerned.

Unmet Training Needs - Recent developments such as data processing, program budgeting, collective bargaining of public employees, as well as demands for new social services, for pollution control, for equality of civil rights, and for greater responsiveness to citizens' desires have created problems for many agencies. Special courses, conferences, workshops, readings, etc. are training devices which can sometimes help alleviate such problems. The purpose of this question is to identify topics on which you think some formal training ought to be made available.

Person Completing this Form

Title

FOR OFFICE USE ONLY

Code ___ ___ ___ ___ ___ (1-5)

Name _____ (6-31)

County ___ ___ (32-33)

Population ___ ___ ___, ___ ___ ___ (34-39)

1969
COMMUNITY SERVICES
MANPOWER STUDY
conducted by the
Bureau of Governmental Research and Service
University of Oregon
P.O. Box 3177
Eugene, Oregon 97403

PART I: EMPLOYMENT

1. What was the total number of employees who worked for pay in Oregon during the period including January 12, 1969? _____ (40-44)

2. Please describe any major changes in your operation which have affected your work force in the last five years. What changes do you think are likely in the next five years? _____

OCCUPATIONAL CODE (For Office Use Only)	POSITION TITLES Please list each of the position titles on your payroll. Use a separate line for each one. Include trainee and intern positions and any positions you expect to add in the next five years. Be as specific as you can.	CURRENT EMPLOYMENT IN EACH OCCUPATION: Number of Employees In Each Occupation During Pay Period Including January 12	Number Full-Time (35 hours or more per week)	Number Part-Time (Less than 35 hours per week)	Number of Females In Each Occupation	Ages of Workers, Both Sexes: UNDER 22	22 To 34	35 To 44	45 To 54	55 To 64	65 & OVER	JOB VACANCIES: TOTAL	Vacant 30 Days or More	TOTAL SEPARATIONS DURING DECEMBER, 1968	PAY SCALE (Per month or hour): Base or Starting Rate	Maximum for this Occupation	RECRUITING EXPERIENCE (Check one): Satisfactory	Difficult	Very Difficult	No Recent Experience	ESTIMATED NUMBER OF EMPLOYEES IN EACH OCCUPATION FIVE YEARS HENCE
-7 8-12	13-36	37-40	41-44	45-48	49-52	53-56	57-60	61-64	65-68	69-72	73-76	77-78	79-80	6-7	8-10	11-16	17-22	23:1	23:2	23:3	23:4	24-27
2														03								
4														05								
6														07								
8														09								
0														11								
2														13								
4														15								
6														17								
8														19								
0														21								
2														23								
4														25								
6														27								
8														29								
0														31								
2														33								
4														35								
6														37								

1799

FOR OFFICE USE ONLY
Code ___ ___ ___ ___ 0
Name _____
County ___ ___
Population ___ ___ ___, ___ ___ ___
Total Employment ___, ___ ___ ___

PART II: PERSONNEL MANAGEMENT AND TRAINING

1. STAFF ASSIGNMENTS TO SPECIAL FUNCTIONS: Many jurisdictions combine several part-time functions into a single staff position whose title may not reflect all of the duties. In order to convey a clear picture of the way certain functions are handled in your organization, please indicate the job titles of persons handling each of the special functions listed below. Also indicate the portion of each person's time which is devoted to the function. If no staff are specifically assigned to these functions, indicate how the function is handled.

	Position Title	Percent of Time
Personnel: Include recruitment, selection, classification, personnel policies, pay plans, insurance, safety, and other such activities usually handled by a personnel office.	_____	_____
	_____	_____
	_____	_____
Training: Indicate the personnel chiefly involved in planning, coordinating, and operating the agency's training program.	_____	_____
	_____	_____
	_____	_____
Public Relations: Include dealing with news media, speaking to civic groups, handling citizens' special requests and complaints. If you do not have formal staff assignments for this function, indicate how such matters are handled.	_____	_____
	_____	_____
	_____	_____
Electronic Data Processing: If electronic data processing is done on a contract basis, indicate which of your employees works with the data processing contractor.	_____	_____
	_____	_____
	_____	_____
Economic Development: Include systematic efforts to attract new industry and to expand present industry. If this is not considered a responsibility of your agency, please indicate who has the principal responsibility for economic development in your community or area.	_____	_____
	_____	_____
	_____	_____

2. UNPAID VOLUNTEERS: Does your agency use unpaid volunteers in any department?
Yes ( )
No ( )

If so, please indicate the number of volunteers and the functions they perform.

Functions Performed by Volunteers	Number of Volunteers

Full-Time Equivalent: Please estimate the number of full-time positions that would be required to do an equivalent amount of work..... _____

3. IMPROVING PERSONNEL PRACTICES: Several suggestions have been made for ways in which agencies could improve personnel practices. Please check those which you think are especially appropriate to your agency and other agencies like yours.

( ) Re-evaluation of hiring requirements in the light of present job duties.
( ) Development of standardized occupational class specifications which could be used by several agencies.
( ) Restructuring jobs to better utilize professional manpower.
( ) Restructuring jobs to make use of applicants with marginal qualifications.
( ) More frequent or more comprehensive prevailing wage surveys.
( ) Better pre-employment training by schools.
( ) More training for present staff.
( ) Establishment of a centralized recruitment center for professional, technical, and administrative personnel.
( ) Development of ways to encourage the movement of staff between employing agencies.
( ) Other _____
( ) Other _____

4. AGENCY-SPONSORED TRAINING COURSES: Please list the titles of any courses conducted by your agency or for which you are one of the prime sponsors. Include formal on-the-job training courses, as well as classroom and individual study courses. Also include courses you expect to add in the next five years.

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

5. FOLLOW-UP AND EVALUATION: Do you regularly follow-up graduates of these courses or otherwise evaluate the training?

Not regularly.....( )
Yes, for some courses....( )
Yes, for all courses.....( )

6. OTHER TRAINING COURSES: Did any of your employees take educational courses offered by high schools, business schools, community colleges, universities, or other educational institutions in 1968?.....Yes.....( )
No.....( )

To help us identify other sources of training, would you please list other training courses which your employees attend. Include courses in private schools, community colleges, and universities; courses conducted by state agencies; and courses offered by professional associations which you have not described above.

Course	Sponsor

7. UNMET TRAINING NEEDS: Please help us identify unmet training needs by indicating the kinds of training which you think need to be made available for personnel in your agency and others like yours.

8. NEEDS FOR TECHNICAL ASSISTANCE: Indicate the types of professional, technical, or managerial assistance you usually acquire on a contract service basis from outside your own staff. Especially note types of services which are needed but are not now available.

If your agency has adopted a written training policy, please enclose a copy.

Procedures Used in Identifying Training Sources

The only previous study which gave special attention to community service manpower training activities was conducted in 1965 by the Bureau of Governmental Research and Service at the University of Oregon in connection with the National League of Cities. That study was geared to a narrower definition of community services employment; nevertheless, it provided a valuable point of departure for the present efforts. The current study relied heavily on several other sources to identify programs which could be included in the inventory. Those sources included:

1. Employing agencies - The 450 community service agencies contacted during the employer survey phase of the project were each asked to list the titles of all of the agency-sponsored courses which their employees attend. Each of these references was examined further to determine the course's principal sponsor and its length, content, purpose, and cost.

2. Schools, colleges, and universities - Catalogues from the 55 institutions, including public and private colleges and universities, community colleges, and private business colleges were examined for educational programs and "short courses" for professional, technical, and administrative community service occupations. Each institution was then contacted by mail or in person to complete infor-

mation about the programs identified in the catalogues and to inquire about other programs and courses.

3. State and federal agencies - State and federal agencies, such as the U.S. Civil Service Commission, the Office of the State Fire Marshal, and the State Compensation Department, which are known to offer short courses open to community service agencies, were contacted for information about their programs and for references to other courses.

4. Professional associations - Organizations such as the Northwest Public Power Association and the International City Managers' Association were contacted for information about courses they sponsor.

The identification process described above yielded a large number of references, including many duplications and some types of training which were beyond the scope of this study. However, in spite of this effort to be comprehensive, it is entirely possible that some relevant sources were missed. Limited information about some programs and courses made it difficult to decide whether such programs or courses should be included in the file. These reasons, together with the fact that available programs and courses change over time, means that the file cannot be viewed as absolutely complete, even though it probably contains most of the appropriate material.

As programs and courses were identified, an effort was made to determine: (1) the principal sponsor for each course, and (2)

whether the program or course was principally intended for professional, technical, or administrative employees in community service agencies.[18] As a general rule, individual courses which appear in school catalogues as part of regular educational programs are not included in this inventory. However, in a few cases, regular courses of this sort were identified by community service agencies as being especially useful to persons already employed in community service work; those courses were included in the inventory along with the short courses.

Once a tentative inventory had been compiled, the principal sponsor for each of the programs or courses which appeared to qualify for inclusion in the final inventory was contacted to provide information.

A final screening of the responses was made on the basis of the completed questionnaires, and three inventories were prepared: (1) a file of programs of pre-employment preparation for community service activities at the professional, technical, and administrative levels; (2) a file of short courses of the same type; and (3) a checklist of all types of educational programs, regardless of function or level.

---

[18] It should be remembered that programs, occupations, and training in the traditional areas of health and educational services were excluded from this study.

The following questionnaire was used for short courses:

Institution _____

Address _____

_____

Person to contact for enrollment information _____

Title _____

"SHORT COURSE" QUESTIONNAIRE

COURSE TITLE: _____

ORGANIZATIONS CO-SPONSORING THE COURSE: _____

COURSE ABSTRACT: Briefly describe the course content and the method of teaching, or attach a current program description. _____

_____

_____

_____

PURPOSE OF THE COURSE: (Check One)

Train new employees. . . . . ( )

Improve performance on present job. . . . . ( )

Prepare employees for promotion. ( )

Other _____

ATTENDANCE: List the position titles for which the course is intended.

_____

_____

CLASS SCHEDULE:

Hours per week . . . . . _____

Number of weeks . . . . _____

Total trainee hours . . . _____

HOMEWORK:

None . . . . . ( )

Occasional and/or optional . . . . ( )

Regular and required . . . . . ( )

NUMBER OF PERSONS WHO COMPLETED THE COURSE IN 1968 ____

The following questionnaire was used for pre-employment training programs:

TRAINING PROGRAM QUESTIONNAIRE

Institution _____
Address _____
_____
Person to contact for enrollment information _____
_____
Title _____

PROGRAM TITLE: _____

PROGRAM ABSTRACT: Briefly describe the program content and the method of teaching, or attach a current program description. _____

_____

_____

OCCUPATIONS FOR WHICH GRADUATES ARE FULLY QUALIFIED:

_____

Length of Program (months) _____ Current Enrollment _____

Cost to Student (tuition, fees, books, supplies) $_____ Number Who Completed Training in 1968 _____

VT 011 896

Nursing Homes and Related Health Care Facilities. Industry Manpower Surveys Number 116.

Manpower Administration (DOL), Washington, D.C. U.S. Training and Employment Service.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - 69 ~~33~~p. 65p.

DESCRIPTORS - *HEALTH OCCUPATIONS; *OCCUPATIONAL SURVEYS; *NURSING HOMES; *EMPLOYMENT OPPORTUNITIES; *EMPLOYMENT TRENDS; DEMAND OCCUPATIONS; WAGES; LABOR TURNOVER; NATIONAL SURVEYS

ABSTRACT - A national survey of 1,300 nursing homes and related health care facilities representing 49 states and each major geographical region was conducted to collect data on employment, turnover, wages, and job vacancies in nine occupations. Some results of the survey were: (1) The nursing home industry has experienced rapid growth during the 1960's which has been due in part to a substantial increase in the older population, greater affluence, and availability of new welfare and insurance benefits for full time nursing care, (2) Based upon the number of job vacancies reported, 25,000 unfilled positions existed in the industry at the time of the survey, (3) Relative to the total number of workers employed in the nine occupations, demand was most intense for licensed practical nurses, professional nurses, and dietitians, (4) High labor turnover rates (especially for aides and orderlies), rising entry requirements for new workers, location away from major population centers, and an unfavorable image have contributed to worker shortage, and (5) Average wage rates reported ranged from $5.02 an hour for dietitians to $1.53 paid to nurses aides and orderlies. (SB)

VT 011 896

INDUSTRY MAN

NURSING HOMES and RELATED HEALTH

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
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U. S. DEPARTM

INDUSTRY MANPOWER SURVEYS / Number 116, 1969

S and RELATED HEALTH CARE FACILITIES

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U. S. DEPARTMENT OF LABOR - MANPOWER ADMINISTRATION

NURSING HOME
and
RELATED HEALTH CARE

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U.S. DEPARTMENT OF LABOR
MANPOWER ADMINISTRATION
U.S. TRAINING AND EMPLOYMENT SERVICE

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About the Survey

A nationwide survey of nursing homes and related health care facilities was initiated by the Manpower Administration's U.S. Training and Employment Service and conducted through its affiliated State employment security agencies in March 1968. The surveyed industry coincides with the 1967 Standard Industrial Classification Manual code 8092 and includes sanatoria, nursing, convalescent, and rest homes.

Through the 2,200 local employment offices of the affiliated State employment services, information from a sample of 1,300 nursing home establishments was obtained mainly through personal interviews with employers. Data on employment, turnover, wages, and job vacancies were collected. Employers also supplied much additional information, including descriptions of training programs offered to workers in their employ.

A special questionnaire, designed in cooperation with the Department of Health, Education, and Welfare, was used to obtain detailed information on nine occupations prominent in this industry. Descriptive occupational information was obtained from the Manpower Administration's "Health Careers Guidebook," the Bureau of Labor Statistics'"Occupational Outlook Handbook," and from literature provided through various professional associations.

Survey reports were submitted by 49 of the 50 States. Each major geographical region of the country was about equally represented, with 28 percent of total surveyed employment in the Northeast, 26 percent in the West, 24 percent in the North Central States, and 23 percent in the South.

The survey universe consisted of all nursing and related health care homes with four or more workers covered under
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covered under State unemployment insurance laws. The surveyed establishments, which had 71,000 employees, were stratified into three employment-size groups. Appropriate inflation factors were applied to each group by State. Therefore, all data relate to all facilities within the definition of the study rather than those actually surveyed. Aggregate employment on an inflated basis was 325,000, with 274,000 or 85 percent of the total employment in the nine selected occupations.

The statistical estimates in this report were derived from a probability sample whose similarity to the universe is subject to variation of universe characteristics under consideration. Since the similarity between the universe and the sample cannot be known with certainty, the reliability of the estimates is limited by its statistical significance.

The estimates of particular nursing home occupations by States offer an added problem so far as reliability because they measure small, precise characteristics and are thus easily influenced by possible sampling variations. Naturally, not all of these precise estimates will be insignificant and in fact those given for larger States are probably significant. Moreover, the significance of doubtful estimates can be increased somewhat if these estimates are stated within an interval rather than as a point.

The study was prepared by Alan L. Moss and Robert L. Miller, labor economists, under the direction of Harold Kuptzin, Chief, Division of Job Market Analysis, U.S. Training and Employment Service.

Highlights

The nursing home industry has experienced rapid growth during the 1960's. Expenditures for nursing home care in 1969 are expected to be 400 percent ahead of the 1960 total, while average annual employment probably will be more than double the level recorded 10 years ago.

In addition to a substantial increase in the Nation's older population and a greater national affluence, the availability of new welfare and insurance benefits for full-time skilled nursing care has accelerated the industry's expansion.

Annual federally aided welfare expenditures for nursing home care have doubled since the start of the Medicaid program in 1965. Medicare, instituted in 1967, funded close to half a million nursing home admissions in 1968 alone.

Data from the nationwide survey of nursing homes and related health care facilities--conducted by the U.S. Training and Employment Service and the State employment security agencies--indicate that unmet manpower needs intensified as employers attempted to meet the increased manpower requirements of the late sixties.

Based upon the number of job vacancies reported by survey participants, 25,000 unfilled positions existed in the industry at the time of the survey in March 1968.

Relative to the total number of workers employed in each of nine selected occupations, demand was most intense for licensed practical nurses, professional nurses, and dietitians. However, the largest number of vacant jobs was for nurse aides and orderlies. Unmet demand was particularly high in Michigan and Massachusetts.

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High labor turnover rates (especially for aides and orderlies), rising entry requirements for new workers, location away from major population centers, and an unfavorable image have been some of the major factors responsible for worker shortages.

Average wage rates reported by the surveyed employers ranged from $5.02 an hour for dietitians (including consultant-dietitians) to $1.53 paid to nurse aides and orderlies. Differentials of almost $1.00 an hour for the same occupation were not uncommon between average rates paid in different States.

Beginning February 1, 1967, the level of minimum wages paid to nursing home employees came under the jurisdiction of the Fair Labor Standards Act. Starting at $1.00 an hour, the minimum wage will be gradually increased to $1.60 by February 1, 1971.

While relying upon extra part-time workers and increased overtime to compensate for current labor shortages, many employers who took part in the survey reported that they were counting on newly instituted company and government training programs to help them meet future manpower needs.

Several States have improved nursing home working conditions by encouraging a higher quality of patient care through special programs and other inducements.

Some employers are seeking to attract more job applicants as well as patients by utilizing the most modern architectural designs and the latest medical equipment.

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Introduction

Nursing homes and related health care facilities constitute one of the fastest growing service industries in the United States. The Nation's increasing number of citizens over 65, greater affluence among all age groups, and the availability of new welfare and insurance benefits for people in need of full-time skilled nursing care have combined to create an unprecedented demand for extended care homes.

Average annual employment in all nursing homes has more than doubled during the 1960's and is expected to exceed 450,000 for 1969. The number of homes--now about 21,000--has increased by 25 percent over the past decade while beds in these facilities are nearing 1 million, about double the 1960 total. Expenditures for this industry's services are expected to reach $2.8 billion in 1969, more than 5 times the 1960 level. (See figure 1.)

The work force covered by the U.S. Training and Employment Service survey included all nursing home employees in establishments covered under State unemployment insurance laws having four workers or more. Total inflated employment was 325,000, about 80 percent of all workers employed in the industry at the time of the survey.

Nine occupations, which accounted for almost 85 percent of all workers in the surveyed homes, were selected for detailed study. Slightly more

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than 40 percent of the employees in surveyed homes were nurse aides, while close to 12 percent were cooks or other food service workers. Professional nurses, licensed practical nurses, and housekeeping and laundry staff each made up about 7.5 percent of the total. Maintenance and clerical workers both comprised about 3 percent, and dieticians and food service supervisors each composed about 1 percent of total surveyed employment. (See figure 2.)

One out of five staff members in the surveyed firms worked part-time (between 1 and 34 hours) during the survey week. However, the ratio of part-time to total employment varied greatly by occupation. For example, while 70 percent of all dieticians were employed on a part-time or consultant basis, only 11 percent of all food service supervisors worked less than a 35 hour week.

Eighty percent of the total employment was located in 17 States, each of which had 5,500 or more workers in the selected occupations. By far, the largest industry work force was in California, which had more than 41,500 employees in the nine occupations. New York and Texas were next with about 19,000 each. Massachusetts, Ohio, Illinois, Pennsylvania, and Michigan each had between 10 and 15 thousand of these employees working in nursing homes within the scope of the survey.

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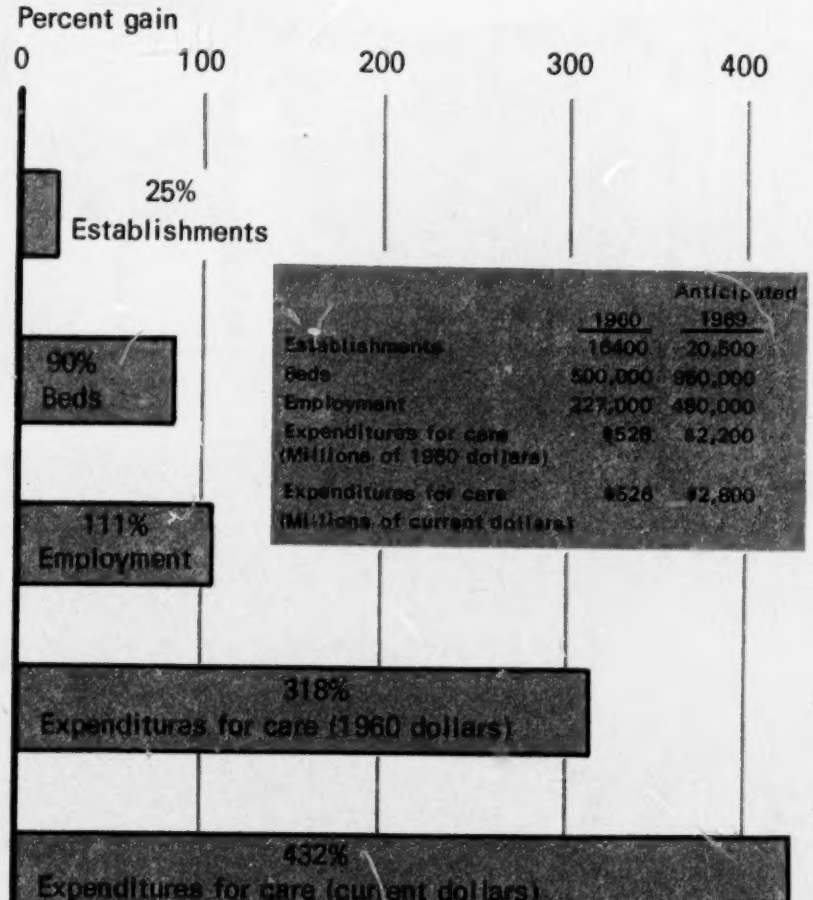
Figure 1.

Estimated Gains in Number of Nursing Home Establishments, Beds, Employment, and Expenditures for Care, 1960 - 1969



	1960	Anticipated 1969
Establishments	16400	20,500
Beds	500,000	960,000
Employment	227,000	480,000
Expenditures for care (Millions of 1960 dollars)	$528	$2,200
Expenditures for care (Millions of current dollars)	$528	$2,800

SOURCE: Employment and the number of beds are United States Training and Employment Service estimates based mainly upon past data. (See Nursing Homes And Related Facilities, U.S. Department of Labor/Wage and Hour and Public Contracts Divisions, 1966 and 1969; Development And Maintenance Of A National Inventory of Hospitals And Institutions, U.S. Department of Health, Education, and Welfare/U.S. Public Health Service, 1965 and 1967; and U.S. Industrial Outlook for 1969, U.S. Department of Commerce/Business and Defense Services Administration.)

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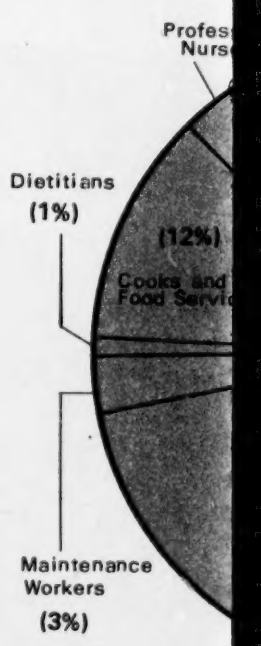

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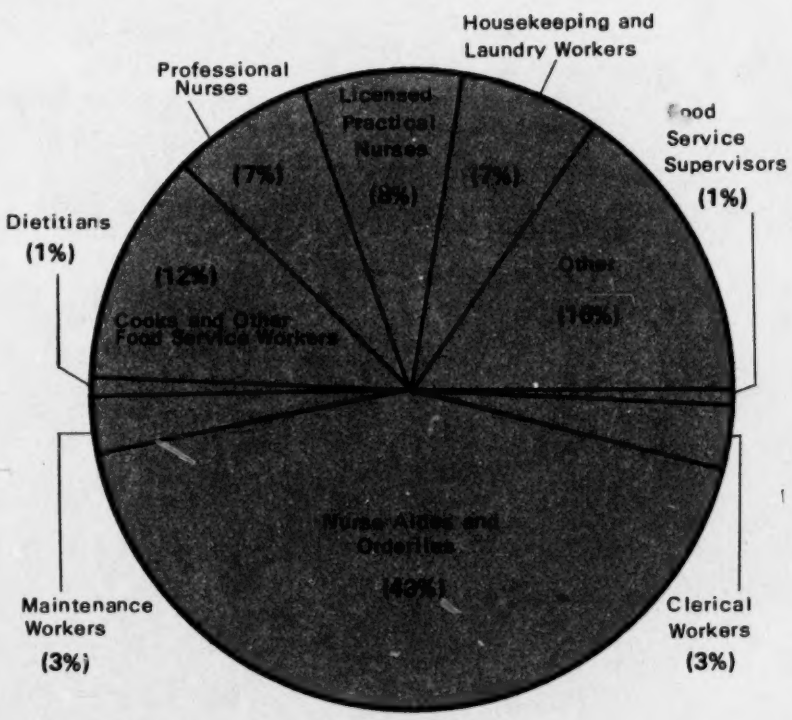
Figure 2.

Occupational Composition of Employment in Surveyed Nursing Homes and Related Health Care Facilities, March 1968



Note: Percents do not add to 100 due to rounding.
Source: Surveyed establishments covered by March 1968 survey conducted by U.S. Training and Employment Service and affiliated State employment security agencies.

New Legislation Heightens Demand

Recent expansion of homes that provide comprehensive nursing care has been spurred by new Federal legislation. Significant numbers of people--previously unable to afford nursing home care--now may avail themselves of full-time, skilled nursing services.

By July 1, 1967, all States adopting the Medical Assistance Program under Title XIX of the 1965 Social Security Act--popularly known as Medicaid--included skilled nursing home care as part of their State welfare programs. As a result, annual federally aided welfare expenditures for nursing home care have almost doubled since 1965. More than half of all nursing home stays now are paid for by some form of public assistance.

Effective January 1, 1967, up to 100 days of extended care services in qualified nursing homes became available for eligible patients under the Federal Medicare program. Close to 5,000 nursing homes and similar facilities, encompassing 340,000 beds, have qualified to participate in the Medicare program. Almost half a million nursing home admissions were recorded under Medicare during 1968 alone.

Current and Anticipated Labor Needs

As employers intensified their recruitment efforts to meet the new demand created by Medicaid and Medicare, employment in homes covered by the survey increased by 11 percent between March 1967 and March 1968. Rates of employment increase for each of the nine selected occupations were nearly equal during the March

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Several of the 17 States with large employment in this industry experienced rates of increase in their work forces which greatly exceeded the national gain of 11 percent between March 1967 and March 1968. For example, increases of approximately 20 percent were experienced in Oklahoma, Wisconsin, Michigan, and Indiana.

The surveyed employers expected more modest growth of their labor force during the March 1968-1969 period. Their total employment was projected to increase by about 6 percent as adjustments to the new Federal legislation are completed. However, the entrance of new firms into the industry and the building of new nursing homes by established firms probably will cause total nursing home employment to continue its sharp rise of the last several years.

The surveyed employers anticipated slower increases in employment for eight of the nine selected occupations for the year beginning March 1968. The hiring of licensed practical nurses, however, was expected to accelerate. It was estimated that their employment will be almost 13 percent ahead of the March 1968 total by March 1969. Only three State work forces--California, Pennsylvania, and Indiana--were expected to experience faster growth during the 1968-1969 period than that of the previous year.

Manpower Shortages Reported

In spite of the substantial growth of this industry in recent years, the demand for nursing home care continues to out-pace supply. Most homes which offer comprehensive nursing care have long patient waiting lists, while the construction of new homes is proceeding at an all-time high. Furthermore, as the industry has developed into a multi-billion dollar a year business, its demand for personnel has outrun the supply of available workers. According to a U.S. Training and Employment Service estimate, there is a current shortage of 25,000 workers in the Nation's nursing homes.

In addition to the 325,000 workers already employed in facilities within the scope of the survey, employers of these nursing homes were actively seeking 16,000 additional employees to fill jobs on March 15, 1968. Indicating the intensity of this shortage, 80 percent of the vacant jobs reported had been open for 1 month or more.

By far, the largest number of workers in demand were nurse aides and orderlies--6,100. (See figure 3.) However, vacancy rates 1/ were highest for licensed practical nurses, professional nurses, and dietitians. Establishments in six of the States with large nursing home work forces--California, Michigan, Massachusetts, Ohio, New York, and Illinois--accounted for half of all reported job vacancies. Relative to the size of State work forces in nursing homes, the

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Turnover, Tightening Standards Add to Manpower Problems

Several problems have converged to make more difficult this industry's search for qualified manpower. Labor turnover experienced by the participating nursing homes during the month previous to the survey appeared to be relatively high. Data are not available for comparison purposes to relate turnover in nursing homes to that in other nonmanufacturing industries; in relation to all manufacturers, however, total accessions, new hires, and quits were each more than twice as frequent among the surveyed nursing home workers. Total separations in nursing homes also were substantially more frequent than those recorded in manufacturing. Voluntary quits accounted for over half of all separations from the nursing home work force as quit rates for nurse aides, maintenance workers, and cooks and other food service workers were exceptionally high.

Unlike many other industries that are able to lower their entry requirements across the board for applicants when the job market becomes tight, participation in new Federal and State insurance and assistance programs and more stringent State licensing requirements have raised rather than lowered nursing home standards for many categories of new employees. Medicare, for example, requires that there must be a registered professional nurse or licensed practical nurse who is a graduate of a State approved school of practical nursing in charge

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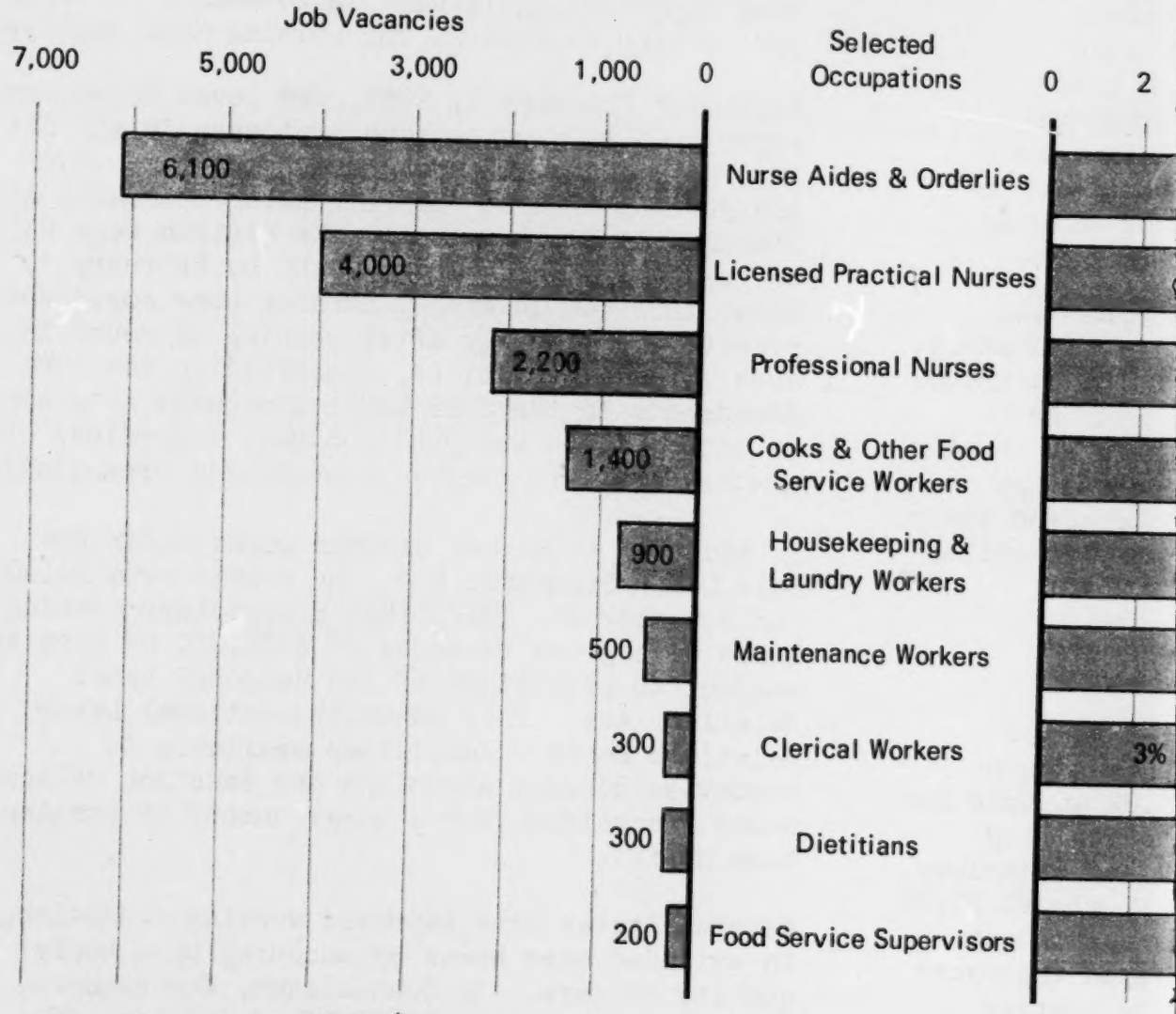
Figure 3.

Job Vacancies and Vacancy Rates Reported by Surveyed Nursing Homes and Related Health Care F



* Job vacancy rate = $\frac{\text{vacancies}}{\text{employment + vacancies}}$

Source: Surveyed establishments covered by March 1968 survey conducted by the U.S. Training and Employment Service and affiliated State employment security agencies.

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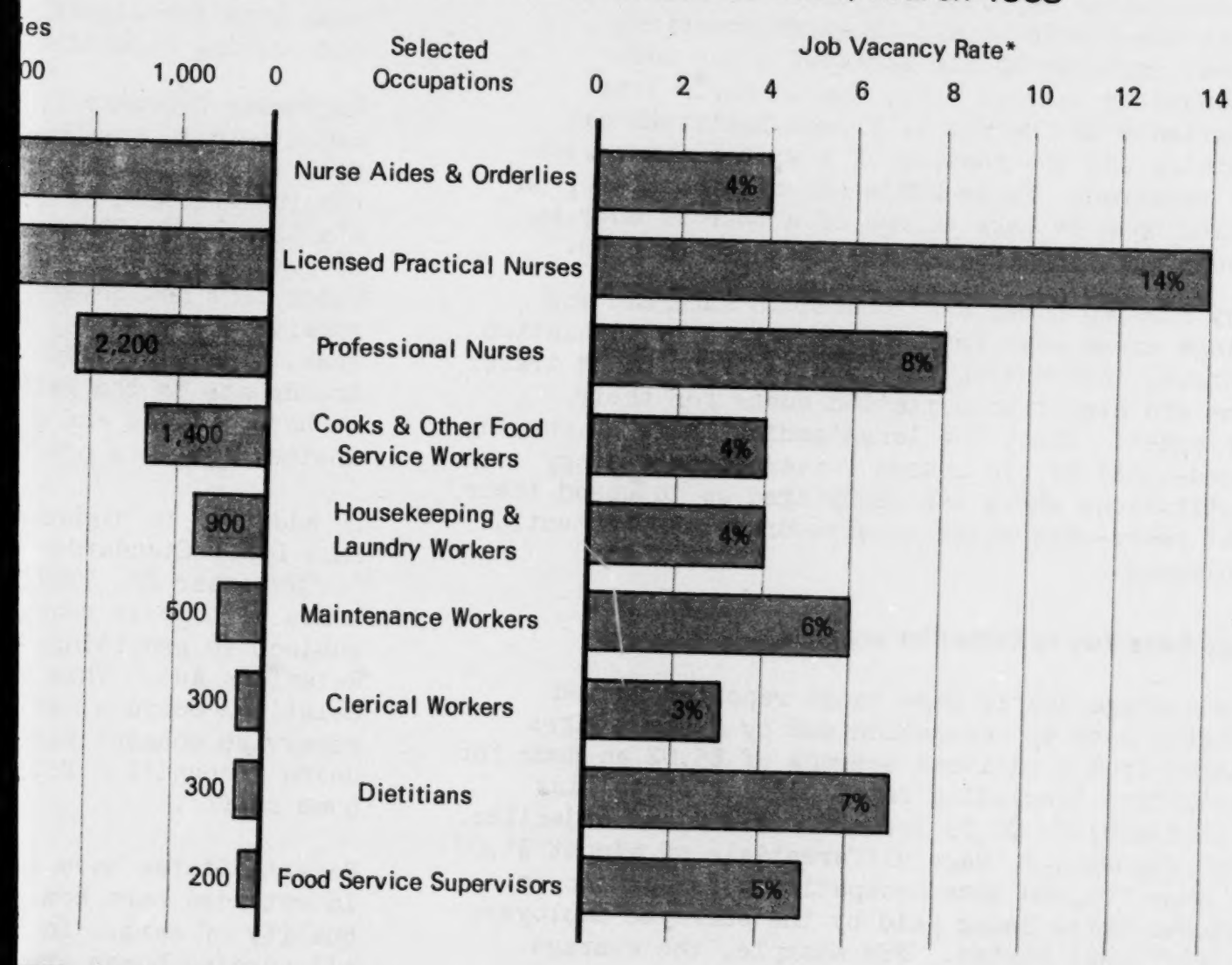

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of nursing activities during each tour of duty. This provision has substantially heightened the demand for professional and licensed practical nurses and is partly responsible for the high vacancy rates reported for those occupations. About one-fourth of all licensed practical nurses employed in the surveyed homes were licensed by waiver; i.e., due to their long experience in the field, formal institutional training and the passing of a written exam were not required. Those LPN's cannot, therefore, be called upon to take charge of a tour of duty in a home participating in the Medicare Program.

Many nursing homes are located in suburban and fringe areas away from the central city population centers, introducing the problem of extended travel time and high transportation costs for their employees. Also, the longstanding image of nursing homes--that of old houses converted into dingy institutions where the needy aged go to spend their last years--has acted to discourage many potential employees.

Wage Rates Vary by Occupation and State

The average hourly wage rates reported varied greatly both by occupation and by State. Wages ranged from a national average of $5.02 an hour for dietitians (including rates paid to consulting dietitians) to $1.53 for nurse aides and orderlies. (See figure 4.) Wage differentials of almost $1.00 an hour for the same occupation were not uncommon between rates being paid by the surveyed employers in different States. For example, the average hourly wage paid to professional nurses in California was $3.72, while those working in Florida received $2.80 an hour.

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Improving Wages and Working Conditions Expected to Help Allay Shortages

New Federal and State legislation, coupled with action by members of the industry, holds out some hope for significant improvements in wages and working conditions for nursing home employees.

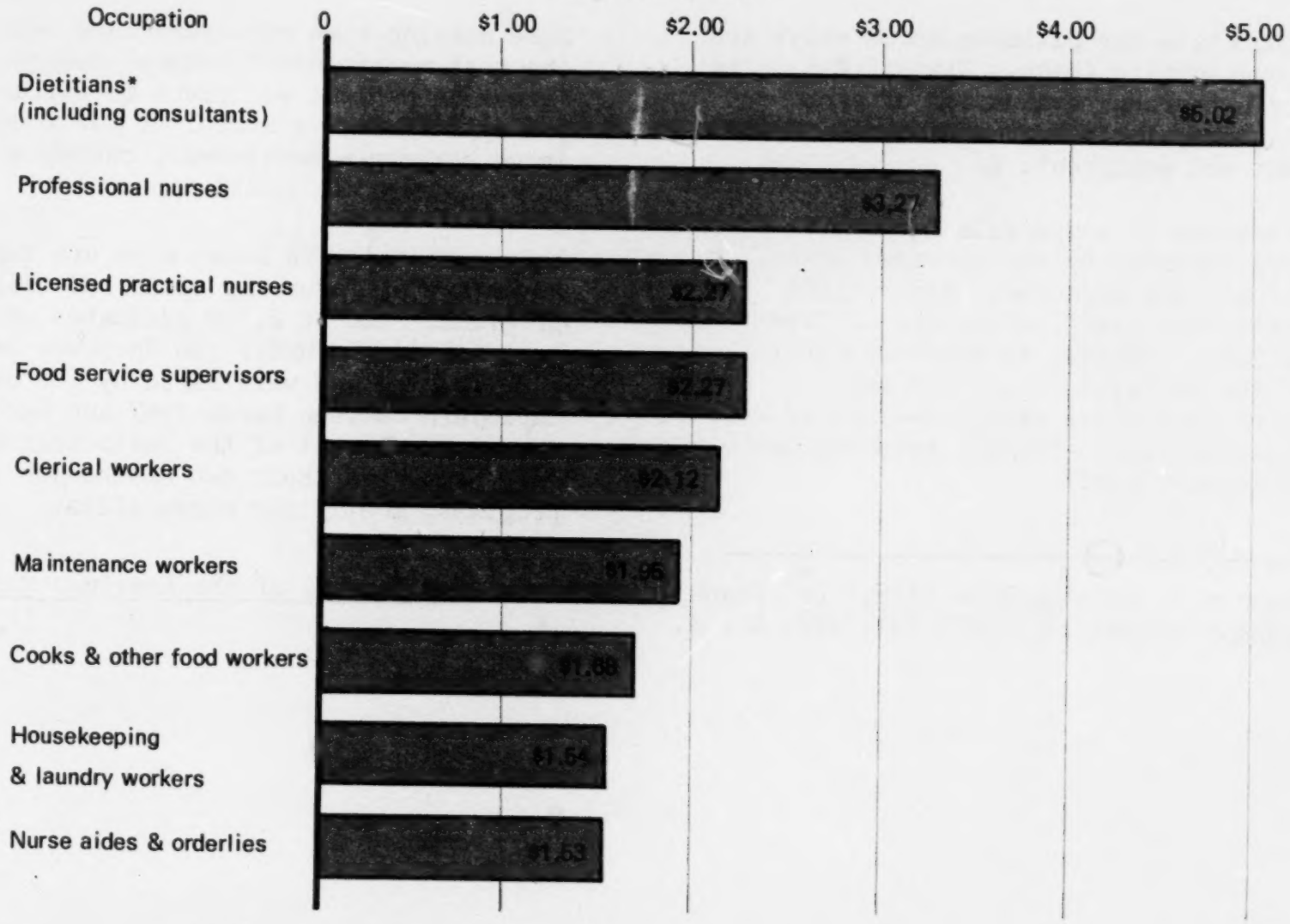
Beginning February 1, 1967, the level of minimum wages paid to nursing home employees in all but federally owned extended care homes came under the jurisdiction of the Fair Labor Standards Act. Starting at $1.00 an hour, the minimum wage will be gradually increased to $1.60 by February 1, 1971. Under this new coverage, nursing home employees receive overtime pay after working 48 hours in one week. These provisions, specified in the 1966 Amendments to the Fair Labor Standards Act, apply to both private and public homes, regardless of whether they are profit or nonprofit organizations.

In addition to higher minimum wages under the Fair Labor Standards Act, the courts have ruled (on November 20, 1967) that proprietary nursing homes with gross revenues of $100,000 or more are subject to provisions of the National Labor Relations Act. This makes the National Labor Relations Board's facilities available to supervise consent elections and sanction official union recognition for a large number of nursing home staffs.

Several States have improved working conditions in extended care homes by encouraging a higher quality of care. In Connecticut, for example, all nursing homes are classified into one of seven categories. Those which offer the most comprehensive services receive higher per diem

Figure 4

Average Hourly Wage Rates Paid to Surveyed Workers by Occupation, March 1968



*Dietitian-consultants generally are paid one and a half times the hourly wage rate paid to full-time dietitians, mainly because of the absence of fringe benefits received.

Notes: The Bureau of Labor Statistics conducted wage surveys of this industry in October 1967 and April 1968. The average hourly wage rates computed from the Bureau's survey data were slightly lower than the rates determined from U.S. Training and Employment Service survey data mainly because the former's survey participants included establishments with less than four employees while the latter's survey excluded those homes.

The minimum wage for nursing home employees at the time of the U.S. Training and Employment Service Survey was $1.15 an hour.

Source: Surveyed establishments covered by March 1968 survey conducted by the U.S. Training and Employment Service and affiliated State employment security agencies.

rates from the State for patients whose stays are financed through public funds. Classification is determined by a thorough evaluation of each extended care home, including assessments of its physical plant and equipment. 2/

Short-term measures to compensate for labor shortages were reported by the surveyed homes. About half of all the employers were relying upon extra part-time staff, while one of five offered additional overtime to their workers. One of 10 of the surveyed facilities was contracting-out supportive services--such as maintenance and laundry work--thereby reducing labor requirements for new staff.

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2/ See "Progress in Nursing Home Care," Dr. Franklin M. Foote, Th
Association, October 23, 1967, Vol. 202, No. 4.

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Some nursing home employers have been utilizing the most modern architectural designs and the latest in medical equipment to attract additional job applicants. A number of new homes, under large corporate management, resemble luxurious motor hotels in outward appearance.

Many extended care homes also are taking advantage of federally sponsored training programs. Almost 2,300 graduates of training programs funded under the Manpower Development and Training Act were hired by the surveyed employers between March 1967 and March 1968. Almost 60 percent of the participating extended care homes had their own on-the-job training programs, mostly for nurse aides.

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g Home Care," Dr. Franklin M. Foote, The Journal of the American Medical
, 1967, Vol. 202, No. 4.

OCCUPATIONAL NEEDS

Survey data clearly indicated that many of the substantial differences in the job market for nursing home workers are due to occupational and geographical factors. (See tables 1 & 2.) For example, while there was intense unmet demand for licensed practical nurses in Indiana, no unmet demand for dietitians was reported in that State; but a strong demand f in reports submitted 3-11, which are prese pages, provide separa 17 States with large home industry by occu highlights and brief selected occupations

Table 1.
Manpower Data on Nine Selected Occupations in the Nursing Home Industry
U.S. Total, March 1968

	Total selected occupations	Professional nurse	Licensed practical nurse	Nurse aides and orderlies	Food service supervisor	Dietitian	Cook and other food workers	Housekeeping and laundry workers	Maintenance workers	Clerical workers
March employment										
Total, 1968	274,300	23,700	25,200	138,600	3,500	3,400	37,500	23,900	8,700	9,800
Percent part-time	22.0	34.0	22.0	17.0	11.0	70.0	26.0	18.0	27.0	24.0
Percent change: 1967-68	11.0	11.0	12.0	9.0	11.0	12.0	11.0	11.0	11.0	12.0
Anticipated percent change: 1968-69	6.0	9.0	13.0	6.0	1.0	5.0	3.0	5.0	5.0	3.0
Turnover rates expected										
Accessions	9.0	7.0	9.0	11.0	6.0	4.0	8.0	9.0	9.0	8.0
New hires	6.0	4.0	5.0	7.0	2.0	[illegible]	5.0	5.0	6.0	3.0
Separations	7.0	4.0	6.0	9.0	5.0	1.0	7.0	6.0	7.0	4.0
Quits	5.0	2.0	3.0	6.0	3.0	0.0	4.0	4.0	5.0	2.0
Layoffs	1.0	0.0	1.0	1.0	0.0	0.0	1.0	2.0	1.0	0.0
Average hourly wage rate	---	3.27	2.27	1.53	2.27	5.02	1.68	1.54	1.95	2.12
Job vacancies										
Number	15,900	2,200	4,000	6,100	200	300	1,400	900	500	300
Rate*	6.0	8.0	14.0	4.0	5.0	7.0	4.0	4.0	6.0	3.0

Source: Establishments covered by March 1968 survey conducted by the U.S. Training and Employment Service and affiliated State employment security agencies.

* (vacancy rate= $\frac{\text{vacancies}}{\text{vacancies + employment}}$)

Summary Manpower Data on Nine
U.S. T

Selected States	Employment		
	March 1968	Percent part-time	Percen 1967 to 1968
Total, U.S.	274,000	21.7	10.1
Selected States			
California	41,500	19.9	6.6
New York	19,100	24.4	7.2
Texas	19,000	11.4	16.1
Massachusetts	15,300	39.3	11.3
Ohio	13,100	22.3	11.0
Illinois	12,900	13.4	11.7
Pennsylvania	10,900	25.6	6.5
Michigan	10,500	26.3	18.5
Oklahoma	9,000	11.1	21.2
Washington	8,900	31.1	6.7
Florida	7,500	14.9	14.8
Connecticut	7,400	37.9	6.3
Missouri	7,300	17.5	6.9
Wisconsin	6,000	32.4	20.6
Minnesota	5,800	45.3	6.3
Indiana	5,700	18.2	17.6
Iowa	5,500	22.5	12.9

Note: Includes professional nurse, licensed pr food service supervisor, dietitian, hous

Source: Establishments covered by March 1968 s State employment security agencies.

OCCUPATIONAL NEEDS

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but a strong demand for dietitians was evident in reports submitted from Michigan. Tables 3-11, which are presented on the following pages, provide separate data for each of the 17 States with large work forces in the nursing home industry by occupation. Statistical highlights and brief descriptions of the nine selected occupations accompany these tables.

ns in the Nursing Home Industry
1968

od rvice per-isor	Dietitian	Cook and other food workers	House-keeping and laundry workers	Mainte-nance workers	Clerical workers
,500	3,400	37,500	23,900	8,700	9,800
.0	70.0	26.0	18.0	27.0	24.0
.0	12.0	11.0	11.0	11.0	12.0
.0	5.0	3.0	5.0	5.0	3.0
.0	4.0	8.0	9.0	9.0	8.0
.0	.0	5.0	5.0	6.0	3.0
.0	1.0	7.0	6.0	7.0	4.0
.0	0.0	4.0	4.0	5.0	2.0
.0	0.0	1.0	2.0	1.0	0.0
.27	5.02	1.68	1.54	1.95	2.12
200	300	1,400	900	500	300
.0	7.0	4.0	4.0	6.0	3.0

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Table 2.
Summary Manpower Data on Nine Occupations Prominent in the Nursing Home Industry
U.S. Total and Selected States

Selected States	Employment				Labor turnover					Job vacancies			
			Percent change		Accessions		Separations					Percent open	
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)	Total	New hires	Total	Quits	Lay-offs	Number	Rate	1-6 mo.	Over 6 mo.
Total, U.S.	274,000	21.7	10.1	5.9	9.4	6.0	7.3	4.8	1.0	15,900	5.5	42.5	39.3
Selected States													
California	41,500	19.9	6.6	8.2	9.2	7.2	7.6	5.3	1.1	2,050	4.7	42.9	46.2
New York	19,100	24.4	7.2	1.5	7.7	6.1	6.4	4.8	1.6	790	4.0	41.1	40.0
Texas	19,000	11.4	16.1	11.0	8.2	6.0	5.7	4.9	0.9	500	2.6	43.8	14.2
Massachusetts	15,300	39.3	11.3	10.4	17.5	6.0	7.9	3.9	1.0	1,470	8.8	43.4	38.8
Ohio	13,100	22.3	11.0	4.4	5.9	6.2	5.9	5.0	0.9	950	6.8	39.0	50.5
Illinois	12,900	13.4	11.7	4.2	13.4	9.4	10.3	8.2	1.2	680	5.0	49.0	40.2
Pennsylvania	10,900	25.6	6.5	7.0	6.0	5.2	5.1	4.4	0.9	520	4.5	35.2	40.8
Michigan	10,500	26.3	18.5	6.4	14.5	5.4	10.1	3.5	0.2	1,990	16.0	38.6	59.1
Oklahoma	9,000	11.1	21.2	6.7	5.6	5.4	4.9	4.5	0.4	340	3.6	55.9	7.7
Washington	8,900	31.1	6.7	2.2	6.8	5.1	6.5	5.1	1.4	360	3.9	32.2	41.9
Florida	7,500	14.9	14.8	5.1	8.1	7.5	7.3	5.6	1.2	200	2.6	58.5	13.5
Connecticut	7,400	37.9	6.3	4.6	7.9	5.1	4.8	4.0	0.9	330	4.2	75.2	23.3
Missouri	7,300	17.5	6.9	1.7	5.0	4.4	7.9	3.3	0.7	140	1.8	35.0	40.0
Wisconsin	6,000	32.4	20.6	4.6	6.2	5.1	5.4	5.0	0.4	120	2.0	55.8	27.5
Minnesota	5,800	45.3	6.3	1.5	5.3	5.3	4.6	4.3	0.2	380	6.1	78.4	19.5
Indiana	5,700	18.2	17.6	42.1	6.5	6.2	6.8	5.3	1.5	300	4.9	59.0	9.3
Iowa	5,500	22.5	12.9	3.6	8.5	6.6	6.3	5.7	0.4	200	3.5	67.0	29.5

Note: Includes professional nurse, licensed practical nurse, nurse aide and orderly, cook and other food service workers, food service supervisor, dietitian, housekeeping and laundry workers, maintenance workers, and clerical personnel.

Source: Establishments covered by March 1968 survey conducted by the U.S. Training and Employment Service and affiliated State employment security agencies.

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Professional Nurses

Usually responsible for the nursing service in extended care homes, professional nurses play a key role. In addition to instructing auxiliary personnel in the performance of their duties, they administer medications and treatments prescribed by physicians and observe, evaluate, and record the symptoms, reactions, and progress of their patients.

A license is required to practice professional nursing in all States and the District of Columbia. A nurse must graduate from a school approved by a State board of nursing and pass a State board examination before such a license is issued. Three types of educational programs--diploma, baccalaureate degree, and associate degree--offer the basic education required for careers in professional nursing. These programs involve from 2 to 5 years of study at the college level.

Strong demand for professional nurses in the nursing home industry was reflected in the U.S. Training and Employment Service survey data. Relative to the other occupations, an especially large gain in employment--8.6 percent--was anticipated during the March 1968-1969 period in the surveyed facilities.

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Medicare, which requires that all participating facilities employ at least one registered professional nurse on a full-time basis, has contributed substantially to this demand.

The percent of workers in the selected occupations who were professional nurses varied greatly from State to State. For example, while professional nurses made up almost 20 percent of these employees in Connecticut, in Oklahoma only about 3 percent of the work force in the selected occupations were professional nurses.

Large numbers of job openings were reported for professional nurses by employers who took part in the survey. The 8.4 percent vacancy rate computed for professional nurses was exceeded only by the comparable rates for licensed practical nurses and dieticians. More than 80 percent of these jobs had been vacant for one month or more. Very high levels of unmet demand were evident in Michigan, Texas, Massachusetts, and Ohio.

The average hourly wage paid to professional nurses covered by the survey--$3.27--was second highest among the selected occupations.

Table 3.--Professional Nurses
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor tu	
			Percent change			Accessions	
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires
Total, U.S.	23,700	33.9	11.0	8.6	3.27	7.0	3.6
Selected States							
California	3,500	33.3	7.5	6.4	3.72	8.0	5.2
New York	2,100	40.3	7.3	2.7	3.53	4.7	3.2
Texas	800	20.9	25.2	28.2	3.19	4.0	3.6
Massachusetts	1,600	39.9	12.4	11.8	3.50	14.9	5.1
Ohio	1,000	35.5	4.3	8.0	3.00	6.2	6.2
Illinois	900	23.4	18.7	8.1	2.96	10.5	5.0
Pennsylvania	1,400	37.4	6.8	10.7	2.97	2.0	1.9
Michigan	700	37.5	34.7	5.8	3.42	16.8	6.3
Oklahoma	300	15.6	21.4	2.8	2.76	9.7	9.7
Washington	1,000	40.7	-7.3	4.2	3.24	2.8	0.8
Florida	800	24.8	15.8	6.9	2.80	1.2	1.2
Connecticut	1,400	39.5	10.6	3.8	3.24	3.8	0.5
Missouri	500	26.1	14.4	8.9	3.19	1.1	1.1
Wisconsin	600	31.7	10.4	14.2	3.65	5.4	5.2
Minnesota	600	57.1	12.7	6.9	3.15	5.1	5.1
Indiana	500	32.7	36.0	30.6	3.01	2.5	2.5
Iowa	400	33.7	12.6	26.4	3.03	1.3	1.3

Source: Establishments covered by March 1968 survey conducted by the U.S. Trai
State employment security agencies.

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Table 3.--Professional Nurses
Selected Manpower Data
U.S. Total and Selected States

Employment			Average hourly wage rate	Labor turnover rates					Job vacancies			
	Percent change			Accessions		Separations					Percent open	
rcent rt-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires	Total	Quits	Lay-offs	Number	Rate	1-6 mo.	Over 6 mo.
33.9	11.0	8.6	3.27	7.0	3.6	4.0	2.2	0.3	2,180	8.4	46.0	36.6
33.3	7.5	6.4	3.72	8.0	5.2	4.9	3.0	0.4	250	6.6	48.8	39.9
40.3	7.3	2.7	3.53	4.7	3.2	5.1	4.4	0.9	190	8.2	54.8	36.2
20.9	25.2	28.2	3.19	4.0	3.6	1.9	1.9	0.0	120	13.5	16.9	27.4
39.9	12.4	11.8	3.50	14.9	5.1	8.4	2.4	1.1	240	12.7	40.8	46.0
35.5	4.3	8.0	3.00	6.2	6.2	2.5	2.2	0.3	130	12.0	35.3	54.1
23.4	18.7	8.1	2.96	10.5	5.0	4.9	3.7	0.0	50	5.2	83.7	10.2
37.4	6.8	10.7	2.97	2.0	1.9	2.4	2.4	0.0	110	7.3	35.4	25.7
37.5	34.7	5.8	3.42	16.8	6.3	11.6	2.6	0.0	180	20.6	48.9	50.5
15.6	21.4	2.8	2.76	9.7	9.7	0.0	0.0	0.0	20	6.2	100.0	0.0
40.7	-7.3	4.2	3.24	2.8	0.8	1.1	1.1	0.0	60	5.4	67.2	8.6
24.8	15.8	6.9	2.80	1.2	1.2	1.1	1.1	0.0	10	1.6	76.9	0.0
39.5	10.6	3.8	3.24	3.8	0.5	0.4	0.2	0.0	70	4.9	86.3	13.7
26.1	14.4	8.9	3.19	1.1	1.1	3.8	0.0	0.9	30	6.7	33.3	63.6
31.7	10.4	14.2	3.65	5.4	5.2	2.8	2.6	0.2	20	3.9	52.2	43.5
57.1	12.7	6.9	3.15	5.1	5.1	3.3	3.3	0.0	50	8.1	47.1	52.9
32.7	36.0	30.6	3.01	2.5	2.5	1.7	1.7	0.0	20	3.2	0.0	0.0
33.7	12.6	26.4	3.03	1.3	1.3	0.7	0.7	0.0	50	9.9	70.8	29.2

by March 1968 survey conducted by the U.S. Training and Employment Service and affiliated
ity agencies.

Licensed Practical Nurses

Licensed practical nurses provide bedside nursing care to patients who are not acutely ill and assist professional nurses with patients who are more seriously afflicted. They have an important role in the care of the aged in nursing homes and may be in charge of nursing activities during a tour of duty. Their specific functions include the administration of prescribed medications, preparation and care of patients receiving specialized treatments, care of equipment (including sterilization), and observation of aseptic techniques.

All States now have laws for licensure of practical nurses as LPN's (or LVN's for licensed vocational nurses in California and Texas). Formal preparation for prospective licensed practical nurses usually includes graduation from high school, a 1-year State-approved practical nurse training program, and the passing of a written examination. While some practical nurses are licensed on the basis of their long experience in the profession, these LPN's are not eligible to be in charge of a tour of duty in a home which is certified under the Federal Medicare program. About 25 percent of all the licensed practical nurses employed in the surveyed homes were licensed in this manner.

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As nursing home administrators have come to a fuller understanding of the valuable contribution licensed practical nurses may make to the operation of extended care homes, demand for LPN's--especially those licensed by examination--has increased significantly. Percentage gains in employment reported for the selected occupations were highest for licensed practical nurses during both the March 1967-1968 and March 1968-1969 periods. And while the rates of increase in employment for eight of the nine selected occupations were expected to decline between March 1968 and March 1969, the rate for LPN's was projected to accelerate.

Another measure of the high demand for licensed practical nurses was the exceptionally high vacancy rate computed for this occupation. It was almost two and a half times the comparable rate reported for the selected occupations as a whole and more than one and a half times the rate reported for professional nurses, the occupation with the next highest vacancy rate. The labor shortage for LPN's was most severe in Indiana, Massachusetts, Ohio, Michigan, Minnesota, and California.

Table 4.—Licensed Practical Nurses
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor turn		
			Percent change			Accessions		
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires	To
Total, U.S.	25,200	22.4	11.9	12.8	2.27	9.0	5.4	
Selected States								
California	2,500	18.9	12.6	25.0	2.63	12.2	10.7	
New York	2,400	37.0	2.7	7.5	2.61	6.9	5.4	
Texas	2,600	16.7	27.2	8.2	1.94	6.6	4.5	
Massachusetts	2,200	25.6	11.2	12.7	2.62	16.6	6.0	
Ohio	1,700	19.3	12.9	15.2	2.11	3.3	3.3	
Illinois	1,300	7.2	22.7	7.8	2.03	6.0	3.4	
Pennsylvania	1,800	19.1	4.5	8.0	1.84	3.1	2.8	
Michigan	800	50.3	35.4	10.8	2.59	10.0	6.0	
Oklahoma	600	10.6	18.3	10.8	1.89	7.0	7.0	
Washington	800	25.6	11.2	1.6	2.08	8.0	5.0	
Florida	800	17.8	5.7	8.1	2.06	7.9	5.8	
Connecticut	800	44.7	1.7	4.9	2.57	7.4	7.3	
Missouri	500	27.3	10.8	7.8	2.21	5.4	5.4	
Wisconsin	300	49.0	26.0	10.8	2.74	14.1	14.1	
Minnesota	200	40.0	-9.9	10.0	2.43	5.7	5.7	
Indiana	200	18.4	23.1	88.2	2.11	10.9	9.9	
Iowa	300	7.8	28.6	14.1	2.14	11.2	7.8	

Source: Establishments covered by March 1968 survey conducted by the U.S. Trai
State employment security agencies.

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Table 4.—Licensed Practical Nurses
Selected Manpower Data
U.S. Total and Selected States

nt change 1968 to 1969 (Est.)	Average hourly wage rate	Labor turnover rates: Accessions: Total	Accessions: New hires	Separations: Total	Separations: Quits	Separations: Lay-offs	Job vacancies: Number	Job vacancies: Rate	Percent open: 1-6 mo.	Percent open: Over 6 mo.
12.8	2.27	9.0	5.4	5.5	3.4	0.5	4,000	13.7	48.4	33.9
25.0	2.63	12.2	10.7	6.1	5.6	0.5	530	17.6	69.4	23.5
7.5	2.61	6.9	5.4	4.4	4.2	0.2	260	9.7	31.9	49.0
8.2	1.94	6.6	4.5	2.5	2.3	0.2	170	6.1	39.9	13.7
12.7	2.62	16.6	6.0	7.5	3.8	0.7	640	22.4	45.0	41.9
15.2	2.11	3.3	3.3	2.7	2.7	0.0	410	19.4	49.3	46.8
7.8	2.03	6.0	3.4	5.1	4.1	0.3	100	7.1	64.3	26.5
8.0	1.84	3.1	2.8	1.7	1.6	0.1	120	6.4	40.5	47.9
10.8	2.59	10.0	6.0	6.8	2.5	0.0	200	19.1	50.2	37.3
10.8	1.89	7.0	7.0	5.0	5.0	0.0	100	14.8	51.4	24.8
1.6	2.08	8.0	5.0	4.9	2.9	2.0	50	6.5	11.3	37.7
8.1	2.06	7.9	5.8	7.8	2.7	3.6	30	3.1	24.0	0.0
4.9	2.57	7.4	7.3	9.9	9.5	0.4	80	9.2	91.4	8.6
7.8	2.21	5.4	5.4	3.6	.7	0.0	40	8.9	20.4	79.5
10.8	2.74	14.1	14.1	9.8	9.5	0.3	30	9.5	73.3	23.3
10.0	2.43	5.7	5.7	1.5	1.5	0.0	40	17.7	62.8	37.2
88.2	2.11	10.9	9.9	6.5	6.5	0.0	80	25.5	51.2	16.7
14.1	2.14	11.2	7.8	4.0	4.0	0.0	20	4.8	100.0	0.0

1968 survey conducted by the U.S. Training and Employment Service and affiliated
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1843

Nurse Aides and Orderlies

Nurse aides and orderlies share in the actual care of nursing home patients. They answer patients' calls, help with meals and bathing, adjust beds, straighten rooms for the night, and perform any one of other tasks which, though simple, are very important to each patient's comfort. Their duties and responsibilities vary from home to home, depending upon the size of the extended care home and the kinds of services it provides.

Formal preparation usually is not required before nurse aides and orderlies can get a job. But most nursing homes provide on-the-job training, including classroom instruction, demonstration, and practice, taught by a professional nurse. These on-the-job training programs vary in length, depending upon the nursing home.

More than two of every five workers covered by the survey was either a nurse aide or orderly. The work force of aides and orderlies was bolstered by an increase of more than 11,700 employees during the March 1967-68 period, and another 7,900 such workers were expected to be employed by March 1969 in the surveyed facilities.

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The average wage rates reported for these occupations was only $1.53 an hour, and among the selected States ranged from a low of $1.19 in Oklahoma to a high of $1.96 in New York. While the average wage reported for nurse aides and orderlies was lower than the wage paid to any other occupation, turnover rates among aides and orderlies were higher than those of any other of the selected occupations. Quit rates computed from survey data indicate that about 6.3 percent of all aides and orderlies voluntarily quit their jobs each month.

Although the vacancy rate for nurse aides and orderlies--4.2 percent--is relatively modest when compared with those for licensed practical and professional nurses (13.7 and 8.4 percent, respectively), the number of aide and orderly jobs open for filling at the time of the survey almost equaled the combined total of unfilled jobs for practical and professional nurses. More than one-third of the unmet demand for nurse aides and orderlies was in California and Michigan.

Table 5.—Nurse Aides and Orderlies
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor turno		
			Percent change			Accessions		
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires	To
Total, U.S.	138,600	17.4	9.2	5.7	1.53	10.7	7.3	8
Selected States								
California	22,000	14.1	4.8	8.2	1.79	10.1	7.9	9
New York	8,900	18.1	8.5	1.2	1.96	8.2	6.7	6
Texas	9,800	7.4	13.6	9.7	1.23	10.3	7.7	8
Massachusetts	6,800	41.6	11.1	-0.7	1.80	19.5	7.4	9
Ohio	6,500	21.6	11.0	2.7	1.38	9.6	9.0	9
Illinois	6,300	12.2	8.6	4.8	1.47	16.5	13.4	14
Pennsylvania	4,300	20.7	7.2	5.1	1.40	9.1	7.6	7
Michigan	5,900	17.7	14.5	7.3	1.42	13.4	5.4	9
Oklahoma	5,100	8.6	21.8	7.7	1.19	7.6	7.1	6
Washington	4,200	27.7	8.9	1.4	1.50	8.5	6.4	9
Florida	3,500	11.1	13.8	3.1	1.32	8.8	8.3	8
Connecticut	2,900	34.9	7.6	6.0	1.70	9.1	6.7	6
Missouri	4,100	13.8	5.7	0.8	1.29	6.2	5.2	7
Wisconsin	3,000	32.4	25.0	4.1	1.64	7.1	5.4	6
Minnesota	3,000	45.1	5.0	4.2	1.45	6.3	6.3	5
Indiana	3,400	11.6	12.7	47.3	1.35	6.7	6.6	8
Iowa	3,100	17.8	10.8	2.9	1.34	9.3	7.4	8

Source: Establishments covered by March 1968 survey conducted by the U.S. Traini
State employment security agencies.

Table 5.—Nurse Aides and Orderlies
Selected Manpower Data
U.S. Total and Selected States

ent			Labor turnover rates					Job vacancies			
Percent change			Accessions		Separations					Percent open	
1967 to 1968	1968 to 1969 (Est.)	Average hourly wage rate	Total	New hires	Total	Quits	Lay-offs	Number	Rate	1-6 mo.	Over 6 mo.
9.2	5.7	1.53	10.7	7.3	8.9	6.3	1.3	6,120	4.2	39.2	43.3
4.8	8.2	1.79	10.1	7.9	9.2	6.5	1.4	1,050	4.5	31.2	57.1
8.5	1.2	1.96	8.2	6.7	6.6	4.8	1.7	180	1.9	42.3	45.7
13.6	9.7	1.23	10.3	7.7	8.0	6.9	1.3	120	1.2	53.3	11.7
11.1	-0.7	1.80	19.5	7.4	9.3	5.9	0.6	340	4.7	35.1	24.7
11.0	2.7	1.38	9.6	9.0	9.3	7.7	1.5	240	3.5	39.8	46.6
8.6	4.8	1.47	16.5	13.4	14.5	12.2	1.8	250	3.8	42.8	51.6
7.2	5.1	1.40	9.1	7.6	7.3	5.8	1.6	150	3.5	26.1	60.1
14.5	7.3	1.42	13.4	5.4	9.4	3.7	0.1	1,200	16.9	31.7	67.4
21.8	7.7	1.19	7.6	7.1	6.8	6.2	0.6	140	2.7	72.9	0.0
8.9	1.4	1.50	8.5	6.4	9.3	6.8	2.6	140	3.2	50.4	34.0
13.8	3.1	1.32	8.8	8.3	8.4	7.8	0.4	140	3.7	64.4	20.0
7.6	6.0	1.70	9.1	6.7	6.6	5.3	1.5	120	3.9	62.7	37.3
5.7	0.8	1.29	6.2	5.2	7.6	3.6	0.3	40	1.0	67.4	0.0
25.0	4.1	1.64	7.1	5.4	6.1	5.9	0.3	40	1.5	18.2	31.8
5.0	4.2	1.45	6.3	6.3	5.0	4.8	0.0	200	6.1	70.7	3.0
12.7	47.3	1.35	6.7	6.6	8.5	6.4	2.4	160	4.3	69.7	9.0
10.8	2.9	1.34	9.3	7.4	8.9	8.0	0.4	90	2.7	50.6	48.2

rch 1968 survey conducted by the U.S. Training and Employment Service and affiliated encies.

1847

Dietitians

Dietitians employed by nursing homes are responsible for seeing that all patients receive food which is attractive, satisfying, and nutritionally adequate in terms of their individual needs. Tasks performed by dietitians in extended care homes may include the hiring, training, and supervising of food service staff, procurement of food and food service equipment and menu planning. Nursing home dietitians also are called upon to confer with physicians about their patients' diets and to help design menus for those with special food needs.

The minimum educational requirement for a dietitian is a bachelor's degree with a major in foods and nutrition or institutional management. In order to qualify for professional recognition, The American Dietetic Association recommends the completion of a 1-year dietitic internship program approved by the Association, or three years of pre-planned and supervised experience.

Many dietitians who specialize in nursing homes are employed by more than one home on a part-time or consultant basis. Survey data indicate that less than one of every three dietitians in nursing homes works full time. The part-time dietitian employed as the only dietitian on the staff is responsible for the management aspects of the food service. When she is not on duty, supervisory responsibility must be assigned to a food service supervisor or cook-manager or must be assumed by the administrator so that there is responsible supervision for all hours of operation. A part-time dietitian will, in all probability, be on duty in the facility two or three days each week.

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3/ See " Dietitians' Role in Nursing Homes and Related Facilities," Wilm
American Dietitic Association, Vol. 51, No. 2, August 1967.

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role indicates that such persons have no direct management responsibilities in the institution. The consultant observes, evaluates, advises, and instructs. Another person, who will usually have the title food service supervisor or cook-manager, is needed for the actual management of the food service. 3/

Dietitians were the highest paid workers in the surveyed nursing homes. Averaging $5.02 an hour, their wage rate exceeded that of professional nurses--who received the second highest wage--by $1.75. The inclusion of consultant and part-time dietitians, who traditionally receive one and a half times the rate paid to full-time dietitians (mainly because of a lack of fringe benefits) was responsible for their high average wage rate. Previous data indicate that full-time dietitians generally are paid wages comparable to those of professional nurses.

Although the number of unfilled jobs reported for dietitians--263--was relatively modest, the 7.2-percent vacancy rate computed for dietitians was third highest among the selected occupations. Particularly high rates of unmet demand were reported by employers in Minnesota, Michigan, and Pennsylvania.

Turnover rates among the nursing home dietitians were extremely low. Each measure of labor turnover for dietitians was not only lower than rates reported for the other selected occupations, but was below comparable rates for all manufacturing industries.

mes and Related Facilities," Wilma F. Robinson, Journal of the
51, No. 2, August 1967.

1849

Table 6.—Dietitians
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate*	Labor turnov		
			Percent change			Accessions		S
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires	Tota
Total, U.S.	3,400	70.3	11.6	4.5	5.02	3.7	0.7	1.3
Selected States								
California	700	80.5	20.4	-3.4	6.47	2.3	0.7	0.7
New York	300	78.0	11.2	-4.7	5.01	1.1	0.0	0.0
Texas	200	47.7	100.8	17.3	4.43	2.5	2.5	0.0
Massachusetts	200	73.9	22.1	12.6	5.18	8.3	1.5	0.0
Ohio	100	73.5	0.0	26.5	4.57	0.0	0.0	0.0
Illinois	200	47.5	-2.4	6.8	4.27	8.5	0.0	0.0
Pennsylvania	100	70.9	12.8	19.9	4.82	0.0	0.0	0.7
Michigan	200	86.3	0.0	3.1	5.91	16.6	0.0	5.8
Oklahoma	100	40.3	2.6	12.6	4.00	0.0	0.0	0.0
Washington	100	88.4	0.0	0.0	6.02	0.0	0.0	0.0
Florida	100	91.4	30.6	0.0	4.78	0.0	0.0	3.6
Connecticut	100	77.9	3.7	-16.8	5.79	2.6	0.0	0.0
Missouri	100	51.4	5.1	0.0	3.97	0.0	0.0	0.0
Wisconsin	100	87.7	41.3	24.6	5.09	4.4	4.4	0.0
Minnesota	25	79.2	33.3	0.0	4.31	0.0	0.0	0.0
Indiana	100	74.2	200.0	16.7	4.83	0.0	0.0	0.0
Iowa	100	68.5	12.5	0.0	3.35	0.0	0.0	0.0

Source: Establishments covered by March 1968 survey conducted by the U.S. Training State employment security agencies.

* Includes rates paid to consultants.

Table 6.—Dietitians
Selected Manpower Data
U.S. Total and Selected States

...yment			Labor turnover rates					Job vacancies			
	Percent change		Accessions		Separations					Percent open	
...me	1967 to 1968	1968 to 1969 (Est.)	Average hourly wage rate*	Total	New hires	Total	Quits	Lay-offs	Number	Rate	1-6 mo.	Over 6 mo.
	11.6	4.5	5.02	3.7	0.7	1.3	0.0	0.1	260	7.2	22.4	51.3
	20.4	-3.4	6.47	2.3	0.7	0.7	0.1	0.0	10	1.7	0.0	100.0
	11.2	-4.7	5.01	1.1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	100.8	17.3	4.43	2.5	2.5	0.0	0.0	0.0	0	0.0	0.0	0.0
	22.1	12.6	5.18	8.3	1.5	0.0	0.0	0.0	30	13.1	50.0	50.0
	0.0	26.5	4.57	0.0	0.0	0.0	0.0	0.0	10	11.7	0.0	100.0
	-2.4	6.8	4.27	8.5	0.0	0.0	0.0	0.0	20	12.0	0.0	0.0
	12.8	19.9	4.82	0.0	0.0	0.7	0.0	0.7	30	16.1	33.3	33.3
	0.0	3.1	5.91	16.6	0.0	5.8	0.0	0.0	40	19.9	50.0	50.0
	2.6	12.6	4.00	0.0	0.0	0.0	0.0	0.0	10	9.8	0.0	0.0
	0.0	0.0	6.02	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	30.6	0.0	4.78	0.0	0.0	3.6	0.0	0.0	0	0.0	0.0	0.0
	3.7	-16.8	5.79	2.6	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	5.1	0.0	3.97	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	41.3	24.6	5.09	4.4	4.4	0.0	0.0	0.0	5	3.0	100.0	0.0
	33.3	0.0	4.31	0.0	0.0	0.0	0.0	0.0	20	50.0	0.0	100.0
	200.0	16.7	4.83	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	12.5	0.0	3.35	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0

...arch 1968 survey conducted by the U.S. Training and Employment Service and affiliated ...gencies.

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Food Service Supervisors

In nursing homes that employ a dietician, the food service supervisor is second in command of the dietary department. Where no dietician is employed, the food service supervisor may be in charge of the daily operation of food service. Being responsible for supervising employees, helping with the training of new food workers, and seeing that work methods take account of sanitation and safety, food service supervisors have an important post in the dietary department of many nursing homes.

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Although people serving more or less in the capacity of food service supervisor have had a place in many nursing homes in the past, the position of food service supervisor, as the term is now used, is a relatively new occupation. In many places, specialized training for this position is a matter of learning on the job. But, in some parts of the Nation, vocational schools and junior colleges offer a special course in food service supervision. One-third of the food service supervisors covered by the U.S. Training and Employment Service survey had completed such training.

Table 7.—Food Service Supervisors
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor Accessions	
	March 1968	Percent part-time	Percent change 1967 to 1968	Percent change 1968 to 1969 (Est.)		Total	New hire
Total, U.S.	3,500	11.0	11.0	0.8	2.27	6.3	2.
Selected States							
California	500	17.6	1.9	6.7	2.76	12.1	6.
New York	100	0.0	10.3	2.1	2.98	5.9	3.
Texas	300	4.3	22.9	-21.7	1.70	2.1	0.
Massachusetts	200	9.4	0.0	28.9	2.59	1.9	0.
Ohio	200	8.5	7.7	11.6	2.10	1.3	1.
Illinois	200	0.4	22.5	-2.4	2.05	12.8	7.
Pennsylvania	100	7.9	8.6	14.3	2.32	0.0	0.
Michigan	100	28.0	4.2	-14.4	2.36	27.3	0.
Oklahoma	100	11.6	60.0	4.5	1.62	0.0	0.
Washington	100	41.2	19.8	-16.5	2.13	0.0	0.
Florida	50	0.0	14.3	9.4	2.45	5.9	5.
Connecticut	100	33.1	0.0	10.8	2.54	4.1	2.
Missouri	50	5.9	11.5	-4.4	2.38	1.4	1.
Wisconsin	50	5.0	7.1	0.0	2.95	1.6	1.
Minnesota	100	30.4	0.0	-30.4	1.85	2.5	2.
Indiana	100	0.0	50.0	15.5	2.31	0.0	0.
Iowa	50	0.0	0.0	0.0	1.93	0.0	0.

Source: Establishments covered by March 1968 survey conducted by the U.S. T
State employment security agencies.

Table 7.—Food Service Supervisors
Selected Manpower Data
U.S. Total and Selected States

ment				Labor turnover rates					Job vacancies			
	Percent change			Accessions		Separations					Percent open	
e	1967 to 1968	1968 to 1969 (Est.)	Average hourly wage rate	Total	New hires	Total	Quits	Lay-offs	Number	Rate	1-6 mo.	Over 6 mo.
	11.0	0.8	2.27	6.3	2.4	4.6	2.5	0.1	180	4.8	30.7	49.4
	1.9	6.7	2.76	12.1	6.4	8.9	8.2	0.0	10	2.2	0.0	100.0
	10.3	2.1	2.98	5.9	3.0	2.0	0.0	2.0	5	4.0	75.0	0.0
	22.9	-21.7	1.70	2.1	0.3	0.0	0.0	0.0	0	0.0	0.0	0.0
	0.0	28.9	2.59	1.9	0.0	1.9	0.0	0.0	10	7.0	25.0	75.0
	7.7	11.6	2.10	1.3	1.3	1.3	0.0	0.0	0	0.0	0.0	0.0
	22.5	-2.4	2.05	12.8	7.0	9.8	5.4	0.0	50	17.5	24.4	51.1
	8.6	14.3	2.32	0.0	0.0	0.0	0.0	0.0	10	6.7	100.0	0.0
	4.2	-14.4	2.36	27.3	0.0	16.7	0.0	0.0	20	15.0	0.0	100.0
	60.0	4.5	1.62	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	19.8	-16.5	2.13	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	14.3	9.4	2.45	5.9	5.9	4.5	0.0	4.5	10	12.3	0.0	0.0
	0.0	10.8	2.54	4.1	2.1	0.0	0.0	0.0	0	0.0	0.0	0.0
	11.5	-4.4	2.38	1.4	1.4	13.9	13.9	0.0	0	0.0	0.0	0.0
	7.1	0.0	2.95	1.6	1.6	0.0	0.0	0.0	5	1.6	100.0	0.0
	0.0	-30.4	1.85	2.5	2.5	2.5	2.5	0.0	0	0.0	0.0	0.0
	50.0	15.5	2.31	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
	0.0	0.0	1.93	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0

March 1968 survey conducted by the U.S. Training and Employment Service and affiliated agencies.

It takes a good size staff to run any large-scale food service. The number of people required and the extent to which each specializes on just one part of the work depend, of course, on the size of the nursing home and on its patients' needs. But whether the institution is large or small, the jobs that need doing cover the whole range of food preparation--storing, preparing, cooking, and serving, as well as dishwashing and kitchen cleaning. Every one of these jobs is an important link in making certain that high standards are maintained.

Although many food service occupations--particularly in storing and serving food--do not require any special training, a growing number of employers in the nursing home industry are providing comprehensive on-the-job training for their food service staff. Courses in nutrition, cooking, and sanitation may be offered as employees attempt to qualify for positions of increased responsibility. Large numbers of prospective food service employees also take advantage of many vocational education courses offered in this field.

Cooks and other food service workers as a group were second in number only to nurse aides among the selected occupations. The 10.6-percent increase in their employment between March 1967 and March 1968 plus the 2.6-percent gain anticipated to March 1969 will add another 4,600 employees to their ranks.

4/ See Industry Manpower Surveys/Number 115, "Eating and Drin of Labor, Manpower Administration, March 1969.

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Data from a recent U.S. Training and Employment Service survey of the Nation's eating and drinking places industry afford a comparison between employment characteristics of food service workers in restaurants and those in extended care homes. 4/ While wage rates paid to the two groups of workers appear to be relatively equal, substantial differences in the vacancy and labor turnover rates for the two industries are evident.

The vacancy rate for food service workers in the nursing home industry--4.0 percent--is almost one and a half times the comparable rate computed for restaurant employees. This divergence probably has been due to the faster growth rate of the nursing home industry and is reflected in its rate of employment increase which was more than two and a half times the comparable rate for the restaurant industry over the last two years.

On the other hand, turnover rates among food workers in nursing homes generally have been below those reported for restaurant workers. For example, the quit rate for restaurant employees was 7.0 percent while the comparable nursing home rate was only 4.0 percent. This lower turnover among nursing home food workers probably reflects that industry's lack of seasonal variations and its higher proportion of older staff members.

r Surveys/Number 115, "Eating and Drinking Places Industry," U.S. Department
dministration, March 1969.

Table 8.—Cooks and Other Food Service Workers
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor turn		
			Percent change			Accessions		
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires	To
Total, U.S.	37,500	11.4	10.6	2.6	1.68	8.3	5.2	6
Selected States								
California	5,600	25.8	8.8	3.0	1.99	8.4	6.9	7
New York	2,300	19.1	4.6	-1.2	2.18	9.1	7.1	7
Texas	2,400	14.4	9.7	11.5	1.25	4.8	2.2	3
Massachusetts	2,100	47.6	16.5	1.6	2.11	14.9	4.5	7
Ohio	1,700	25.7	10.9	-0.5	1.47	3.2	3.2	1
Illinois	1,700	14.8	10.4	2.0	1.70	10.5	4.8	7
Pennsylvania	1,500	34.6	1.8	3.8	1.59	4.2	3.1	5
Michigan	1,300	38.2	26.2	2.3	1.52	15.2	8.0	11
Oklahoma	1,600	12.8	9.9	4.5	1.21	0.8	0.8	
Washington	1,200	39.3	6.6	4.6	1.60	6.6	6.1	4
Florida	900	18.2	26.2	5.9	1.53	11.8	10.8	9
Connecticut	900	38.9	4.4	4.5	1.97	9.4	3.6	4
Missouri	1,000	24.0	7.9	2.5	1.51	2.4	2.0	6
Wisconsin	1,000	34.7	15.0	-1.0	1.75	3.6	3.6	6
Minnesota	1,000	52.5	8.5	-3.5	1.52	4.3	4.3	6
Indiana	700	32.3	24.6	24.6	1.50	8.7	8.7	4
Iowa	900	34.2	15.4	-13.5	1.38	8.7	7.4	4

Source: Establishments covered by March 1968 survey conducted by the U.S. Train
State employment security agencies.

ble 8.—Cooks and Other Food Service Workers
Selected Manpower Data
U.S. Total and Selected States

t change 1968 to 1969 (Est.)	Average hourly wage rate	Labor turnover rates: Accessions: Total	Accessions: New hires	Separations: Total	Separations: Quits	Separations: Lay-offs	Job vacancies: Number	Job vacancies: Rate	Percent open: 1-6 mo.	Percent open: Over 6 mo.
2.6	1.68	8.3	5.2	6.6	4.0	1.1	1,400	4.0	40.1	41.7
3.0	1.99	8.4	6.9	7.1	4.9	0.8	50	0.8	37.8	35.6
-1.2	2.18	9.1	7.1	7.2	4.5	2.8	30	1.1	69.2	11.5
11.5	1.25	4.8	2.2	3.0	2.9	0.2	30	1.1	30.8	0.0
1.6	2.11	14.9	4.5	7.1	1.9	1.4	130	5.7	55.5	41.4
-0.5	1.47	3.2	3.2	1.8	1.8	0.0	70	4.1	18.3	81.7
2.0	1.70	10.5	4.8	7.1	4.0	0.6	60	3.3	59.3	37.3
3.8	1.59	4.2	3.1	5.0	4.0	1.1	5	0.4	0.0	0.0
2.3	1.52	15.2	8.0	11.7	5.7	1.1	160	11.0	57.6	33.5
4.5	1.21	0.8	0.8	1.7	1.7	0.0	40	2.4	0.0	0.0
4.6	1.60	6.6	6.1	4.9	4.9	0.0	40	3.4	0.0	72.7
5.9	1.53	11.8	10.8	9.4	5.5	1.1	5	0.5	100.0	0.0
4.5	1.97	9.4	3.6	4.1	2.8	1.3	20	2.4	72.7	31.8
2.5	1.51	2.4	2.0	6.0	2.5	1.1	0	0.0	0.0	0.0
-1.0	1.75	3.6	3.6	6.9	6.9	0.0	5	0.4	100.0	0.0
-3.5	1.52	4.3	4.3	6.1	6.1	0.0	20	2.4	100.0	0.0
24.6	1.50	8.7	8.7	6.1	5.4	0.4	30	3.7	100.0	0.0
-13.5	1.38	8.7	7.4	4.7	4.1	0.7	10	1.4	75.0	25.0

8 survey conducted by the U.S. Training and Employment Service and affiliated

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Maintenance Workers

The maintenance staffs of extended care homes may include plumbers, electricians, carpenters, and others. Large maintenance staffs usually are headed by a chief engineer who is responsible for the repair, maintenance, and upkeep of equipment and buildings and grounds.

Qualifications for a nursing home engineer include an understanding of the facility's plant and equipment and familiarity with mechanical, electrical, and building repair jobs. High school graduation and considerable practical experience are also generally required by employers.

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While a number of surveyed nursing home employers stated that they contracted out for most of their maintenance work, new Federal and State requirements regarding nursing home facilities are making it increasingly necessary for each nursing home to have a full-time maintenance staff. More than 70 percent of the 8,700 maintenance workers covered by the survey were employed on a full-time basis. An additional 500 maintenance employees were being sought by employers at the time of the survey.

Table 9.--Maintenance Workers
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor	
			Percent change			Accession	
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hir
Total, U.S.	8,700	27.2	10.9	4.9	1.95	9.3	5.
Selected States							
California	1,400	27.5	4.7	7.6	2.22	7.9	6.
New York	800	29.2	11.4	0.4	2.24	10.6	8.
Texas	400	25.4	22.1	2.9	1.53	13.4	10.
Massachusetts	600	45.4	15.4	5.4	1.98	20.9	6.
Ohio	400	24.4	7.0	2.7	1.91	3.4	3.
Illinois	500	19.0	12.5	-1.2	1.86	7.8	3.
Pennsylvania	300	24.6	10.4	7.7	1.81	2.8	2.
Michigan	300	40.8	15.7	14.3	1.98	27.0	0.
Oklahoma	400	23.8	34.5	13.4	1.24	0.0	0.
Washington	300	35.0	23.1	-4.3	1.89	0.0	0.
Florida	200	17.0	5.6	2.9	1.71	6.8	5.
Connecticut	300	31.8	0.3	3.7	2.25	9.6	7.
Missouri	200	15.9	0.9	3.4	1.84	2.9	1.
Wisconsin	200	36.9	21.9	4.6	2.52	6.5	1.
Minnesota	200	26.6	2.3	5.1	1.95	5.9	5.
Indiana	100	32.2	-15.3	45.6	2.00	0.0	0.
Iowa	100	5.6	66.2	-24.1	1.50	0.0	0.

Source: Establishments covered by March 1968 survey conducted by the U.S. State employment security agencies.

Table 9.—Maintenance Workers
Selected Manpower Data
U.S. Total and Selected States

ent			Labor turnover rates					Job vacancies			
Percent change			Accessions		Separations					Percent open	
1967 to 1968	1968 to 1969 (Est.)	Average hourly wage rate	Total	New hires	Total	Quits	Lay-offs	Number	Rate	1-6 mo.	Over 6 mo.
10.9	4.9	1.95	9.3	5.7	7.3	4.6	1.1	500	5.5	46.7	26.9
4.7	7.6	2.22	7.9	6.6	6.9	5.5	0.6	60	3.8	7.1	42.9
11.4	0.4	2.24	10.6	8.2	9.8	7.8	2.2	30	3.9	45.2	45.2
22.1	2.9	1.53	13.4	10.6	9.1	8.6	0.5	30	7.5	90.3	0.0
15.4	5.4	1.98	20.9	6.9	7.7	2.8	2.6	30	4.7	88.9	11.1
7.0	2.7	1.91	3.4	3.4	0.8	0.8	0.0	20	4.9	0.0	68.4
12.5	-1.2	1.86	7.8	3.3	2.1	2.1	0.0	10	1.9	90.0	0.0
10.4	7.7	1.81	2.8	2.8	5.9	5.2	0.9	30	7.4	32.1	0.0
15.7	14.3	1.98	27.0	0.0	15.9	0.0	0.0	70	21.6	64.4	35.6
34.5	13.4	1.24	0.0	0.0	0.0	0.0	0.0	20	3.6	18.8	0.0
23.1	-4.3	1.89	0.0	0.0	10.4	10.4	0.0	5	1.4	0.0	0.0
5.6	2.9	1.71	6.8	5.5	3.3	3.3	0.0	5	0.5	100.0	0.0
0.3	3.7	2.25	9.6	7.5	0.9	0.9	0.0	20	5.6	78.9	15.8
0.9	3.4	1.84	2.9	1.3	10.4	2.2	3.3	0	0.0	0.0	0.0
21.9	4.6	2.52	6.5	1.4	0.0	0.0	0.0	5	1.4	33.3	66.7
2.3	5.1	1.95	5.9	5.9	5.9	0.5	5.3	10	6.3	100.0	0.0
15.3	45.6	2.00	0.0	0.0	8.6	8.6	0.0	10	8.6	0.0	0.0
66.2	-24.1	1.50	0.0	0.0	2.7	2.7	0.0	5	2.7	0.0	0.0

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Clerical Workers

Much clerical work is required in the operation of extended care homes. Medical records and reports must be typed and filed, financial details--including the sending out of bills, keeping track of payments, and ordering of supplies--must be managed, and the handling of patients' mail and transference of phone calls must be executed.

Occupations involved in carrying out these and many related duties range from the medical records librarian in a very large nursing home to one who does routine filing or mans a telephone switchboard in an average-size home. Obviously, the minimum preparation for each clerical occupation depends upon the complexity of work required. However, graduation from high school and an aptitude for office management and secretarial work are all that most establishments require for the majority of clerical jobs in a nursing home environment.

Recent passage of new health insurance and assistance programs has substantially increased the amount of paper work necessary in nursing home operations. Many new forms must be completed and sent to government agencies by the participating

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establishments. In order to meet these demands, homes which previously left most of their paper work to nursing personnel have had to assemble clerical staffs for the first time, while other homes have significantly added to the number of clerical workers they used to employ.

This trend was reflected in the March 1967-1968 survey data. Over that 1-year span, clerical worker employment increased by 11.6 percent--a gain surpassed only by licensed practical nurses, among the selected occupations. Especially large increments in State work forces were recorded in Oklahoma, Wisconsin, Florida, and Texas.

Many employers anticipated reducing their clerical staffs after much of the initial paper work connected with Medicaid and Medicare is completed. Of the 17 selected States, 8 anticipated declines in the number of clerical workers employed during the March 1968-1969 period. However, the total number of clerical workers still was expected to increase by 2.6 percent.

Table 10.--Clerical Workers
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor turnov		
			Percent change			Accessions		S
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires	Tota
Total, U.S.	9,800	24.1	11.6	2.6	2.12	7.5	3.0	4.4
Selected States								
California	1,700	26.4	9.9	6.9	2.45	5.2	3.4	2.6
New York	700	29.7	11.6	-0.4	2.48	4.7	1.9	1.5
Texas	800	12.1	28.7	10.5	1.92	3.4	3.4	3.9
Massachusetts	500	40.4	21.1	-1.4	2.13	22.3	1.9	1.4
Ohio	400	18.4	10.2	-1.0	2.09	0.7	0.7	0.0
Illinois	600	20.1	23.3	-6.7	2.08	7.2	4.8	2.8
Pennsylvania	300	21.8	18.7	3.8	1.99	5.7	5.7	4.2
Michigan	400	22.5	10.6	-10.6	1.95	13.3	1.0	9.2
Oklahoma	200	31.5	82.8	-15.0	1.61	1.3	1.3	0.0
Washington	200	24.6	11.9	12.7	2.31	3.9	2.4	2.4
Florida	300	8.1	30.1	17.4	1.94	6.2	6.2	5.4
Connecticut	200	19.1	4.2	3.6	2.42	12.1	7.4	7.4
Missouri	200	20.2	21.2	-10.8	1.84	0.9	0.9	11.5
Wisconsin	300	31.7	43.2	0.4	2.06	3.3	3.3	1.5
Minnesota	100	25.0	12.9	-6.5	2.09	2.7	2.7	2.7
Indiana	200	18.4	20.6	53.9	1.81	16.0	1.3	1.1
Iowa	100	13.6	0.0	22.7	1.79	0.0	0.0	0.0

Source: Establishments covered by March 1968 survey conducted by the U.S. Trainin
State employment security agencies.

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Table 10.--Clerical Workers
Selected Manpower Data
U.S. Total and Selected States

nt			Labor turnover rates					Job vacancies			
Percent change			Accessions		Separations					Percent open	
1967 to 1968	1968 to 1969 (Est.)	Average hourly wage rate	Total	New hires	Total	Quits	Lay-offs	Number	Rate	1-6 mo.	Over 6 mo.
11.6	2.6	2.12	7.5	3.0	4.4	1.9	0.3	300	3.0	37.1	38.1
9.9	6.9	2.45	5.2	3.4	2.6	1.0	0.3	60	3.2	22.8	28.1
11.6	-0.4	2.48	4.7	1.9	1.5	1.2	0.0	10	1.3	0.0	66.7
28.7	10.5	1.92	3.4	3.4	3.9	3.9	0.0	5	0.1	0.0	0.0
21.1	-1.4	2.13	22.3	1.9	1.4	0.2	0.0	10	1.8	0.0	100.0
10.2	-1.0	2.09	0.7	0.7	0.0	0.0	0.0	0	0.0	0.0	0.0
23.3	-6.7	2.08	7.2	4.8	2.8	0.7	1.9	5	0.7	100.0	0.0
8.7	3.8	1.99	5.7	5.7	4.2	3.9	0.3	0	0.0	0.0	0.0
0.6	-10.6	1.95	13.3	1.0	9.2	1.0	0.0	40	8.5	77.1	22.9
32.8	-15.0	1.61	1.3	1.3	0.0	0.0	0.0	0	0.0	0.0	0.0
1.9	12.7	2.31	3.9	2.4	2.4	2.4	0.0	40	3.2	2.7	86.5
0.1	17.4	1.94	6.2	6.2	5.4	4.6	0.9	5	0.9	100.0	0.0
4.2	3.6	2.42	12.1	7.4	7.4	7.4	0.0	0	0.0	0.0	0.0
21.2	-10.8	1.84	0.9	0.9	11.5	0.4	0.0	0	0.0	0.0	0.0
3.2	0.4	2.06	3.3	3.3	1.5	1.5	0.0	10	4.7	100.0	0.0
2.9	-6.5	2.09	2.7	2.7	2.7	2.7	0.0	0	0.0	0.0	0.0
20.6	53.9	1.81	16.0	1.3	1.3	0.7	0.7	0	0.0	0.0	0.0
0.0	22.7	1.79	0.0	0.0	0.0	0.0	0.0	10	17.5	100.0	0.0

rch 1968 survey conducted by the U.S. Training and Employment Service and affiliated
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In order to maintain extra high standards of cleanliness, a large number of housekeeping and laundry personnel are needed in nursing homes. Window and wall washing, floor polishing, general cleaning, and laundry services all take on special meaning where the old and sick are concerned.

Housekeeping and laundry staffs--which are headed by executive housekeepers and laundry managers in large homes--may include porters, maids, linen-room attendants, and clothes room workers. Department heads are called upon to establish work standards and methods, hire and

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and methods, hire and

train all housekeeping and laundry personnel, and inspect completed work to make sure that standards of cleanliness have been met.

Although many nursing homes contract out their laundry work, almost 1 of every 10 employees covered by the survey was a member of a housekeeping and laundry staff. More than 80 percent of these workers were employed on a full-time basis.

Earning an average of $1.54 an hour, the wage for housekeeping and laundry workers was 1 cent above the wage paid to nurse aides and orderlies, lowest among the selected occupations.

Table 11.—Housekeeping and Laundry Workers
Selected Manpower Data
U.S. Total and Selected States

Selected States	Employment				Average hourly wage rate	Labor turno		
			Percent change			Accessions		
	March 1968	Percent part-time	1967 to 1968	1968 to 1969 (Est.)		Total	New hires	Tot
Total, U.S.	23,900	18.0	10.8	5.0	1.54	8.5	5.3	6.
Selected States								
California	3,600	17.7	6.4	8.9	1.81	7.9	6.4	6.
New York	1,500	15.6	5.6	2.6	2.25	8.5	7.4	10.
Texas	1,600	13.8	6.8	10.8	1.23	7.2	6.5	4.
Massachusetts	1,100	29.2	14.3	-0.4	1.82	13.4	4.0	6.
Ohio	1,100	13.6	6.4	0.8	1.36	1.6	1.6	4.
Illinois	1,200	7.6	9.4	4.8	1.47	15.4	8.9	8.
Pennsylvania	1,000	21.6	8.2	11.2	1.48	8.5	8.5	6.
Michigan	800	21.8	21.2	11.0	1.50	18.1	4.0	12.
Oklahoma	600	8.2	24.7	4.2	1.16	4.5	4.5	4.
Washington	1,000	26.6	5.5	2.8	1.54	5.9	5.5	3.
Florida	700	10.6	11.6	3.7	1.22	9.3	9.2	7.
Connecticut	600	39.6	6.3	1.9	1.72	9.4	5.7	2.
Missouri	800	14.3	3.6	1.4	1.29	6.8	6.8	14.
Wisconsin	600	17.1	9.7	4.7	1.54	4.7	4.7	4.
Minnesota	500	36.9	14.9	-6.6	1.46	2.3	2.3	1.
Indiana	400	18.9	24.0	18.9	1.35	2.5	2.5	3.
Iowa	400	35.4	8.0	16.7	1.40	10.2	7.5	0.

Source: Establishments covered by March 1968 survey conducted by the U.S. Trainin
State employment security agencies.

able 11.—Housekeeping and Laundry Workers
Selected Manpower Data
U.S. Total and Selected States

nt change 1968 to 1969 (Est.)	Average hourly wage rate	Labor turnover rates: Accessions: Total	Accessions: New hires	Separations: Total	Separations: Quits	Separations: Lay-offs	Job vacancies: Number	Job vacancies: Rate	Percent open: 1-6 mo.	Percent open: Over 6 mo.
5.0	1.54	8.5	5.3	6.4	3.5	1.6	920	3.7	39.6	39.3
8.9	1.81	7.9	6.4	6.2	3.5	1.6	50	1.4	28.3	50.9
2.6	2.25	8.5	7.4	10.2	7.1	3.4	100	5.9	29.9	17.5
10.8	1.23	7.2	6.5	4.0	1.8	2.4	30	1.8	100.0	0.0
-0.4	1.82	13.4	4.0	6.3	1.3	3.9	50	4.3	38.0	38.0
0.8	1.36	1.6	1.6	4.3	3.0	1.4	60	5.3	20.3	34.4
4.8	1.47	15.4	8.9	8.4	6.5	0.9	140	10.2	46.8	48.9
11.2	1.48	8.5	8.5	6.2	6.0	0.2	60	5.6	45.6	40.4
11.0	1.50	18.1	4.0	12.4	3.5	0.0	80	8.9	12.3	87.6
4.2	1.16	4.5	4.5	4.6	4.6	0.0	10	2.0	100.0	0.0
2.8	1.54	5.9	5.5	3.9	3.5	0.0	20	2.4	0.0	66.7
3.7	1.22	9.3	9.2	7.2	4.3	3.0	5	0.7	100.0	0.0
1.9	1.72	9.4	5.7	2.5	1.6	1.0	10	1.7	36.4	63.3
1.4	1.29	6.8	6.8	14.2	6.9	1.8	10	1.8	0.0	0.0
4.7	1.54	4.7	4.7	4.2	1.9	2.3	5	0.8	80.0	20.0
-6.6	1.46	2.3	2.3	1.4	1.4	0.0	20	3.4	100.0	0.0
18.9	1.35	2.5	2.5	3.2	2.5	0.0	0	0.0	0.0	0.0
16.7	1.40	10.2	7.5	0.7	0.7	0.0	10	3.1	100.0	0.0

68 survey conducted by the U.S. Training and Employment Service and affiliated
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Definitions

Nursing or extended care home: For the purpose of this study, a nursing or extended care home is any institution such as a sanatorium, or convalescent or rest home in which medical or surgical services are not a main function.

Establishment: A single physical location where nursing and/or personal care are provided. An establishment is not necessarily identical with a company or firm which may consist of one or more separate establishments. The terms establishment, facility, and home have been used interchangeably in the tabulations.

Average hourly wage rate: Average hourly wage rates were determined for the Manpower Administration survey by obtaining an average wage for each occupation in each establishment, multiplying by the total employment in each occupation, and then adding these data together and dividing by the total employment by occupation.

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210, 211, 2

Maintenance
381.

Housekeepin
361, and 38

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e home: For the purpose
g or extended care home
as a sanatorium, or con-
in which medical or
t a main function.

e physical location where
care are provided. An
essarily identical with
may consist of one or
ents. The terms estab-
home have been used
abulations.

e: Average hourly wage
r the Manpower Admin-
aining an average wage
each establishment,
l employment in each
ding these data
y the total employ-

Dictionary of Occupational Titles Code Numbers Included under Selected Occupations

Nursing Staff

Professional nurse: 075.128 and 075.378.

Licensed practical nurse: 079.378-026.

Nurse aide and orderly: 355.878.

Food Service Workers

Dietitian: 077.118, 077.128, and 077.168.

Food service supervisor: 319.138-010.

Cook and other food workers: 310.138, 315.381, 317.887, and 318.

Supporting Personnel

Clerical worker: 201.368, 202.388-014, 203.588-018 204.288, 205, 206, 207, 208.588-026, 209.388, 209.588, 210, 211, 214, 215, 216, 219, 235.862-026, and 237.368.

Maintenance worker: 382, 840.781-010, 891.138, and 381.

Housekeeping and laundry workers: 321.138, 323.887, 361, and 381.

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Local Advisory Committees for Vocational Education in Ohio Public Schools.

Educational Research Associates, Columbus, Ohio.
Ohio State Advisory Council for Vocational Education
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ABSTRACT - To determine the extent to which local advisory committees are being used in connection with vocational programs in various Ohio school districts, questionnaires were mailed to 547 school districts, 56 vocational directors, 119 supervisors, and 3,364 teachers, and interviews were conducted with 75 superintendents, vocational directors, and committee chairmen. Analysis of the interviews and the 42 percent questionnaire return yielded these major conclusions: (1) The local advisory committees are important adjuncts to the instructional programs, but improvements are needed, (2) The extent to which local advisory committees are used appears to be related positively to the breadth and depth of vocational offerings, (3) In too many instances the local advisory committees and the schools they serve seem to be characterized by lethargy, indifference, and slipshod practices, (4) There appears to exist an undesirable level of confusion with regard to membership, functions, operating procedures, and other operation aspects, and (5) There appears to be more than an acceptable level of carelessness in the reporting about local advisory committees by school personnel.

VT 011 903

ED0 54390

Local Advisory Committees
For
Vocational Education In Ohio Public Schools

Report of a Special Study

Prepared for

The State Advisory Council For Vocational Education

By

A Five-Member Study Staff

EDUCATIONAL RESEARCH ASSOCIATES*
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May 1970

*A Division of COOPERATIVE EDUCATIONAL ENTERPRISES, INC.

VT011 903

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FOREWORD

At the request of the Executive Committee of the State Advisory Council for Vocational Education, the Directors of EDUCATIONAL RESEARCH ASSOCIATES prepared a written proposal for a statewide study of local advisory committees for vocational education. This proposal was presented by ERA to the Executive Committee at its meeting at the Sheraton Hotel, Columbus, Ohio on October 3, 1969. The proposal was approved by the Executive Committee at that same meeting, and the study was thus launched.

During the succeeding months, the field work of the study was carried out by ERA's Study Staff. A written progress report regarding the study was presented in person to the Advisory Council at its December 17, 1969 meeting. A second progress report was mailed to members of the Council on February 15, 1970.

Copies of a Preliminary Report of tentative findings and conclusions and a set of tentative tabular material were mailed to members of the Advisory Council on March 14, 1970 for study prior to the Council's meeting in Columbus on March 24-25, 1970. At the evening meeting of the Council (March 24) the Directors of the Study made a presentation in writing of the recommendations tentatively formulated by the Study Staff.

Following the presentation of the Preliminary Report and discussion at some length by the Advisory Council, the Study Staff moved ahead to the completion of its research and the final editing of the report manuscripts which are herewith presented.

The Directors of ERA are pleased with the study as it finally evolved and believe that the report will be of great interest and assistance to the State Advisory Council for Vocational Education as it pursues its established objectives. The report should be of help also to the Division of Vocational Education in Ohio's Department of Education as well as to the many educational leaders and vocational instructors throughout the State who have an assigned responsibility in this important phase of public education. Finally, the report should be of interest, concern, and value to the hundreds of Ohioans who give of their time, interest, energy, and ability in serving as members and officers of local advisory committees in the various school districts of the State.

The Study Staff is deeply appreciative of the cooperation of a number of groups and individuals who through the provision of information, the return of questionnaires, the granting of interview and conference time, and in other ways contributed to the success of the study. Special thanks are hereby given to members of the State Division of Vocational Education and to the members and officers of the State Advisory Council for Vocational Education.

It is the sincere hope of the Study Staff that the wealth of facts and opinions contained in this report will be studied and utilized in the immediate future for the benefit of job-preparation programs for the youth of Ohio.

Columbus, Ohio
May 10, 1970

W. R. Flesher
Marie A. Flesher

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CHAPTER 1

AN OVERVIEW OF THE STUDY: SCOPE, PURPOSES, AND PROCEDURES

The general setting for the study and the basic nature of the various aspects of the research project herein reported will be pictured in this opening chapter. These background considerations are important for an appreciation and understanding of the study efforts and outcomes. Necessary background information includes the geographical and topical scope of the study, the groups included in the project, the general and specific purposes of the effort, and the various study procedures utilized by the Study Staff.

Scope of the Study

For the reader to comprehend more meaningfully the results of this special study, he must be aware of the geographical locale of the effort, the various groups and components included in the project, and the limits placed upon the inclusions of the research.

The study of local advisory committees for vocational education included the entire state of Ohio. In a few instances advisory committee members contacted lived in a neighboring state such as Michigan or Kentucky but were serving an Ohio school district. Not all of Ohio's 639 regular school districts were included, however. Only those regular school districts were included which had, according to the State Division of Vocational Education, one or more reimbursed high school vocational programs with a job-preparation objective. Included in the regular school districts were the city, exempted village, and local school district categories. All 37 joint vocational school districts which had been approved at the State level and at the respective local levels as of September 1969 were included, at least in the initial contacts made by the Study Directors.

The job-preparation programs for the five recognized vocational services at the secondary school level were included: agriculture, business and office education, distributive education, home economics (wage-earning programs only), and trade and industrial education. Excluded were the regular home economics programs, the programs designated as OWE (Opportunity Work Experience) and OWA (Opportunity Work Adjustment), programs of adult education, and post-secondary (usually designated as "technical") programs.

The groups included in the study were school superintendents in the involved districts; vocational directors, supervisors and coordinators; vocational teachers; and members of local advisory committees for the various vocational programs. The reader should be cautioned at this point to remember that NOT ALL school superintendents were contacted but only those in districts having reimbursed high school vocational programs with the major purpose of providing job preparation. With the exceptions described later, all vocational personnel were included. Included as members of local advisory committees for vocational education were ONLY those for whom the Study Office was able to secure names and usable mailing addresses.

Included in the group of local advisory committees for vocational education were both general and occupational (or craft) advisory committees. A general advisory committee is one that works with the top administrative personnel of the school (or school system), advising with respect to the total vocational preparations effort. The occupational (or craft) committee, on the other hand, assists with a specific program of vocational preparation; for example, machine shop, child care, or high speed stenography. Such a committee works with the instructor(s) of the specific preparation program.

Purposes of the Study

One major purpose of the study was to discover the extent to which local advisory committees are being used in connection with the local vocational programs in the various school districts of Ohio. This was largely a quantitative purpose and included such items as the size of the committees, how they were selected, the frequency of meetings, and kindred matters.

A second major purpose was to secure opinions from both the educational personnel and the lay persons on the committees as to how much and in what aspects of the program of vocational education these committees were being of assistance. This purpose was more centrally qualitative and included such aspects as the preparation program itself, the placement and follow-up of the graduates of the program, the extent to which the school program was meeting the respective employment needs of business and industry and also the needs of youth for programs of preparation for employment, and the extent to which the membership of the committees was representative of employer and employee groups. Information was sought also as to the extent to which committee membership was appropriately representative of community minority groups.

Additional purposes involved such things as cooperation between the schools and the advisory committees, communication as evidenced by the recording and distribution of committee minutes, and committee preparation and distribution of reports of studies dealing with employment needs, innovations in preparation programs, or other aspects of vocational education.

The State Advisory Council for Vocational Education, sponsors of the study being herein reported, have the belief that the system of local advisory committees is essential to the success of the State's programs of vocational education and the Council hypothesizes that the better the system of local advisory committees in a given school or school district, the better the vocational programs being offered in that school or school system. The Advisory Council was desirous of securing some data to test this hypothesis.

The format of the study design was such as to discern both the strengths and the weaknesses of the system of local advisory committees for vocational education in Ohio, with the thought that by correcting discernible weaknesses the system of local advisory committees could be improved and thus, the Council believes, the preparation programs for the world of work could be improved.

Procedures Utilized in the Study

The two major forms of data gathering used in the study were the interview and the questionnaire. These were supplemented in a somewhat minor way by a

scrutiny of the rather limited field of published literature in regard to local advisory committees, an analysis of a sample of committee minutes from Ohio committees, and an examination from a very limited sample of committee publications provided the Study Office by a few of Ohio's local advisory committees.

Since the central focus of the study was the local advisory committee for vocational education, the first important procedural step was to secure information about such committees, particularly the names of the members of the committees. Nowhere in the State Department of Education or its Division of Vocational Education or anywhere else was there any semblance of a composite list of local advisory committees or their membership rosters. This meant that one must attempt to secure this type of information from the local school districts throughout Ohio. And one must exclude from the various districts any which had no vocational programs with the job-preparation objective.

The Study Staff secured from the State Division of Vocational Education the names of all school districts with vocational programs falling within the scope of the study. A cover letter and sample form for reporting committee rosters and related information were prepared and mailed by ERA on December 5, 1969 to a total of 550 Ohio school districts. The request went to all 37 joint vocational school districts, to 148 of the 170 city school districts, to 35 of the 50 exempted village school districts, and to 330 of the 419 local school districts.[1] Only one county (Carroll) was not represented by the 330 local school districts included in the study, but that county was represented by one of the 35 exempted village school districts in the study. Thus, the total of 550 school districts contacted in the study represented wide coverage (81 per cent) of the 676 public school districts of Ohio, including the 37 joint vocational school districts.

In order to avoid duplication of request for membership lists, it was decided by the Study Directors to send the request to the top vocational administrator in those districts having, according to the State Division of Vocational Education, directors of vocational education and to the school superintendents in all other districts to be contacted. Thus the request for advisory committee rosters was sent to vocational directors in 56 school districts and to school superintendents in the remaining 494 school districts.

In Table 1.1 is shown the response to the ERA request of December 5, 1969 one month after sending the request and the response two weeks after that. It can be noted that after one month the response was only 23 per cent and after six weeks it was only 27 per cent. In view of this low level of cooperation after the lapse of this much time and in view of the fact that committee names could be secured only from the local districts, the Study Directors modified their study procedures and included in every questionnaire subsequently sent to the vocational teachers throughout the State a sample form and the request for the individual teacher respondent to send to the Study

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[1]The list of joint vocational schools was provided to ERA by the State Division of Vocational Education; the lists and identifications of the regular school districts were taken from the State Department of Education's Ohio Educational Directory, 1969-70.

TABLE 1.1

RESPONSE TO THE DECEMBER 5, 1969 REQUEST* TO OHIO PUBLIC SCHOOL DISTRICTS WITH ONE OR MORE VOCATIONAL PROGRAMS WITH THE WAGE-EARNING OBJECTIVE

Response	Type of district				Total
	JVS (N=37)	City (N=148)	Ex. Vill. (N=35)	Local (N=330)	(N=550)
As of January 5, 1970					
Reported that the district has one or more local advisory committees	7	21	3	18	49
Reported that the district has no local advisory committee, but is cooperating with the area JVS or with other schools in the county which have committees	--	4	5	29	38
Reported having no local advisory committee for vocational education	3	7	4	26	40
Total response	10	32	12	73	127
Per cent return by January 5	27	22	34	21	23
As of January 19, 1970					
Reported having committee	11	26	3	21	61
Reported no committee, but part of JVS or group that has committee	--	5	5	29	39
Reported having no committee	4	11	4	27	46
Total response	15	42	12	77	146
Per cent return by January 19	41	28	34	23	27

Source: Records of the Study Office.

*ERA asked for membership lists of local advisory committees for vocational education.

Office a list of the members of his advisory committee. This approach, of course, resulted in the Study Office's receiving a rather large number of duplicate lists of committee members. These duplications had to be carefully checked in order to try to avoid contacting more than once members of these committees. This procedure did, however, increase the feedback to the Study Office of necessary information concerning the names and addresses of committee members. At the close of the study, teachers had provided only about one-fifth of the total committee lists; but often the teachers gave the Study Office the lists long ahead of their receipt from someone in the school's central office. The important fact is that by using vocational teachers as a source of committee names and addresses, the Study Office secured one-fifth MORE committee lists than they would have otherwise.

The December 5, 1969 request by ERA asked also that the respondent (school superintendent or vocational director) identify on the committee rosters the chairman and secretary of each advisory committee. This part of the request was very largely ignored by the respondents even though many returned committee lists. The names of these officers of committees were a necessary part of the study data since, by contract, the secretaries were to be contacted in order to secure a sample of committee minutes and copies of reports published and distributed by advisory committees. Furthermore, the design of the study called for interviews with a sample of committee chairmen. To help offset this failure on the part of administrators to provide the requested information regarding committee officers, the Study Office did two things. First, on the questionnaires to vocational supervisors and coordinators of trade and industrial education, a request was made (and a form provided) for the names of advisory committees and the names and addresses of the chairman and secretary of each committee. The second attempt to secure this needed information (and a more fruitful approach) was to include in the questionnaires to members of local advisory committees an item asking if the respondent was a committee chairman or secretary.

A number of references have already been made in this chapter to the use of questionnaires in the study. The writers will now provide some additional general information about this important data-gathering phase of the study procedures. Five different (but quite similar) forms of a highly structured questionnaire were developed for this special study. These separate forms were used with school superintendents (in the districts having vocational programs falling within the scope of the study), vocational directors, vocational supervisors and T & I coordinators, teachers and teacher-coordinators, and members of local advisory committees. Each questionnaire was accompanied by a cover letter from the Study Director, which explained the sponsorship of the study and its major purposes; and a postage-free return envelope was provided.

In Table 1.2 is a summary of the professional (educational) personnel in Ohio to whom were mailed ERA questionnaires and the number of these who responded. As can be seen, school superintendents and vocational directors were the most cooperative respondents. Teachers were by far the most unresponsive of the four groups of educational personnel in returning study questionnaires--more than 60 per cent failed to answer. Similar data regarding the questionnaires to members of local advisory committees will be presented in Chapter 2 of this report.

TABLE 1.2

OVERALL SUMMARY OF THE NUMBER OF QUESTIONNAIRES SENT TO AND RETURNED BY SCHOOL PERSONNEL IN THE 550 SCHOOL DISTRICTS

Item	Type of questionnaire								Total	
	Superintendent		Director		Supervisor		Teacher			
	No.	%	No.	%	No.	%	No.	%	No.	%
Number sent	547*	--	56	--	119	--	3,364**	--	4,086	--
Number returned	390	71	39	70	61	51	1,241	37	1,731	42
No response or unusable response #	157	29	17	30	58	49	2,123	63	2,355	58

Source: Records of the Study Office and returned ERA questionnaires.

*Three of the 37 JVS superintendents are also serving as superintendents of other school districts included in the study; therefore, the net number is 547 instead of 550.

**Exclusive of 13 questionnaires which were returned unopened as "undeliverable."

#There were 55, or slightly more than 1 per cent, of the returned questionnaires which were unusable. This means that more than 50 per cent of the professional personnel did not return their questionnaires even though each of the four forms for the groups of school people included a short section to be completed by persons serving in a school district which did not have any advisory committees to assist with the vocational programs of the district.

By contract with the State Advisory Council for Vocational Education, ERA agreed to conduct individual interviews with 5 per cent of the school superintendents whose districts were involved in the study, 5 per cent of the vocational directors and supervisors in Ohio, and 5 per cent of the chairmen of local advisory committees identified as falling within the scope of the study. It was decided to interview school superintendents in only those districts having one or more local advisory committees and in all cases of interviewed personnel to confer only with those who had sufficient interest to return a study questionnaire.

Two members of the Study Staff (one for northern Ohio and one for southern Ohio) interviewed a total of 65 individuals. Table 1.3 shows the distribution of this total group by type of school district and by the group represented. The totals shown in the last column of Table 1.3 reflect the application of the 5 per cent sample stipulated in the contract between ERA and the State Advisory Council for Vocational Education with respect to the number of persons to be interviewed as a part of the study procedures.

TABLE 1.3

DISTRIBUTION OF THE 65 INDIVIDUALS INTERVIEWED IN THE STUDY

Group	Type of school district				Total
	JVS	City	Ex. Vill.	Local	
School superintendents	10	9		8	27
Vocational directors and supervisors	4	4	1		9
Committee chairmen	13	14		2	29
Total	27	27	1	10	65

Source: Records of the Study interviewers.

ERA agreed also to examine copies of minutes of 5 per cent of the local advisory committees over the past two years, provided such copies were delivered to the Study Office. In addition, ERA was obligated by contract to examine any local advisory committee publications prepared and distributed in recent years, provided such copies were delivered to the Study Office. As might be expected, items in the latter category appeared to be characterized by their scarcity.

The attempts to secure copies of minutes and published reports were made by letters of request sent to all secretaries of local advisory committees for whom names and usable mailing addresses could be secured.

Some Conclusions from Chapter 1

1. With respect to the first ERA request (December 5, 1969), the level of cooperation from the 550 Ohio school districts reportedly having vocational programs of the type falling within the scope of the study was very poor, for after six weeks only 27 per cent had responded to the request for lists of advisory committee members assisting with their vocational programs.

2. Somewhat surprisingly almost one-half of the responding school districts (all of which had one or more reimbursed high school vocational programs) reported that they had no local advisory committees for vocational education.

3. Vocational teachers appeared to be the most disinterested group among the school groups in returning the study questionnaires dealing with local advisory committees for vocational education, more than 60 per cent having failed to reply.

4. Administrative respondents (school superintendents and vocational directors) were very remiss in not indicating the committee officers when sending committee rosters despite ERA's specific and high-lighted request for such identification.

5. The limiting of the study with respect to groups contacted, types of advisory committees included, percentages of personnel to be interviewed, etc. did not appear to have lessened the value of the study in any respect.

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CHAPTER 2

CERTAIN QUANTITATIVE DATA REGARDING LOCAL ADVISORY COMMITTEES

In Chapter 1 the writers emphasized the necessity of ERA's going to Ohio school districts (joint vocational school districts, city school districts, exempted village school districts, and local school districts) to secure information about local advisory committees for vocational education. As pointed out there, this was required since there was nowhere in Ohio any composite information about such committees: number, memberships, meetings, minutes, reports, and the like.

Since the local advisory committee was the central focus of the statewide study being herein reported, the writers believe that the presentation of an entire chapter dealing with certain quantitative data about such committees is justified and that such a chapter should come early in the report. Additional material of a more qualitative nature concerning local advisory committees, including analyses of the questionnaire responses of committee members, will be presented in Chapter 3 along with similar analyses of the questionnaire responses from the various groups of school personnel. Chapter 2, therefore, should serve well as background for that portion of the succeeding chapter dealing with the questionnaire responses from local advisory committees.

The Prevalence in Ohio of Local Advisory Committees

The discussion about study procedures in Chapter 1 pointed out the difficulty in securing early and adequate responses from school superintendents and vocational directors in terms of rosters of advisory committee members, necessitating a direct approach by mail to the vocational teachers themselves. The Study Office early determined that there were 550 school districts in Ohio having during the current school year one or more vocational programs coming within the purview of this study.

A summary of the 550 school districts in terms of information finally reported to the Study Office as to whether or not a school district had advisory committees was compiled after the cut-off date for data analysis (the last week in March, 1970) and is shown in Table 2.1.

From the data in Table 2.1, it can be concluded that practically all of the operating joint vocational schools and the large city school districts tend to have local advisory committees, but that only about one-fourth of the remaining 527 school districts appear to have any such committees. It is of interest to note in Table 2.1 that, despite poor cooperation in the early efforts to secure information about advisory committees, in the end information was received by ERA from 94 per cent of the 550 school districts included in the study. This achievement, however, came only as a result of changing the procedures with countering and supplementary requests for the information. In Table 2.1 and some subsequent tables, the data are presented in terms of two subgroups of JVS's and two subgroups of city school districts. This, it is hoped, will make the data more meaningful to the reader.

TABLE 2.1

AN OVERALL SUMMARY OF THE 550 OHIO SCHOOL DISTRICTS IN TERMS OF THEIR HAVING REPORTED ADVISORY COMMITTEES

Item	JVS		City		Ex. vill.	Local	Total	
	In operation	Not operating	Large	Other			No.	%
Submitted committee(s):								
a. Questionnaires mailed to members	14	5	8	53	9	64	153	27
b. Usable addresses not provided				2		1	3	1
Total with committee	14	5	8	55	9	65	156	28
No evidence of representative advisory committee:								
a. Submitted names, but all were school personnel, and hence not a representative committee	1	1		2	1		5	1
b. Some of the returned questionnaires reported committee, but no list was ever sent		4		19		22	45	8
c. Superintendent said his district had no local committee but was cooperating with a JVS district				4	4	28	36	7
d. Superintendent said ther was no local committee		4		7	3	22	36	7
e. Additional districts for which none of the returned questionnaires reported any committees		5		48	15	169	237	43
Total of these other reporting districts	1	14		80	23	241	359	66
No response to any ERA request to the district		3		5	3	24	35	6
Total number of districts	15	22	8	140	35	330	550	100

Source: Records of the Study Office and returned ERA questionnaires.

NOTE: The "large" cities are the eight having more than 100,000 population each.

Table 2.1 (just presented) shows that there were 156 Ohio school districts for which the data from a variety of sources indicated the existence of local advisory committees. The number of such committees varied a great deal among the 156 school districts. In Table 2.2 is summarized the information about the number of advisory committees in the 156 school districts reportedly having such committees.

Table 2.2 reflects the rather wide range in the number of local advisory committees in all the different types of Ohio school districts. It can be observed that more than one-half of the total group of districts have only one committee for the school district. The local school districts are the greatest contributors to this fact. It is also obvious in this table that the larger numbers of advisory committees are found in the joint vocational schools or in the eight large cities of Ohio. It is true, however, that only 10 per cent of the total group of school districts have 10 or more committees per district.

TABLE 2.2

NUMBER OF COMMITTEES REPORTED* BY THE 156 REPORTING SCHOOL DISTRICTS

Number of committees	JVS		City		Ex. vill.	Local	Total	
	In operation	Not operating	Large	Other			No.	%
1		3	1	24	7	53	88	57
2	1			7	1	8	17	11
3				7		1	8	5
4				4		2	6	4
5	3			5**			8	5
6 - 10	1		2	7	1	1	12	8
11 - 15	3	1	2	1			7	4
16 - 20	5		2				7	4
21 - 25	1	1	1				3	2
Total	14	5	8	55	9	65	156	100

Source: Records of the Study Office.

*Some of the districts reported committees which were not relevant to the present study; these are not included in the table.

**Two of these city districts reported that they shared the 5 committees reported by their vocational director (whose name, incidentally, was not on the roster of vocational directors given ERA by the State Division of Vocational Education).

NOTE: The "large" cities are the eight having more than 100,000 population each.

Sources of Reported Committee Information

As indicated earlier in this chapter and in Chapter 1, teachers of vocational subjects were asked by ERA to assist in providing names and addresses of advisory committee members that assisted with their respective instructional programs. Obviously many of the committee lists returned by teachers had been previously, or were subsequently, reported by someone in the school system's central office in response to the December 5, 1969 ERA request for this information.

Table 2.3 has been prepared to show the number of committee rosters which were received by the Study Office from members of the central office of the school system and the number of committee rosters provided to ERA only by vocational teachers.

TABLE 2.3

SOURCE OF COMMITTEE ROSTERS PROVIDED TO THE STUDY STAFF

Source of information	JVS		City		Ex. vill.	Local	Total	
	In operation	Not operating	Large	Other			No.	%
Superintendent	16	1		10	2	7	36	6
Vocational director	113	15	71	96	7	7	309	52
Other central office personnel	30	23	26	20		27	126	21
Teacher only	27		11	36	7	45	126	21
Total number of committees	186	39	108	162	16	86	597	100

Source: Records of the Study Office.

NOTE: There were 14 of the above 597 committees whose members were not sent questionnaires; seven with a total of 42 members were received too late for questionnaires to be mailed out and returned in time for the responses to be included in the data, and seven with a total of 41 members had either no addresses or inadequate addresses. Two of these 14 committee lists were returned by operating joint vocational school districts, two by large city school districts, seven by smaller city districts, one by an exempted village district, and two by local districts.

The procedural advantage of going to teachers for committee rosters in order to bolster the information requested earlier from school superintendents and vocational directors is reflected in Table 2.3 by the fact that almost one-half (42 per cent of the rosters) were provided to ERA by educational personnel other than those originally requested to do so and that 21 per cent of the total number of committee rosters came ONLY from teachers.

In Table 2.4 are summarized additional data related to the source of information about advisory committees. The data came from school administrators.

TABLE 2.4

NUMBER OF COMMITTEES REPORTED BY SUPERINTENDENTS AND VOCATIONAL ADMINISTRATORS

Number of committees	Per cent of the respondents		
	Superintendents*	Directors*	Supervisors**
One	47	8	16
2 - 5	28	24	44
6 - 10	12	24	26
11 - 20	8	32	8
More than 20	5	12	6
Number responding	119	34	50

Source: ERA questionnaires returned to the Study Office.

*Reporting for the total school district.

**Reporting for the respondent's vocational service.

Types and Sizes of Reported Local Advisory Committees

The majority of the committees reported may be classified as occupational (or craft) committees since they assist primarily with the program of preparation for a single, specific type of employment. There were, however, a number of school districts which reported having general committees. In some cases this was the only committee reported; in other cases it was in addition to one or more occupational committees. As the name implies, and as defined in Chapter 1, the general committee assists with the school district's total program of vocational preparation and not with any specific type of job training.

In Table 2.5 is shown the number of the reported committees of this general type as well as the number related to each of the five vocational services. The total number of trade and industrial education committees is greater than the total for the four other services combined. This will not appear strange when later in this chapter the number of committees will be related to the number of assigned vocational units for the various services. It is evident from this table that the great bulk of the advisory committees identified in this study are in the joint vocational schools and the large cities. Throughout this report the tabular material will reflect the low quantitative position of the exempted village type of school district. This is understandable, for there are only 50 such districts in the whole State and they are all small (not over 5,000 total population each) and consequently tend to have small high school centers.

Additional tabulations revealed that 94 per cent of the teachers who reported having committees indicated that these committees served only their own individual school districts and that 57 per cent of their committees were multi-occupational ones.

TABLE 2.5

ADVISORY COMMITTEES REPORTED, BY TYPE OF COMMITTEE AND TYPE OF SCHOOL DISTRICT

Type of committee	JVS		City		Ex. vill.	Local	Total	
	In operation	Not operating	Large	Other			No.	%
General	5	4	5	14	2	12	42	7
Agriculture Education	27	5	2	4	5	28	71	12
Business Education	25	8	20	29	2	13	97	16
Distributive Education	12	1	7	16	3	6	45	8
Home Economics Education	15	3	8	13	1	12	52	9
Trade and Industrial Ed.	102	18	66	86	3	15	290	48
Total number of committees	186	39	108	162	16	86	597	100

Source: Records of the Study Office and returned ERA questionnaires.

Not all school districts which have vocational education offer programs in all five of the vocational services. From the open-face table which follows, it can be seen that 40 per cent of the 156 school districts reporting advisory committees have educational programs in only one or two of the five vocational service areas. At the other extreme, there are only 11 per cent of the 156 school districts offering instructional programs in all five of the vocational services. (Only job-training programs in home economics were included in this study.)

Number of services in which the district has programs	Per cent of districts which reported committees
One	21
Two	19
Three	30
Four	19
Five	11

There was considerable variation in size (number of members) among the 597 committees reported. The general committees ranged in size from 2 to 46 members, with the median size being 10 members. The occupational committees ranged in size from 1 to 39, with a median of six members. In Table 2.6 is shown a summary of committee sizes for each type of advisory committee.

It is undoubtedly appropriate in most instances for general committees to have more members than occupational committees because of the differences in purpose of the two kinds of committees. Knowledge about "group dynamics" and small-group action would suggest that committees, to be effective, not exceed 12-15 members.

TABLE 2.6

SIZES OF THE TWO TYPES OF ADVISORY COMMITTEES AS REPORTED BY 156 OHIO SCHOOL DISTRICTS HAVING COMMITTEES

Number of members	Per cent of the committees which are	
	General	Occupational (or craft)
No more than 3	21	42
6-10	33	45
11-15	19	10
16-20	10	2
More than 20	17	1

Source: Records of the Study Office.

In Table 2.7 is presented a summary of data regarding the average number of members of general and occupational committees as reported by school superintendents and by vocational directors. Again it is evident that, on the average, the general committees tend to have larger memberships than do the occupational committees. Once more the writers would express a caution about the very large advisory committee. With a large committee, there may be a tendency for the group to "split" into subgroups in order to make progress; then, there results the task of "coordinating" the results and efforts of the subgroups. And this can militate against cohesive operation.

TABLE 2.7

AVERAGE NUMBER OF MEMBERS REPORTED FOR ADVISORY COMMITTEES

Average number of members	Per cent of respondents			
	General committee		Occupational committee	
	Superintendents	Directors	Superintendents	Directors
No more than 3	4		10	3
4 - 6	33	28	55	54
7 - 10	36	31	29	40
11 - 15	19	28	6	3
More than 15	8	13		
Number responding	85	29	69	30

Source: ERA questionnaires returned to the Study Office.

In Table 2.8 is presented one additional set of data regarding the size of existing advisory committees. In this table is summarized the information given by vocational teachers and by advisory committee members themselves. Data for both occupational and general committees are included since it was not possible to separate them for this table. It can be assumed, however, that the date reported by teachers is almost wholly about occupational committees. Since data from the committee members included the general as well as the occupational committees it is not surprising that larger per cents of the committee members responded for the higher number categories of committee membership than was true of the teachers for these same categories.

TABLE 2.8

SIZE OF ADVISORY COMMITTEES ACCORDING TO TEACHERS AND COMMITTEE MEMBERS

Number of members	Per cent of respondents	
	Teachers	Committee members
No more than 3	9	4
4 - 6	46	36
7 - 10	32	32
11 - 15	10	18
More than 15	3	10
Number responding	332	859

Source: ERA questionnaires returned to the Study Office.

Some additional information regarding the size of local advisory committees came from the vocational supervisors and coordinators of trade and industrial education. The number responding was 50. The majority of this group reported that there were no more than five advisory committees for their respective vocational services and that the average number of members is as shown in the following open-face table.

Average size of committee	Per cent indicating
4 - 6	51
7 - 10	41
11 - 15	2
Over 15	6

While the advisory committee members themselves reported a wide variety of sizes for their committees, they were almost unanimous in indicating that the "size was about right." Only 5 per cent said their committees were too large, and an equal percentage said their groups were too small.

In Table 2.1 it was shown that there were 359 (of the total of 550 districts) for which it was concluded by the Study Staff that they had no advisory committees although they reportedly had reimbursed vocational programs for job preparation at the high school level. In the questionnaires to school personnel, ERA asked first of all if the school district had local advisory committees. If the response was "No," the respondent was asked if he felt such committees were needed; and if so, what size he would recommend for such a committee. These data are summarized in Table 2.9 for 828 respondents. For the total group the modal response fell in the 5-member category. It is quickly obvious that these respondents tended to stay away from the large committee size, only slightly over 3 per cent recommending committees larger than 10 members.

TABLE 2.9

OPINIONS REGARDING RECOMMENDED AVERAGE SIZE OF A LOCAL ADVISORY COMMITTEE FROM RESPONDING SCHOOL PERSONNEL WHO SAID THEY DID NOT NOW HAVE SUCH A COMMITTEE

Desirable number of members for the committee	Per cent of respondents			
	Superintendents	Vocational administrators	Teachers and teacher-coordinators	Total
Fewer than 5	19	14	20	19
5	45	14	46	46
6 - 10	28	72	32	32
11 - 15	7		2	3
Over 15	1			*
Number responding	114	7	707	828

Source: ERA questionnaires returned to the Study Office.

*Less than 0.5 per cent.

Relationship of Committees and Vocational Programs

In the immediately preceding section of this chapter, it appeared that the vocational service of trade and industrial education might have a disproportionately large number of local advisory committees (see Table 2.5). Data presented now in this section on relationship will help to measure the validity of such a conclusion.

Table 2.10 has been prepared to enable the reader to compare the percentage of the 156 school districts having vocational programs in each of the services with the percentage of these districts having advisory committees related to each vocational service. A look at the data in Table 2.10 reveals quickly that the districts with trade and industrial education programs do not tend to have advisory committees as frequently (proportionately speaking) as do districts with programs in agriculture and in job-preparing programs of home economics.

TABLE 2.10

COMPARISON, BY VOCATIONAL SERVICE, OF THE NUMBER OF THE 156 REPORTING DISTRICTS HAVING VOCATIONAL PROGRAMS AND THE NUMBER HAVING RELATED ADVISORY COMMITTEES

Vocational service	Number of the 156 districts having		% with related committee(s)
	Program(s) in this service	Committee(s) related to this service	
Agriculture	72	52	72
Business and office	118	59	50
Distributive	86	41	48
Home economics*	53	39	74
Trade and industrial	95	58	61

Source: State Division of Vocational Education and records of the Study Office.

*Reference is only to the job-training programs in home economics.

Table 2.11 shows, for the five vocational services as well as for the four types of school districts, the percentages of the TOTAL vocational units for the 1969-70 school year which were assigned by the State Division of Vocational Education to the 156 school districts which reported lists of committee members to the Study Office.

TABLE 2.11

PERCENTAGE OF THE 1969-70 VOCATIONAL UNITS ASSIGNED TO SCHOOL DISTRICTS WHICH REPORTED ONE OR MORE ADVISORY COMMITTEES

Type of school district	Percentage of the vocational units assigned to districts reporting advisory committees					
	Agric.	Bus.	D. E.	H. Ec.*	T & I	Total
Joint vocational	96	100	100	100	96	97
City	46	72	62	87	81	73
Exempted village	29	40	44	50	37	41
Local	20	31	30	64	61	33
All schools with these vocational programs	34	60	58	85	82	69

Source: State Division of Vocational Education.

*These refer to only job-training programs in home economics.

Since Table 2.11 is included in the report to show the extent to which the total vocational units approved by the State for the current school year are assigned to the various school districts which reported advisory committee membership lists to the Study Office, it is important that the reader be able to interpret its data correctly. The writers believe that an interpretative example is, therefore, warranted. The reader will note the percentage figure of "96" for the agriculture vocational units as related to the joint vocational schools. This means that of the TOTAL number of agriculture units approved by the State for all joint vocational schools this school year, the JVS's reporting committees to ERA have 96 per cent of the total.

Table 2.12 provides still another -- and quite important -- comparison: that between the number of vocational units and the number of committees, by vocational service and by type of school district. Despite the fact, as pointed out earlier in this chapter, that trade and industrial education had more advisory committees reported than the total of the four other vocational services, in terms of the calculated ratios it is exceeded by both the agriculture and home economics (job-preparation programs) ratios. In regard to the type of school district, the JVS's and exempted villages have more committees when compared to the number of vocational units assigned to them.

TABLE 2.12

RATIO OF THE NUMBER OF COMMITTEES TO THE NUMBER OF VOCATIONAL UNITS, BY SERVICE AND TYPE OF DISTRICT

Type of district*	Ratio** of committees to vocational units					
	Agric.	Bus.	D. E.	H. Ec.	T & I	Total
Operating joint vocational	.54	.26	.40	.47	.35	.37
City -- large	.15	.12	.11	.19	.20	.18
City -- others	.24	.20	.21	.52	.28	.29
Exempted village	.56	.18	.75	.50	.26	.43
Local	.48	.15	.25	.67	.18	.31
All districts reporting committees*	.45	.17	.23	.41	.27	.28

Source: Calculations by the Study Staff based on data from the State Division of Vocational Education and records of the Study Office.

*The five joint vocational schools which were not yet operating and their 39 reported committees are not included in the data in the above table since vocational units had not yet been assigned to these schools.

**Expressed as a decimal (a per cent without the % sign).

Advisory Committee Members' Response to Questionnaire

Of the total of 597 committee membership lists submitted to the Study Office there were 583 which provided usable addresses and were received in time to be used in the mailing of questionnaires to committee members. Table 2.13 summarizes the number of questionnaires sent by ERA to the committee members and the number of returns made by them. The total of 3,807 questionnaires sent does not represent the total number of names submitted to the Study Office since many of the rosters included one or more names of school personnel who were in the educational groups being sent separate questionnaires; in order to avoid their receiving more than one questionnaire their names were dropped from the mailing lists for committees. Certain other school personnel (an occasional principal, counselor, or teacher of a nonvocational course) were listed as committee members and were sent the advisory committee member questionnaire. Attempts were made also to avoid sending more than one questionnaire to any person serving on more than one advisory committee for any school district. In some cases, it was discovered later from the returns that a person was a member of committees in different districts. In these instances he had received more than one copy of the member questionnaire.

TABLE 2.13

SUMMARY OF THE NUMBER OF QUESTIONNAIRES SENT TO AND RETURNED BY ADVISORY COMMITTEE MEMBERS

Item	JVS		City		Ex. vill.	Local	Total	
	In operation	Not operating	Large	Other			No.	%
Questionnaires sent	1,401	250	713	827	88	528	3,807	--
Not deliverable	33	2	19	33	2	13	102	--
Net number delivered	1,368	248	694	794	86	515	3,705	--
Responded:								
a. Answered rather completely	360	69	183	208	31	110	961	26
b. Answered only partially*	92	31	37	43	1	39	243	7
c. Did not answer**	34	3	43	43	3	24	150	4
Total	486	103	263	294	35	173	1,354	37
No response	882	145	431	500	51	342	2,351	63

Source: Records of the Study Office and returned ERA questionnaires.

*The following were the chief reasons given by respondents not fully answering their questionnaires: just appointed, no meeting yet, not enough experience with the committee, school not yet operating, committee met only in early stages of developing the program.

**Among the statements accompanying returned blank questionnaires were the following: didn't know he was a member of any committee, refused to accept membership when asked, believes the committee is now inactive, has resigned from membership on the committee, has moved from the district, deceased.

Table 2.14 shows in per cent the distributions among the types of committees of the total questionnaires delivered to committee members (3,705) and the number returned by them (1,204). The great similarity in the two distributions is readily observable. The much higher per cents (both sent and returned) for trade and industrial education reflect again the fact that there were many more of these committees than for any of the other services. Evidence in preceding tables, however, reveals that proportionally trade and industrial education fell into a middle position when the number of committees was related to the number of vocational units.

TABLE 2.14

PERCENTAGE DISTRIBUTIONS AMONG THE SIX TYPES OF ADVISORY COMMITTEES OF THE QUESTIONNAIRES SENT TO AND RETURNED BY COMMITTEE MEMBERS

Type of committee	Per cent of questionnaires	
	Sent	Returned
General	12	13
Agriculture	15	14
Business and office	15	16
Distributive	6	6
Home economics	9	11
Trade and industrial	43	40

Source: Records of the Study Office.

Table 2.13 shows a 37 per cent questionnaire return from advisory committee members. The computed per cents for each type of committee varied little from that for the entire group. They were 34 per cent for distributive, 35 for agriculture and trade and industrial, 39 for general and business, and 42 for job-preparing home economics.

Among the 243 committee members who answered only a very small portion of their copies (Table 2.13), 73 per cent gave as reasons: committee had not met or had met only once or was a committee "in name only."

Of the 150 reported "committee members" who did not answer the questionnaire at all, reasons given by 81 per cent of the persons included: did not know he was a member,thinks committee is inactive, had resigned from committee, was invited to join but no meeting ever held. These data, taken with the number of times that school personnel respondents did not include the first names or initials of committee members, gave no address or an incomplete one, or gave an incorrect address (letter returned), indicate considerable confusion, carelessness, or perhaps ignorance with regard to committee memberships.

Some Conclusions from Chapter 2

1. Rosters of local advisory committees with correct names and adequate mailing addresses were difficult to come by, and ERA had to exercise considerable flexibility in data-gathering procedures in order to achieve an adequate sample of committee information.

2. Comparatively speaking, local advisory committees are most prevalent in joint vocational schools and large cities and least prevalent in local school districts.

3. Only 28 per cent of the 550 Ohio school districts included in the study indicated that they had local advisory committees.

4. Had not vocational teachers been contacted by ERA to secure lists of committee members (not a part of the original procedural design), 21 per cent of the total number of committee rosters secured would have been lost as far as the study herein reported is concerned.

5. There were wide variations in the number of committees reported by the different types of school districts, with more than 80 per cent of the entire group of districts having five or fewer committees each.

6. Of the committee rosters supplied to ERA, 93 per cent were of the occupational (or craft) type.

7. Only 11 per cent of the 156 school districts for which the existence of local advisory committees was indicated had instructional programs in all five vocational services.

8. As a rule, general committees included in the study have larger memberships than do occupational committees, the median number of members being 10 and 6, respectively.

9. In general, respondents from those districts not having any local advisory committees appear to favor committees smaller in membership than now comprise many of the existing advisory committees in the districts having such committees.

10. In terms of the sheer numbers of advisory committees, trade and industrial education has more committees than the four other vocational services combined; but when the number of committees is related to the number of assigned vocational units for each service, trade and industrial education falls into the median (middle) position among the five services.

11. Only three out of every eight advisory committee members to whom ERA sent study questionnaires returned their questionnaires.

12. The percentage distribution among the six types of committees with respect to the number of questionnaires returned is almost identical to the percentage distribution of the number of questionnaires sent to committee members.

CHAPTER 3

THE QUESTIONNAIRE PHASE OF THE STUDY

This chapter focuses on information and opinions contained in the questionnaires returned to the Study Office by the advisory committee members and by the four professional groups contacted by this method. Each of the five questionnaire forms contained a few free-response items and a number of structured items, many of which were common to two or more of the five questionnaire forms. The last item on all forms was "What suggestions do you have regarding the future of local advisory committees for vocational education in Ohio?" The responses of the returned questionnaires have been tabulated and summarized for the various subgroups contacted. Many of the resulting data will be presented in this chapter in tabular form, and the number of respondents for each item will be indicated since, as usually occurs, some respondents omit certain items because they do not feel qualified to answer.

As was reported in Chapter 1, there were only 1,731 (of the 4,086 professional personnel who were sent questionnaires) who returned their copies to the Study Office. And the majority of this total group reported that they did not have advisory committees. Below is shown, for each of the four professional groups, the number reporting committees. In parenthesis is shown the percentage this number is of the total number of questionnaires returned by the group.

Group	Number and per cent reporting committee
School superintendents	124 (32 %)
Vocational directors	38 (97 %)
Supervisors and T & I coordinators	53 (87 %)
Teachers and teacher-coordinators	366 (29 %)
Total professional group	581 (34 %)

In addition to the tabular data from the 581 respondents to the professional questionnaires and the 961 committee members who answered completely, or nearly so, will be information secured from their free-response items. While the last item, answered by slightly more than one-half of the professional personnel and by almost two-thirds of the committee members, asked for suggestions concerning the future of advisory committees, a number of other aspects of the present study were included in their answers. Their ideas will be reported where they are relevant to the discussion. Included also will be some information secured from responses to the five questions which were to be answered by the professional personnel whose respective districts or programs had no committee. Questionnaires returned by 1,150 school personnel so indicated.

Establishment and Composition of Local Advisory Committees

Discussion with individuals concerned with vocational education in Ohio will almost always include some mention of the idea that the State Division of Vocational Education recommends that there be local advisory committees for

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vocational programs. The ERA questionnaires to superintendents and vocational directors included an item to determine how much help had been provided by the State Division of Vocational Education to the school district with the establishment and operation of these advisory committees, and Table 3.1 is a summary of the responses to this item. The vocational directors, who doubtless are in closer contact with the State Office of Vocational Education, indicate slightly more help than do the superintendents.

TABLE 3.1

EXTENT TO WHICH OHIO'S DIVISION OF VOCATIONAL EDUCATION IS HELPFUL WITH THE ESTABLISHMENT AND OPERATION OF LOCAL ADVISORY COMMITTEES

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	115	9	22	23	34	12	2.81
Directors	38	18	24	16	26	16	3.03
Total	153	11	22	22	32	13	2.86

Source: ERA questionnaires returned to the Study Office.

*AVR (average value rating) is a weighted average and is calculated by multiplying each scale value (5 for very much, 4 for much, 3 for some--average, 2 for little, and 1 for very little) by the number of respondents indicating that scale value, totaling these products, and dividing by the total number of respondents for that item.

There were a few free responses, from both the school personnel and the committee members, which dealt with the relationship of the committees to the State Division of Vocational Education. Some school personnel indicated the need for the State to be more active in promoting local advisory committees, and mention was made of the need for a statewide committee for vocational education. Three committee members pointed out that State rules and regulations concerning vocational education limited the effectiveness of the local committees. Several suggested that the State should provide more leadership to local advisory committees and proposed that through the State Office information be provided the local committees about successful operations of committees in various school districts. The desirability of a statewide coordinating committee for each type of program was mentioned by several respondents. Committee members had the following additional suggestions concerning the make-up of committees: select people close to the trades; have student representation on the committee; include former students on committees; remove from membership sales representatives.

Each of the four questionnaire forms for professional personnel included at least three items related to the establishment of their respective committees. These responses are summarized in Table 3.2, and from this table it appears that the State's Division of Vocational Education was not especially influential in the decision to establish a committee. In fact, the personnel of the local vocational department appear to be most prominent not only in the decision to have such a committee but also in the nomination and selection of members and in the pattern of representation.

The advisory committee member was asked how he was selected to be a member. About one-sixth of the 809 respondents to the item merely stated they had been appointed, and 5 per cent admitted they did not know. The following open-face table shows the balance of the responses by the categories into which they fell.

Reason for selection	Per cent of respondents
Selected because of present position or past experience	24
Requested to serve by someone from the vocational staff	20
Invited to serve by some other school official	20
Elected or appointed as a representative by an organization or association	17
Requested by employer to serve	7
Volunteered or was selected because of interest	7
Asked by member of local advisory committee	5

While the proportion shown in the above table for the committee members being elected or appointed as a representative of some group or organization (17 per cent) is not high, undoubtedly many in other categories were selected for the purpose of providing representation for some type of business or industry, or for some geographical section of the school district, or for yet other divisions of the community population.

There were two additional items in the advisory committee questionnaire which dealt with the idea of the respondent's representation with regard to two additional dimensions. In one of these items the respondent was asked to indicate the specific group or activity he was currently representing through his membership on the advisory committee. The following open-face table is a summary of the 898 responses to the item concerning whom or what the respondent represented.

Group or activity currently represented on the committee by the respondent	Per cent of respondents
Agriculture	18
Building trades	10
Business (commerce)	11
Distribution and marketing	5
Manufacturing	21
Services, Health	10
Service, Personal	3
Service, Public	20
Not enough information to be classified	2

TABLE 3.2

RESPONSES OF THE PROFESSIONAL PERSONNEL CONCERNING THE ESTABLISHMENT OF THE COMMITTEES

Individual or group responsible	Per cent of respondents indicating who			
	Decided need for committee	Nominates members	Appoints members	Determines representation
Administration (including Board)	16	12	9	7
Superintendents	4		5	
Vocational directors	10	4	4	2
Vocational department personnel	34	38	52	64
Administration and vocational personnel	17	16	11	6
Representatives of business and industry	1	12	5	3
Vocational department and representatives of business and industry	2	4	2	2
State Division of Vocational Education	16			
Advisory committee		7	9	12
Advisory committee and vocational personnel		7	3	4
Questionnaire form in which the item was included	Superintendent Director Supervisor Teacher	Supt. Dir. Supv.	Supt. Dir. Supv. Teach.	Supv. Teach.
Number responding	528	191	522	352

Source: ERA questionnaires returned to the Study Office.

The second of these items dealing with the respondent's representation asked him to indicate whether he was an employee representative, an employer representative, or some other type of representative (which the respondent was asked to specify if that were the case). Of the 933 responding to this item, 11 per cent checked "employee," 57 per cent checked "employer," and 32 per cent provided "other" responses. Analysis of the "other" responses showed that 12 per cent could not be classified from the brief descriptions given, but an additional 3 per cent appeared to be "employee" (making it total 14 per cent), an additional 5 per cent belonged to "employer" category (making it total 62 per cent), and 12 per cent of the 933 respondents were involved in some type of endeavor considered professional (doctors, dentists, nurses, lawyers, educators, etc.).

All questionnaire forms asked the respondent to indicate the extent to which he considered the committee membership representative of the occupations in the respondent's community with respect to employer representation and employee representation. From their responses summarized in Table 3.3, it can be seen that all groups consider employers considerably better represented than are employees, and for the respondents as a whole the difference is one full step in the 5-point scale (4.10 to 3.01). Interestingly, the committee members themselves are most aware of this difference in representation between employer and employee.

Ohio may be characterized as a manufacturing state, with a large number of urban centers which for years have included in their population a variety of ethnic and cultural groups. In recent years there have been people coming to Ohio not only for industrial employment but for agricultural work as well. Table 3.4 is a summary for the responses to an item seeking to determine whether or not the respondent thinks that the committee membership is representative of any minority groups which exist in his community. From the data shown there, it appears that a sizable proportion (ranging from 15 per cent to 36 per cent) of each of the responding groups believe that minority groups in the community are not very well represented on the local advisory committees for vocational education.

A wide variety of free-response comments from both groups focused on the composition of the local advisory committee. A sizable number from both groups emphasized the need to secure wider representation on the committees, and many pointed out the desirability of selecting people who are interested in vocational education and in serving on a committee, who are willing to give the time needed, and who are willing to work. A number of respondents from the schools expressed this opinion: "Select members so they can make a contribution, and let them." Some respondents to the professional questionnaires suggested that local leaders should be selected for committee membership, but a number of both groups of respondents warned against selecting "name people"; it is better, they say, to have workers who can find the time to meet and work. A few of the committee members themselves advised against permitting politics to enter into the selection of members for advisory committees.

As was pointed out in Chapter 2, a number of the advisory committee rosters submitted to the Study Office included one or more members of the school staff. In some cases such persons were considered as regular committee members; in other cases they were listed separately indicating their being a different type of member or as one to regularly receive the minutes of the committee meetings. In situations in which school personnel are active members, not merely observors or guests, it would be natural, and understandable, for such a person to serve

as an officer for the committee. From data in Table 3.5 it can be seen that school personnel do serve as chairmen to a considerable extent and as secretaries of the committees to an even greater extent.

In order to secure some measure of how long these advisory committee members had served on these committees, the respondent was asked "For how many years have you been a member?" Of the 921 responding, 42 per cent were in their first year, 43 per cent in their second or third year of membership, 10 per cent in their fourth or fifth year of service, leaving 5 per cent who had served more than five years. Analysis of the data in terms of type of district reveals what one might anticipate--committee members for the non-operating joint vocational schools have the largest proportion of their members in the first year of committee membership, and large city schools have the largest proportion in the "over five" group.

TABLE 3.3

EXTENT TO WHICH RESPONDENTS CONSIDER COMMITTEE MEMBERSHIP REPRESENTATIVE OF THE OCCUPATIONS IN THE RESPONDENT'S COMMUNITY WITH RESPECT TO EMPLOYER REPRESENTATION AND EMPLOYEE REPRESENTATION

Group	Group represented	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Employer	113	35	32	25	4	4	3.91
	Employee	106	16	21	38	15	10	3.17
Directors	Employer	38	47	42	8		3	4.32
	Employee	36	25	25	25	17	8	3.42
Supervisors and T & I coordinators	Employer	52	31	44	23	2		4.04
	Employee	51	16	23	35	20	6	3.24
Teachers and teacher-coordinators	Employer	336	46	29	19	4	2	4.10
	Employee	304	26	21	22	14	17	3.23
Advisory committee members	Employer	900	38	31	23	5	3	3.98
	Employee	791	16	15	30	16	23	2.86
Total	Employer	1,439	40	31	22	4	3	4.01
	Employee	1,288	19	18	29	15	19	3.01

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

TABLE 3.4

EXTENT TO WHICH RESPONDENTS BELIEVE LOCAL COMMITTEE MEMBERSHIP IS REPRESENTATIVE OF MINORITY GROUPS IN THE COMMUNITY

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	109	11	16	38	20	15	2.86
Directors	37	14	24	32	14	16	3.05
Supervisors and T&I coordinators	52	2	12	44	21	21	2.52
Teachers and teacher-coordinators	322	7	5	30	22	36	2.25
Advisory committee members	844	10	12	33	19	26	2.61
Total	1,364	9	11	33	20	27	2.57

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

TABLE 3.5

RESPONSES OF COMMITTEE MEMBERS REGARDING THE EXTENT TO WHICH PERSONNEL FROM THE SCHOOL SERVE AS CHAIRMAN AND SECRETARY FOR THE COMMITTEE

Extent	Per cent of responding committee members indicating	
	School personnel serve as chairman	School personnel serve as secretary
Always	46	54
Occasionally	21	25
Never	33	21
Number responding	778	696

Source: ERA questionnaires returned to the Study Office.

Respondents from the committee groups had the following additional suggestions about the composition of the membership: change members periodically, limit the period of serving, have staggered terms of membership, limit the size of the committee, secure an effective chairman, and rotate the chairmanship.

Certain Aspects of Committee Operation

Two of the professional groups were asked to report how long their committees had been in operation, and their responses to this are summarized in Table 3.6. While the committees concerning which the supervisors are reporting are no doubt included in the committees about which the teachers are reporting, there are differences between the two groups of committees. For example, supervisors are chiefly from the city and joint vocational schools, whereas the teachers reporting committees included a few from exempted village districts and almost as many from local schools as from joint vocational schools. Thus, the patterns of response for supervisors and for teachers would be expected to differ. However, the chief conclusion to be drawn from the data shown, it seems to the writers, is that approximately two-thirds of both groups of respondents have had their experience with local advisory committees which have been operating no more than three years.

TABLE 3.6

NUMBER OF YEARS THAT THE COMMITTEES HAVE BEEN IN OPERATION

Number of years	Per cent of respondents	
	Supervisors and T&I coordinators	Teachers and teacher-coordinators
One or less	17	34
2 - 3	41	35
4 - 5	17	18
More than 5	25	13
Number responding	52	343

Source: ERA questionnaires returned to the Study Office.

In this busy world, it is probably safe to assume that the advisory committees were established with certain functions, or purposes, in mind. Readers who have participated in any type of committees will readily realize that not all committees achieve their purposes to the desired degree. Many times failure to achieve can be due to the failure of members to take the initiative in meeting their assigned responsibilities. Two groups of professional respondents were asked to indicate to what extent their advisory committees take the initiative in meeting their assigned responsibilities, and their reactions to this

are summarized in Table 3.7. Both groups of respondents indicate slightly "above average" with a higher proportion of the supervisors than of the teachers indicating "much" or "very much."

TABLE 3.7

EXTENT TO WHICH VOCATIONAL SUPERVISORS AND TEACHERS REPORT THEIR COMMITTEES TAKE THE INITIATIVE IN MEETING THEIR ASSIGNED RESPONSIBILITIES

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Supervisors and T&I coordinators	52	18	37	37	4	4	3.63
Teachers and teacher-coordinators	340	13	28	35	12	12	3.19
Total	392	14	29	35	11	11	3.24

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

As inferred from a substantial number of free responses, committee members are keenly aware of the need for committees to be informed of the purposes of their committees and to then set their tasks. In order to have the necessary background for committee membership, sizable numbers of both groups of respondents see the need for the school to provide the committee members with information about the various programs of the school, and committee members sense the advantages of visiting the school to observe the classes related to the respondent's committee. Respondents from committees for the joint vocational schools think that committees should be formed and functioning before plans are formalized and the program is operating. Some members complained that their committees were really used only until the schools were operating, and a smaller number think a committee is not needed very much after a school is operating. A few committee members reported that committee effectiveness is limited by the financial limitations which are imposed on the vocational education operations. Some respondents from the schools stated that committee effectiveness can be increased if teachers, counselors, and the public are helped to realize the value of such committees, and they make the further suggestion that the committees be organized so that business and industry can assume leadership. It was also proposed that an attempt should be made to involve more people so that a larger proportion of the community would have a better understanding of the advisory committee work. Appropriate persons to involve in committee work, they say, are teachers, students, graduates, and business and industrial personnel.

Another important dimension of committee activity is that of the number of meetings. The superintendents and the vocational directors were asked to report the average number of meetings for both their general committees and for their occupational committees during the last six months (since July 1969) and during the last eighteen months (since July 1968). If every superintendent had returned a completed questionnaire, one could state that all committees reported by vocational directors would be included in the committees reported by superintendents; however, neither group cooperated 100 per cent. Therefore, care must be exercised in interpreting the data in Table 3.8, which summarizes the responses of superintendents and directors about the average number of meetings. For example, it is entirely possible that the directors who reported no meetings for their committees are from districts in which the superintendents did not return their questionnaires. Or it could be that the superintendent might not really know that certain committees had not met during the past six months--especially if he were not in the habit of attending the meetings of his several advisory committees. In general, the committees reported on by superintendents have met more frequently than those reported on by directors.

TABLE 3.8

AVERAGE NUMBER OF MEETINGS REPORTED BY SUPERINTENDENTS AND VOCATIONAL DIRECTORS FOR THE ADVISORY COMMITTEES

Average number of meetings	Per cent of respondents							
	General committee				Occupational committee			
	Since July '69		Since July '68		Since July '69		Since July '68	
	Supt.	Dir.	Supt.	Dir.	Supt.	Dir.	Supt.	Dir.
None		26		12		7		
One	29	48	14	27	40	35	12	14
Two	36	12	22	23	23	45	17	18
3 - 4	17	7	18	15	21	3	21	25
5 - 6	10	7	16	8	7	3	25	29
6 - 10	6		22	15	7	4	8	7
Over 10	2		8		2	3	17	7
Number responding	66	27	63	26	56	29	48	28

Source: ERA questionnaires returned to the Study Office.

As a rule advisory committee members have membership in only one committee, and it might be either general or occupational in type. Teachers likewise would tend to have contact with only one committee, and it would likely be an occupational committee. The reader should keep these limitations in mind in interpreting Table 3.9 which shows the number of committee meetings reported by these two groups of respondents. The significant fact in this table, it seems to the writers, is the unfortunate situation that one-sixth of these committee

members belong to committees that have not met during the past six months. In fact, the majority of the respondents of both groups indicate that their committees meet no more often than once every three months.

TABLE 3.9

NUMBER OF COMMITTEE MEETINGS REPORTED BY TEACHERS AND COMMITTEE MEMBERS

Number of meetings	Per cent of respondents			
	Since July 1969		Since July 1968	
	Teachers	Committee members	Teachers	Committee members
None		16		8
One	60	38	20	17
Two	28	24	32	25
3 - 4	6	14	22	17
5 - 6	3	6	15	15
6 - 10	2	1	7	13
More than 10	1	1	4	5
Number responding	229	828	205	634

Source: ERA questionnaires returned to the Study Office.

Related to the data shown in the preceding table is one of the items on the questionnaire form for advisory committee members: "Is the number of meetings too many? about right? too few?" Only 2 per cent of the 866 responding to the item consider that their committee has too many meetings, but 37 per cent consider that they have too few meetings. Analysis of the responses in terms of type of district revealed that 43 per cent of the committee members for the operating joint vocational schools and 42 per cent of the members for the eight large cities believe they have too few meetings.

There is another factor which is important in any discussion about committee meetings--whether or not the meetings are on a regular, established basis or occur only on call. Of the 925 committee members responding to the question related to this aspect of meeting times, only 16 per cent stated that their committees had regularly established meetings.

Many of the free responses from professional personnel and from committee members dealt with aspects of the meeting itself. About one-tenth of the school personnel who responded to the last item on the questionnaire reported the need for more meetings and on a regular basis. A somwhat higher proportion of the committee member respondents urged that meetings be more regular and more frequent, with a number of them bemoaning the procedure of always calling meeting

on an emergency basis. On the other hand, there were a few of each group who said they do not favor regular meetings, who think fewer meetings are needed, or who wish meetings to be held only when needed. Some school personnel pointed out that it is difficult to arrange meetings at a time when all members can attend, but the suggestion was made by some committee members that attendance be insisted upon. A large segment of the responding committee members extended the challenge: "Use committees more; make them working committees." A sizable group of the responding school personnel advised that each meeting be well planned, and not be a session just to hear a speech. A very few committee members wished there were less structuring of their meetings.

Table 3.10 is a summary of the responses, of the four professional groups sent questionnaires, concerning how frequently they attend the meetings of their committees. Larger proportions of supervisors and teachers always attend the meetings than is true of either directors or superintendents, with the superintendent group having the largest entry in the "never" category.

TABLE 3.10

RESPONSE OF PROFESSIONAL PERSONS CONCERNING THE FREQUENCY WITH WHICH THEY ATTEND MEETINGS OF THE ADVISORY COMMITTEES

Frequency of attendance	Per cent of respondents				
	Superintendents	Directors	Supervisors	Teachers	Total
Always	18	35	55	42	38
Occasionally	62	65	45	46	51
Never	20			12	11
Number responding	121	31	53	342	547

Source: ERA questionnaires returned to the Study Office.

The free responses from advisory committee members included the following three which refer directly to relationship of professional personnel to the committee meeting itself:

> Education representative should be present at meetings.
> Teachers should attend committee meetings.
> The staff dominates the committee meeting.

There were, however, a number of other responses which deal with the relationship of the committee and the school personnel. A substantial number of both school personnel and committee members reported the need for the committees to have a closer relationship with teachers. Committee members designated other groups with whom they should have contact--administration, counselors, students, and school board. In fact, a few respondents believe the committee

would accomplish more it it reported to the school board instead of to the administration. A few of the school respondents expressed regret that school people have so little time to work with committees. Two other areas of committee operation were pointed out by committee members as needing consideration: (a) opportunity to have contacts with other vocational schools and with advisory committees of other schools and (b) provision of better communication between the school and the committee to be achieved by regular written reports to the committee members and by telephone calls when appropriate.

Three groups of respondents were asked to give opinions concerning the activity of advisory committees--is it increasing, staying about the same, or decreasing? Table 3.11 shows their responses. Once again the reader must recognize that while the committees for the three groups do overlap more or less, there is not perfect agreement. In spite of this, more of the respondents for each group indicated that committee activity is increasing than think it is decreasing; and the largest proportion of each group saw little change.

TABLE 3.11

OPINIONS CONCERNING THE PRESENT STATUS OF ADVISORY COMMITTEE ACTIVITY

Present status	Per cent of the respondents		
	Superintendents	Directors	Committee members
Increasing	19	34	27
Staying about the same	73	60	49
Decreasing	8	6	24
Number responding	112	35	890

Source: ERA questionnaires returned to the Study Office.

Committee Advice: Extent Sought and Extent Followed

The qualifying adjective (advisory) for the kind of committee under consideration in this study is a clue to its purported function--that of providing advice which will assist the educators in the development and operation of their vocational programs. The administrators and vocational directors of the schools having local advisory committees and the committee members themselves were asked to indicate the extent to which the schools seek advice and counsel from the advisory committees. Responses of the three groups are presented in Table 3.12. There one can see that all four average value ratings (AVR) are in the average position, with the directors making the best showing. It should be observed that the committee members reported that the schools tend to seek advice and counsel from the committees as a group rather than as individuals.

TABLE 3.12

EXTENT TO WHICH THE VOCATIONAL PERSONNEL IN THE SCHOOLS SEEK ADVICE AND COUNSEL FROM THE ADVISORY COMMITTEES

Group	Seeks advice and counsel from	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Advisory committee	113	14	30	32	17	7	3.27
Directors	Advisory committee	38	21	34	34	11		3.66
Advisory committee members	Respondent as an individual	872	18	22	26	14	20	3.05
Advisory committee members	Committee as a group	884	23	26	27	12	12	3.35

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

In any situation "it is one thing to seek advice, and quite another to follow it." Table 3.13 summarizes the responses of all five groups as to the extent to which vocational personnel appear to follow the advice given by the advisory committees. The AVR for the total group of respondents is in the upper half of the "average" value, and no more than 15 per cent of any of the five groups reported that advice is being followed to only a little extent.

The majority of the responses related to committee advice came from the committee members, and some of these merely emphasized that the committee's function was advisory, not policy making. There were a few, however, who believed committees should be used for approving, and the suggestion was made that administrative authority should be restricted to instruction, with the committee having authority over such things as equipment and other facilities. Also stated was the idea that a general committee should have the power to influence the direction of vocational education. A large group of committee members flatly stated that local advisory committees were needed, and a few suggested that schools should be required to have them. A number of others had the negative reactions listed at the beginning of the following page.

The committee is a good idea, but only if handled properly.
Our committee exists on paper only; was established only to meet the State requirement.
Our committee serves as a rubber stamp to decisions already made.
I doubt if a committee of this nature can change anything when the vocational requirements are so cut and dried.

TABLE 3.13

EXTENT TO WHICH RESPONDENTS REPORT THAT THE VOCATIONAL PERSONNEL APPEAR TO FOLLOW ADVISORY COMMITTEE ADVICE

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	112	9	44	35	7	5	3.44
Directors	38	16	45	26	8	5	3.58
Supervisors and T&I coordinators	52	21	54	25			3.96
Teachers and teacher-coordinators	326	17	40	28	7	8	3.50
Advisory committee members	845	22	36	28	7	7	3.61
Total	1,373	20	39	28	6	7	3.58

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

One respondent went so far as to say "Abolish them," and another summarized his reaction thus: "Committee is great in theory, but as some have operated, it will die a lingering, but painless and unregretted death." Between the two extremes of opinions were a few school personnel and a few committee members who feel that in a well-operating school, the value of the committee is not in the meetings but in the availability of the members to school personnel. In fact, some teachers and school administrators favor teachers working individually with employers rather than through committees.

Considerable emphasis was given by both groups of respondents to the need for the school to give serious consideration to committee suggestions and opinions. Some of each group pointed out the desirability of publicizing the committee and its work and of recognizing the contribution of the members.

Committee Assistance with Vocational Programs

The overall purpose of advisory committees is to advise about any aspect of the vocational program of the local district that needs attention. In those situations in which a new school plant is being designed, much attention obviously is focused on a variety of involved factors such as the location of the building, its size, and the type of facilities needed in the several laboratories and training stations. But even when the emphasis is of necessity on physical facilities, the educational program cannot be ignored, for it determines the type of facilities needed to implement the program. The program itself cannot be determined in ideal terms only but must be based on a realistic awareness of the number and type of students to be served and on the opportunities for satisfactory placement for those who complete the program. Because of the variety of background and experience of the advisory committee members who are usually lay persons, their advice should serve to provide a more realistic and effective vocational program than would result if decisions were based solely on the expertise of the professional persons in the schools. In this section will be presented four related tables which deal with the extent to which the questionnaire respondents believe that the local advisory committees have been of assistance to the programs.

Table 3.14 presents a summary of the opinions of all five groups of respondents concerning the assistance provided two very important components of any educational program--the curriculum offerings and the methods of instruction. As would be anticipated, the data show that the committees have provided more assistance to the curriculum than to the instruction. Directors and supervisors are especially aware of the committee contributions to the curriculum.

Table 3.15 deals with the physical facilities--types of equipment, instructional space, and instructional resources. All groups indicated equipment as the area of most assistance, and again it can be observed that the directors and supervisors are the ones most aware of this type of assistance.

Table 3.16 provides a summary of the responses of the five groups concerning committee assistance in three important areas related to students. All groups reported that, of the three areas shown in the table, committees play the greatest role in placement. Committee members and teachers reported that more assistance was provided in selection than in follow-up; the three other groups consider the reverse to be the case.

Some free responses dealt with each of the areas of the vocational programs presented in the preceding three tables. Mentioned most often by both groups of respondents was the opportunity of the committee to assist with the development of the program by keeping the school informed about employment needs. A number of the committee members mentioned their opportunity to assist with the evaluation and follow-up needed to keep the programs effective. Equipment was another area in which committees reported they could provide considerable help. A few respondents from each group saw an opportunity for assistance through direct contact with students. Substantial proportions of each group mentioned the opportunity for the committee members to promote vocational education and to serve a public relations function for the school and its programs. In fact, one of the most frequently mentioned functions of the committee was that of serving as liaison between the school and society. In essence, the respondents reflect a great variety of ways for being helpful.

TABLE 3.14

EXTENT TO WHICH RESPONDENTS INDICATE LOCAL ADVISORY COMMITTEES HAVE BEEN OF ASSISTANCE WITH CURRICULUM AND INSTRUCTION

Group	Area of assistance	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Curriculum offerings	105	16	32	32	9	11	3.33
	Methods of instruction	103	4	14	40	25	17	2.61
Directors	Curriculum offerings	35	29	29	26	14	2	3.66
	Methods of instruction	34	6	15	32	35	12	2.68
Supervisors and T&I coordinators	Curriculum offerings	51	12	47	31	8	2	3.59
	Methods of instruction	51	8	14	44	17	17	2.76
Teachers and teacher-coordinators	Curriculum offerings	325	10	29	33	13	15	3.05
	Methods of instruction	319	3	15	34	25	23	2.50
Advisory committee members	Curriculum offerings	859	23	31	28	10	8	3.49
	Methods of instruction	852	15	24	30	15	16	3.07
Total	Curriculum offerings	1,375	19	31	29	11	10	3.38
	Methods of instruction	1,359	11	20	32	19	18	2.88

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

TABLE 3.15

EXTENT TO WHICH RESPONDENTS INDICATE LOCAL ADVISORY COMMITTEES HAVE BEEN OF ASSISTANCE WITH THE PHYSICAL FACILITIES# FOR THE PROGRAM

Group	Area of assistance	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Equipment	105	22	30	22	14	12	3.34
	Space	105	12	16	33	22	17	2.85
	Resources	104	8	16	38	22	16	2.77
Directors	Equipment	37	43	24	16	14	3	3.92
	Space	37	16	27	27	19	11	3.19
	Resources	37	5	22	51	14	8	3.03
Supervisors and T&I coordinators	Equipment	51	23	55	14	6	2	3.92
	Space	50	4	40	26	14	16	3.02
	Resources	48	10	36	27	23	4	3.25
Teachers and teacher-coordinators	Equipment	322	12	26	26	14	22	2.92
	Space	316	10	10	23	23	34	2.40
	Resources	319	9	17	29	21	24	2.67
Advisory committee members	Equipment	859	29	29	20	11	11	3.55
	Space	839	16	20	25	17	22	2.91
	Resources	827	15	25	26	17	17	3.03
Total	Equipment	1,374	25	29	21	12	13	3.41
	Space	1,347	14	18	25	19	24	2.80
	Resources	1,335	13	23	28	18	18	2.93

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

#These facilities include the various types of equipment used by vocational classes, the instructional spaces (classrooms, shops, laboratories, training stations, etc.), and instructional resources such as textbooks, reference books, supplies, and the like.

TABLE 3.16

EXTENT TO WHICH RESPONDENTS INDICATE LOCAL ADVISORY COMMITTEES HAVE BEEN OF ASSISTANCE WITH SELECTION, PLACEMENT, AND FOLLOW-UP OF STUDENTS

Group	Area of assistance for students	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Selection	104	2	15	42	20	21	2.56
	Placement	100	20	38	25	9	8	3.53
	Follow-up	100	8	19	35	18	20	2.77
Directors	Selection	37	3	19	30	27	21	2.54
	Placement	35	31	26	26	11	6	3.66
	Follow-up	33	15	21	18	15	31	2.76
Supervisors and T&I coordinators	Selection	49	2	6	49	25	18	2.49
	Placement	44	20	43	23	9	5	3.66
	Follow-up	42	7	19	38	12	24	2.74
Teachers and teacher-coordinators	Selection	319	7	15	30	19	29	2.52
	Placement	297	19	25	26	15	15	3.17
	Follow-up	285	6	12	30	21	31	2.41
Advisory committee members	Selection	821	12	18	26	18	26	2.72
	Placement	782	16	26	22	13	23	3.00
	Follow-up	727	9	13	22	18	38	2.36
Total	Selection	1,330	9	17	29	19	26	2.64
	Placement	1,258	18	27	23	13	19	3.12
	Follow-up	1,187	8	14	25	19	34	2.43

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

NOTE: The item for "selection" stressed criteria for the selection of students for vocational programs; "placement" refers to employment of the graduates of the vocational programs; and "follow-up" is related to efforts at appraising the success of graduates after they have entered employment.

Table 3.17 serves as an overall appraisal of the extent to which the local committees have been of assistance to the local programs. Comparison of the AVR's for this table with those of the preceding three tables reveals that for each group of respondents, the highest AVR is in Table 3.17. Directors and supervisors, who no doubt are much better acquainted with the efforts of the committees than are either the superintendents or the teachers, are highest in their appraisal of the value of the committee to the local vocational programs, with at least two-thirds of each group indicating "much" or "very much." Analysis of the data contained in Table 3.17 in terms of type of district resulted in the following average value ratings:

Type of school district	AVR
Joint vocational (541 respondents)	3.98
City (634 respondents)	3.89
Exempted village (43 respondents)	3.70
Local (240 respondents)	3.61

TABLE 3.17

EXTENT TO WHICH RESPONDENTS BELIEVE LOCAL ADVISORY COMMITTEES ARE OF REAL VALUE TO THE VOCATIONAL PROGRAMS OF THEIR RESPECTIVE SCHOOL DISTRICTS

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	114	20	36	30	10	4	3.58
Directors	38	39	29	24	8		4.00
Supervisors and T&I coordinators	52	48	29	21		2	4.21
Teachers and teacher-coordinators	348	29	31	24	11	5	3.67
Advisory committee members	906	41	30	18	6	5	3.96
Total	1,458	37	30	20	8	5	3.87

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

More than one-fourth of the respondents from the schools indicated that the advisory committee was necessary for a good vocational program through its efforts to keep the school realistic and up to date with current needs. The committee respondents provided the following additional specific areas in which the committee could help the school:

Emphasize the need to give more consideration to the ways of industry.
Provide more contact between employers and counselors.
Encourage the school to have closer contact with the various trades.
Help the school in preparing students for realistic wages and realistic working conditions.

The slightly negative responses in regard to the value of the committee are illustrated by the following responses from committee members:

Committee could be of great value if properly used.
I doubt if the committee will solve vocational needs.
Committee will be as valuable as the school will permit.

There were three committee member respondents, however, whose idea of the value of the advisory committee may be expressed thus: "The value of vocational education will depend on the success of the committee."

Approximately one-fifth of the professional personnel who reported that their districts or programs have no local advisory committees said that at one time there had been such a committee. Approximately 60 per cent of those without committees at the present time indicated they believe that now they should have local advisory committees for their vocational programs. Following are shown, in order of mention by each of the four professional groups, the most often mentioned types of help which these professional groups would like local advisory committees to provide:

Superintendents
- Curriculum planning and development
- General advisory
- Determination of employment needs
- Public relations

Supervisors and T & I coordinators
- Curriculum planning and development
- Determination of employment needs
- Physical facilities
- Evaluation of program
- Employment and placement

Vocational directors
- Employment and placement
- General advisory

Teacher and teacher-coordinators
- Curriculum planning and development
- Determination of employment needs
- Employment and placement
- General advisory
- Public relations
- Physical facilities

Some Appraisals of Current High School Vocational Programs

Included in all questionnaire forms were items which asked the respondent to evaluate certain aspects of his local school's vocational programs. In Table 3.18 are shown the appraisals of three groups of respondents concerning the selection of students for the different programs and concerning the supervision of the "co-op" students--students who combine study and related employment. The majority of all three groups checked "much" or "very much" for both of these aspects of the program, with supervision being given a somewhat higher appraisal than was selection.

TABLE 3.18

EXTENT TO WHICH RESPONDENTS THINK THE SCHOOL IS DOING A COMMENDABLE JOB WITH RESPECT TO APPROPRIATE SELECTION OF STUDENTS FOR THE DIFFERENT VOCATIONAL PROGRAMS AND SUPERVISION OF THE "CO-OP" STUDENTS

Group	Aspect of program	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Selection	113	10	47	35	5	3	3.56
	Supervision	106	32	50	12	2	4	4.05
Directors	Selection	36	25	50	22	3		3.97
	Supervision	35	46	37	11	6		4.23
Advisory committee members	Selection	808	21	34	33	7	5	3.59
	Supervision	715	26	37	25	6	6	3.72
Total	Selection	957	20	36	33	7	4	3.60
	Supervision	856	28	39	23	5	5	3.78

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

From Table 3.19 one may conclude that the vocational programs of the schools represented by the respondents are slightly above average in terms of being geared to the wide range of student interest and ability. There are two specific comparisons in this table that warrant comment. First, it can be noted that the highest average value rating (AVR) was given by the teachers and teacher-coordinators--the group which should be most familiar with the range of student interest and ability since they have them under their tutelage. The second comparison for comment is the fact that of all the groups in this table the school superintendents have the lowest AVR. One wonders if too many superintendents are still viewing vocational education as a kind of last resort or a dumping ground for those students with lower academic ability.

The data regarding how well the vocational programs are geared to the wide range of student interest and ability were also organized according to type of district. The AVR's derived from this organization are shown in the open-face table at the beginning of the following page. That type of organized data supports the hypothesis that it is easier for specialized schools than for regular (comprehensive) high schools to provide programs to meet the varying needs and interests of their students.

Type of school district	AVR
Joint vocational (483 respondents)	4.02
City (604 respondents)	3.64
Exempted village (41 respondents)	3.29
Local (238 respondents)	3.53

TABLE 3.19

EXTENT TO WHICH RESPONDENTS THINK THEIR RESPECTIVE SCHOOLS' VOCATIONAL PROGRAMS ARE GEARED TO THE WIDE RANGE OF STUDENT INTEREST AND ABILITY

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	117	11	34	36	14	5	3.32
Directors	36	19	42	28	11		3.69
Teachers and teacher-coordinators	347	40	34	18	5	3	4.05
Advisory committee members	866	24	36	29	8	3	3.68
Total	1,366	26	36	27	8	3	3.75

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

Sometimes the charge is made that vocational programs are geared too much to the students with lower ability. Table 3.20 provides opinions on this point. Briefly stated, only about one-fifth of the respondents believe that to be the case with their vocational programs. Moreover, there appears to be no significant differences among the subgroups when analyzed in terms of responding group or type of district.

Table 3.21 is a summary of opinions concerning the extent to which the respondent's vocational programs are neglecting academic preparation in favor of employment skills. While one-third of them report "some" tendency in this direction, more than one-half indicate it to be "little" or "very little." When responses were grouped according to type of district the distributions and AVR's were quite similar to those shown in Table 3.21 for the "Total."

TABLE 3.20

EXTENT TO WHICH THE RESPONDENT CONSIDERS HIS SCHOOL'S VOCATIONAL PROGRAMS ARE GEARED TOO MUCH TO THE STUDENTS WITH LOWER ACADEMIC ABILITY

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	115	1	13	48	29	9	2.68
Directors	36	6	6	33	44	11	2.50
Advisory committee members	839	7	15	41	24	13	2.79
Total	990	6	15	41	25	13	2.77

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

TABLE 3.21

EXTENT TO WHICH THE RESPONDENT CONSIDERS HIS SCHOOL'S VOCATIONAL PROGRAMS ARE NEGLECTING ACADEMIC PREPARATION IN FAVOR OF EMPLOYMENT SKILLS

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	112	1	8	28	43	20	2.77
Directors	36		5	17	42	36	1.92
Advisory committee members	840	5	12	34	26	23	2.48
Total	988	4	11	33	29	23	2.43

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

In Table 3.22 are shown summaries of opinions concerning the breadth of the program offerings, the depth of job preparation, and the use of modern methods of instruction. The vocational directors appear to be the most positive about the school's doing a commendable job in these three aspects of their programs. While directors may be prejudiced as regards their programs, it is probable that they, of the three groups of respondents to this item, are the best informed about the programs. Analysis of the responses in terms of type of district revealed, for each of the three aspects of the program under consideration in this table, higher proportions of the respondents from the joint vocational schools in the "much" and "very much" categories than was true of the three other types of district.

TABLE 3.22

EXTENT TO WHICH RESPONDENTS THINK THE SCHOOL IS DOING A COMMENDABLE JOB IN BREADTH AND DEPTH OF PROGRAM AND IN MODERN INSTRUCTIONAL METHODS

Group	Aspect of program	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Breadth	115	9	35	35	18	3	3.27
	Depth	114	13	40	36	9	2	3.54
	Instruction	113	13	49	35	2	1	3.72
Directors	Breadth	36	22	39	33	6		3.78
	Depth	35	40	51	9			4.31
	Instruction	35	26	51	20	3		4.00
Advisory committee members	Breadth	844	24	40	28	6	2	3.74
	Depth	825	19	40	30	8	3	3.64
	Instruction	825	31	40	23	4	2	3.95
Total	Breadth	995	23	39	29	7	2	3.72
	Depth	974	19	40	30	8	3	3.65
	Instruction	973	29	41	24	4	2	3.93

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

Table 3.23 is a summary regarding the quality of the programs in terms of use of modern equipment and provision of supplies or student work materials. Analysis of the data in terms of type of district as well as in terms of the responding group, as shown in the table, reveals that all subgroups consider their programs to be above average in both of these aspects of physical facilities, with the joint vocational school responses being the highest of all subgroups.

TABLE 3.23

EXTENT TO WHICH RESPONDENTS THINK THE SCHOOL IS DOING COMMENDABLY IN THE USE OF MODERN EQUIPMENT AND IN THE PROVISION OF ADEQUATE STUDENT SUPPLIES

Group	Aspect of program	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Equipment	115	19	38	35	7	1	3.68
	Supplies	113	18	53	26	2	1	3.85
Directors	Equipment	35	46	34	17	3		4.23
	Supplies	35	37	49	8	6		4.17
Advisory committee members	Equipment	857	37	36	19	5	3	3.99
	Supplies	801	26	37	28	6	3	3.79
Total	Equipment	1,007	36	36	20	5	3	3.96
	Supplies	949	26	40	27	5	2	3.81

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

Data in Table 3.24 deal with very significant aspects of vocational programs--placement in employment of graduates of the program and follow-up of them as one measure of the quality of the program and as a method of seeking leads for improving the program. School personnel are more confident of the job their schools are doing in both aspects than are the advisory committee members, but the majority of all responding groups are above average. An analysis of the responses by type of district reveals that respondents from city schools consider their schools to be doing a considerably better job in both of these phases of their programs than do the respondents from the three other types of district. Since many of the joint vocational schools are in their first or second year of operation, it is understandable that there has been little opportunity for follow-up of graduates.

Table 3.25 provides an overall picture of how well all five groups of questionnaire respondents think their vocational programs are meeting the job preparation needs of the youth of their respective committees. It appears that the school personnel who work closest with the youth involved in job-preparation programs (directors, supervisors, and teachers) are most optimistic about their achievement in this regard. When the data are organized in terms of the type of school district, there result the average value ratings which are as shown at the top of the following page.

Type of school district	AVR
Joint vocational (518 respondents)	3.98
City (635 respondents)	3.77
Exempted village (42 respondents)	3.60
Local (242 respondents)	3.67

TABLE 3.24

EXTENT TO WHICH RESPONDENTS THINK THE SCHOOL IS DOING A COMMENDABLE JOB WITH RESPECT TO PLACEMENT IN EMPLOYMENT OF GRADUATES OF THE PROGRAM AND FOLLOW-UP OF GRADUATES OF THE PROGRAM

Group	Aspect of program	Number responding to item	Per cent indicating					AVR*
			Very much	Much	Some	Little	Very little or none	
Superintendents	Placement	111	22	43	26	7	2	3.76
	Follow-up	110	17	28	41	11	3	3.46
Directors	Placement	34	35	32	30		3	3.97
	Follow-up	32	28	44	25	3		3.97
Advisory committee members	Placement	686	23	35	29	7	6	3.61
	Follow-up	621	16	23	34	14	13	3.15
Total	Placement	831	23	36	28	7	6	3.64
	Follow-up	763	16	25	35	13	11	3.23

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

Table 3.26 focuses on the extent to which the programs are meeting the needs of employers in their respective communities. When these data were organized in terms of type of school district, the following was the result.

Type of school district	AVR
Joint vocational (507 respondents)	3.81
City (637 respondents)	3.68
Exempted village (42 respondents)	3.55
Local (241 respondents)	3.63

TABLE 3.25

EXTENT TO WHICH RESPONDENTS THINK THEIR RESPECTIVE SCHOOLS' VOCATIONAL PROGRAMS ARE MEETING THE JOB PREPARATION NEEDS OF THE YOUTH OF THEIR RESPECTIVE COMMUNITIES

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	111	15	43	27	11	4	3.56
Directors	36	42	44	14			4.28
Supervisors and T&I coordinators	50	38	50	12			4.26
Teachers and teacher-coordinators	350	32	48	16	3	1	4.08
Advisory committee members	890	27	35	25	9	4	3.71
Total	1,437	28	39	23	7	3	3.82

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

While the picture as regards meeting needs is not quite as good for the employers as for the youth of the community, it should be noted that the majority of all subgroups reported in the two upper categories of the scale for both items.

Related to the overall evaluation of meeting employment needs of both the youth of the community and the employers is the question of whether or not the vocational program is attuned to the variety of employment needs in the community. Table 3.27 shows the responses of directors and advisory committee members to this facet of the situation. Responses of these two groups are amazingly similar. In the data which follow, secured from considering the responses by type of district, the results are not quite so consistent.

Type of school district	AVR
Joint vocational (399 respondents)	3.90
City (397 respondents)	3.57
Exempted village (31 respondents)	3.32
Local (109 respondents)	3.51

TABLE 3.26

EXTENT TO WHICH RESPONDENTS THINK THEIR RESPECTIVE SCHOOLS' VOCATIONAL PROGRAMS ARE MEETING THE NEEDS OF EMPLOYERS IN THEIR RESPECTIVE COMMUNITIES

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Superintendents	112	18	37	31	10	4	3.56
Directors	35	34	49	14	3		4.14
Supervisors and T&I coordinators	51	25	69	6			4.20
Teachers and teacher-coordinators	350	31	47	18	3	1	4.04
Advisory committee members	879	22	32	32	9	5	3.56
Total	1,427	24	38	27	7	4	3.71

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

There were a few comments, mostly unrelated and made chiefly by committee members, which dealt with vocational education and its problems. Following is a listing of their ideas:

The State controls to too great an extent the vocational programs.
It is quite a problem to secure good vocational teachers.
Counselors and administrators tend to be academic minded, and hence do not support vocational education to the extent they should.
Small schools frequently have to have their training stations outside the school district; this may cause problems.
Vocational educators sometimes tend to ignore the academic aspect of education, and it is important too for vocational students.
It is preferable for the local school to have its own program rather than to seek a jointure.
Pupils do better when they attend their home schools.
It would be better if the State were engaged in increased development of post-high school vocational education and in less emphasis at the high school level.

TABLE 3.27

EXTENT TO WHICH VOCATIONAL DIRECTORS AND ADVISORY COMMITTEE MEMBERS CONSIDER THE VOCATIONAL PROGRAM TO BE ATTUNED TO THE VARIETY OF EMPLOYMENT NEEDS IN THE COMMUNITY

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
Directors	37	27	35	27	8	3	3.76
Advisory committee members	899	24	36	29	7	4	3.70
Total	936	24	36	29	7	4	3.70

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

Some Conclusions from Chapter 3

1. The superintendent and vocational teacher groups were not nearly so cooperative in returning their questionnaires as were the vocational directors and the supervisors and trade and industrial education coordinators.

2. In general, those who returned their questionnaire copies to the Study Office appeared to have done a thorough and careful job in conveying their ideas and opinions.

3. Responses to specific questionnaire items and to the free-response items revealed that a substantial proportion of the respondents were aware of the influence of the State's Division of Vocational Education on local vocational programs, with some respondents wishing for even greater impact.

4. The State Division of Vocational Education was reported as being only moderately helpful with the establishment and operation of advisory committees.

5. Many committee members were aware of their having been selected to membership because of their current positions and/or past experiences which would enable them to be of value on advisory committees for vocational education.

6. The responding committee members represented a variety of business and industrial activities, with "distribution and marketing" and "personal services" appearing to have the lowest levels of representation.

7. The majority of all responding groups indicated that the vocational department personnel are quite influential in determining the composition of the local advisory committees.

8. All groups of respondents agreed that employers are better represented on their committees than are employees, and all agreed that minority groups in their communities are not especially well represented on the committees.

9. School personnel serve more frequently as secretaries of advisory committees than as chairmen.

10. Two-fifths of the responding committee members can be characterized as "new members," being in their first year of membership.

11. Approximately two-fifths of the committees, according to two groups who were asked, have been in operation more than three years.

12. Committees are slightly above average in taking the initiative in meeting their assigned responsibilities, according to respondents.

13. The majority of the questionnaire respondents indicated that their committees meet no more often than once every three months.

14. While three-fifths of the responding committee members are satisfied with the number of meetings, there were almost 40 per cent who consider the number of meetings too few.

15. Even though only a small proportion of the committee members reported that their committees have regularly established meetings, there were many who pointed out in their free responses the need for meetings to be on a regular basis.

16. Most of the respondents indicated that they meet at least occasionally with their advisory committees, but 20 per cent of the superintendents and 12 per cent of the teachers reported never meeting with committees.

17. A number of both the professional and lay groups see the need for closer relationship between the school personnel and the advisory committees.

18. In response to the question regarding the extent to which they seek advice and counsel from the committees, the majority of the vocational directors checked "much" or "very much."

19. While a number of professional personnel appear to prefer working with community leaders and representatives on an individual basis rather than in the committee arrangement, the committee members reported that advice and counsel are sought less often from them as individuals than as a group.

20. The majority of all groups of respondents indicated that the vocational personnel of the school appear to follow committee advice to a considerable extent; advisory committee members think their advice is followed more often than do superintendents, vocational directors, and teachers.

21. In free responses, both professional and lay persons stressed the need for the school to give serious consideration to committee suggestions and opinions; and they pointed out the desirability of publicizing the work of the committee and of giving recognition to the members for their contributions.

22. The majority of the administrative personnel and the committee members themselves stated that the committees have been of more than average assistance in the area of curriculum; the vocational teachers, as a group, indicated the assistance in this area to be but average.

23. Equipment is the area in which the committees appear to have been of greatest assistance.

24. Committees have provided more assistance in placement of students after graduation than in the selection of students for specific vocational programs or in the follow-up of graduates.

25. All groups contacted by questionnaire are quite supportive of the idea that local advisory committees are of real value to the vocational programs.

26. Approximately 60 per cent of the respondents from schools having no advisory committees reported that they thought such committees should be formed.

27. Of the four types of school district, the joint vocational schools are the most emphatic that their programs are geared to the wide range of student interest and ability, but all of the subgroups fall slightly above average in this regard.

28. In response to an item about how commendable a job the respondent's school is doing in regard to certain aspects of the vocational programs, highest rating was given by superintendents to "supervision of the 'co-op' students," by vocational directors to "depth of job preparation," and by advisory committee members to "use of modern equipment."

29. Fewer than one-sixth of the respondents appear to consider that the vocational programs are geared too much to students with lower academic ability, and only about one-fifth indicated that academic preparation is neglected in favor of employment skills.

30. In general, respondents think their respective schools' vocational programs are meeting to an above-average extent both the job preparation needs of the youth of their respective communities and the needs of the employers of the community.

31. Both the directors and the advisory committee members, as groups, agreed that the vocational program is attuned to the variety of employment needs in the community.

CHAPTER 4

THE INTERVIEW PHASE OF THE STUDY

As indicated in the opening chapter of this report, the use of individual interviews with representatives of three major groups included in the study was one of the primary data-gathering methods used by the Study Staff. The interviewing was done by two members of the Study Staff during the last two weeks in February and the first week in March. The total group interviewed numbered 65; the Study Office selected the persons to be interviewed. Table 1.3 in Chapter 1 showed the distribution of the 65 individuals by type of school district and type of group of which the interviewees were members.

The two interviewers were briefed personally by the Study Directors as to procedures and the use of the two forms of the interview schedule (sets of interview questions) which had been especially developed for this study. Instructions were also given the interviewers concerning the nature (form) of their reports summarizing the results of the interviews with the three groups represented (school superintendents, vocational directors and supervisors, and chairmen of advisory committees). Each interview was at least 30 minutes long, was conducted in private, and the interviewee was assured that he would not be identified individually in the report. In general, the questions used in the interview did not duplicate the items in the study questionaire sent to and returned by each of the persons interviewed. All of the superintendents interviewed were men. Three of the committee chairmen and two of the vocational director and supervisor group were women. Committees for all five vocational services, as well as general committees, were represented among the committee chairmen interviewed.

Number of Interviewees in Each Half of Ohio

For purposes of administering the interview phase of the study, the State was divided into two major sections (north and south), with Route 40 (now I-70 in many places) serving roughly as the east-west dividing line. Tables 4.1 and 4.2 show the distributions in the two halves of Ohio. Efforts were made by the Study Office to secure, if possible, representation among the four types of school districts for all three groups interviewed. This was particularly difficult as regards exempted villages since the number is small and since returns of questionnaires from these districts were rather limited. Another factor making it difficult to get district-type representation was the small number of vocational directors and supervisors (a total of nine) represented in the 5 per cent interview sample.

The larger, and more nearly equal, samples of superintendents and advisory committee chairmen are obvious in both Tables 4.1 and 4.2. The fact of their being relatively equal is, of course, a reflection of the application of the 5 per cent to two groups which were not very different numerically: 550 school districts and 583 advisory committees used in the study.

TABLE 4.1

DISTRIBUTION OF THE 34 PERSONS INTERVIEWED
IN NORTHERN OHIO

Group	Type of school district				Total
	JVS	City	Ex.vill.	Local	
School superintendents	5	6		2	13
Vocational directors and supervisors	3	2	1		6
Advisory committee chairmen	6	9			15
Total	14	17	1	2	34

Source: Records of the Study Office and the ERA interviewer.

TABLE 4.2

DISTRIBUTION OF THE 31 PERSONS INTERVIEWED
IN SOUTHERN OHIO

Group	Type of school district				Total
	JVS	City	Ex.vill.	Local	
School superintendents	5	3		6	14
Vocational directors and supervisors	1	2			3
Advisory committee chairmen	7	5		2	14
Total	13	10		8	31

Source: Records of the Study Office and the ERA interviewer.

Information from Interviews with School Personnel

Interviews were held with a total of 27 school superintendents and nine vocational directors and supervisors. In almost every case the superintendent and director or supervisor were not from the same school district. This was by design in order to increase the geographical coverage represented by the interviews of school personnel. This procedure did increase the distances traveled by the two interviewers and consequently the total time necessary for the actual interviewing and the travel time incidental to it.

One of the major disadvantages of the interview technique as contrasted with the mail questionnaire method for gathering data is the comparatively

small sample of interviews necessitated in most educational studies because of limits of money, time, and personnel.

The set of interview questions (interview schedule) used with the 36 persons in the school group contained 12 items for which the interviewer recorded the interviewee's responses on a 5-point scale of intensity. The "intensity" was inferential; that is, the interviewer had to make a judgment of "intensity" as it seemed reflected in the interviewee's response to and extended discussion of the item. In addition to the 12 scaled items, there were five items for which the interviewer did not have a 5-point scale on which to record interview responses. All questions on the interview schedule, except one, dealt with various aspects of local advisory committees.

Those people interviewed reported little difficulty in getting lay persons to serve on advisory committees. It was reportedly somewhat more difficult, however, to get "good" people as members, for so often this type of person is an extremely busy individual.

Very seldom had the school personnel interviewed received complaints from committee members regarding the time required for serving on advisory committees. Attendance at such meetings, it was reported, ranged from average to good. The vocational directors and supervisors interviewed rated attendance at committee meetings a little higher than did the school superintendents.

Cooperation between advisory committees and the schools was judged by those interviewed to be very good. The values of such committees as public relations agents, as a means of helping to keep vocational programs up to date, and as an influence in relating the schools' programs to current job needs were rated in the top two categories of the 5-point scale.

The group of vocational directors and supervisors rated committee interest considerably lower than did the superintendents. This was probably due to the vocational personnel's greater familiarity with the work of the advisory committees and thus they were able to give a more realistic evaluation. Even this lower evaluation, however, was collectively near average, being below average for the northern Ohio vocational personnel and above average for those interviewed in southern Ohio. On the topic of interest, the interviewers found some of the persons interviewed stressing that members of occupational (craft) committees appeared to have little interest in the total program of vocational program. This attitude, however, is understandable.

With respect to the amount and quality of help received by the schools from the advisory committees, the groups interviewed in both halves of the State gave collectively an above-average rating. In southern Ohio the judgment of the vocational personnel was higher collectively than that of the school superintendents by more than one full-step on the 5-point scale (4.33 compared with 3.21).

Those interviewed (with the exception of southern Ohio superintendents) generally judged committees "not guilty" of wasting time in committee meetings. The superintendents of southern Ohio, however, were quite critical in this regard, giving a collective judgment of "above average" in regard to time wasted in committee meetings.

Those interviewed were asked if they had had any complaints from minority groups regarding their representation on advisory committees. The individual interview record sheets for the school personnel group of 36 people showed no responses recorded above the lowest position on the 5-point scale (1 - very little or none); in fact, the interviewers' work sheets usually carried notations such as "none at all," "none as yet," or a similar phrase indicating the complete absence of this type of complaint. It seemed apparent to the interviewers from the discussion that whenever advisory committees had been formed, very serious consideration had been given to the question of representation.

Tables 4.3 and 4.4 summarize the responses of the 36 interviewees in the school personnel group regarding the 12 items in the interview schedule for which responses were recorded by the interviewers on the 5-point scale. The first table is for northern Ohio; the second, for southern Ohio. Data in each of the tables are summarized separately for school superintendents and for vocational personnel. These tables should serve the reader as a source of reference in making quantitative comparisons in a variety of ways regarding the responses collectively organized for the 12 scaled items.

TABLE 4.3

SYNTHESIS OF RESPONSES FROM 19 SCHOOL PERSONS IN NORTHERN OHIO TO EACH OF THE 12 SCALED* ITEMS OF THE STUDY INTERVIEW

Item	Average value rating**	
	School superintendents	Directors & supervisors
Difficulty in getting lay committee members	2.00	1.67
Difficulty in getting "good" committee members	2.31	1.83
Member complaints about committee time used	1.23	1.50
Cooperation between committee and school	4.46	4.67
Public relations value of advisory committees	4.46	4.33
Influence in relating school program to job needs	3.54	4.17
Influence in keeping programs up to date	4.69	4.67
Member attendance at committee meetings	3.77	3.83
Committee interest in vocational program	3.15	2.83
Amount and quality of help from advisory committee	4.31	4.33
Waste of meeting time by committee	1.15	1.33
Minority group complaints about representation	1.00	1.00

Source: Records of the ERA interviewer.

*The interviewer recorded the interviewee's response on the following 5-point scale for each of the 12 scaled items in the interview schedule: 5 - very much, 4 - much, 3 - some (average), 2 - little, and 1 - very little or none.

**See Table 3.1, page 24 for method of calculating AVR (average value rating).

TABLE 4.4

SYNTHESIS OF RESPONSES FROM 17 SCHOOL PERSONS IN SOUTHERN OHIO TO EACH OF THE 12 SCALED* ITEMS OF THE STUDY INTERVIEW

Item	Average value rating**	
	School superintendents	Directors & supervisors
Difficulty in getting lay committee members	1.50	1.00
Difficulty in getting "good" committee members	1.50	1.67
Member complaints about committee time used	1.14	1.00
Cooperation between committee and school	4.07	5.00
Public relations value of advisory committees	4.07	4.00
Influence in relating school program to job needs	4.29	4.33
Influence in keeping preparation programs up to date	4.07	5.00
Member attendance at committee meetings	3.43	5.00
Committee interest in vocational program	4.28	3.67
Amount and quality of help from advisory committee	3.21	4.33
Waste of meeting time by committee	3.25	1.67
Minority group complaints about representation	1.00	1.00

Source: Records of the ERA interviewer.

*The interviewer recorded the interviewee's response on the following 5-point scale for each of the 12 scaled items in the interview schedule: 5 - very much, 4 - much, 3 - some (average), 2 - little, and 1 - very little or none.

**See Table 3.1, page 24 for method of calculating AVR (average value rating).

With respect to the prevailing number of committee meetings, a large majority of the school people interviewed indicated that the number was now satisfactory. No one reported a need for fewer meetings, but 23 per cent of the northern Ohio group and 8 per cent of those interviewed in southern Ohio expressed a need for more committee meetings.

No person in the entire group of 36 school people recommended the abolition of any existing advisory committees, but one or two reported a need for consolidating a number of craft committees in a given trade area. There was no need expressed for any new committees unless a new vocational program were initiated; then such a new committee would be mandatory in their judgment.

In addition to asking the interviewees about complaints they had received regarding the representativeness of advisory committee membership, the interviewers asked each person his own perception regarding the need for a different pattern of representation. The following individual responses by one or two persons were made: more representation from the upper echelons of big business

and industry, a better balance of representation among small operators, a representative of the large group of Doctors of Osteopathy in the individual's community, more members from labor groups, and more representation from certain minority groups, especially blacks.

The 36 school people interviewed were asked if they favored the concentration of vocational education in specialized schools (e.g., vocational high schools or joint vocational schools) as against having such programs in comprehensive high schools. In northern Ohio slightly fewer than one-half (46 per cent) responded "yes." In southern Ohio the pattern of response was reversed, 57 per cent reportedly favoring concentration in specialized schools. The responses to this question tended to reflect the current situation in which the interviewee was working; for example, those in JVS's favored specialized schools, and those having large comprehensive high schools favored that arrangement. Those living in smaller (often more rural) school districts appeared to recognize the need and value of becoming a part of a jointure or other type of cooperative arrangement that would enlarge the base of potential vocational enrollment, thus making more feasible expanded preparation programs of vocational education.

Information from Interviews with Committee Chairmen

The interview schedule (set of questions) for use with the sample of 29 advisory committee chairmen interviewed contained a list of five items for which the interviewer made an inferred judgment of the interviewee's response to and discussion of each of the items and recorded it on a 5-point scale of intensity. There were eight additional questions in the interview schedule for which responses did not lend themselves well to being recorded on an intensity scale. All items except one dealt with advisory committees for vocational education.

The chairman was first asked about the extent to which he was interested in and enjoyed the work of his committee. Evidently the levels of interest and enjoyment were quite high. A few chairmen distinguished between the level of interest and the level of enjoyment. In all such cases the level of enjoyment was somewhat below that of interest.

After asking the chairman about his own interest in his advisory committee work, he was asked about the evinced interest of his committee, as a group, in vocational education. Responses to this question were collectively somewhat below the average of the chairmen's reactions about their own interest level in the committee's work. A part of this difference might be attributed to a certain amount of ego involvement on the part of the chairmen. One rather startling contrast regarding committee interest was the fact that the collective response of the 15 northern Ohio chairmen was below that for the 14 southern Ohio chairmen by slightly more than one full step on the 5-point scale (3.91 compared with 4.92). The level of interest in vocational education reflected by the committee chairmen interviewed (both northern and southern) tended to be considerably higher than that attributed to advisory committees by both superintendents and vocational personnel except for the responses of the southern Ohio superintendents (see Tables 4.3 and 4.4).

Attendance of committee members at meetings was rated quite high by both groups of chairmen interviewed. Chairmen tended to rate attendance higher than did school personnel except for the vocational directors and supervisors in southern Ohio (see Tables 4.3 and 4.4).

The level of cooperation between schools and advisory committees was high according to the interviews with the 29 committee chairmen. This was true also, the reader may recall, of school personnel interviewed (see Tables 4.3 and 4.4).

The quality of committee minutes recorded for those committees which followed such a practice was considered well above average by the chairmen interviewed. It appeared from the interviews that there were eight of the 29 committees represented by the interviews which do not record committee minutes. Additional information regarding the recording (and distribution) of committee minutes will be presented in the first section of Chapter 5.

Table 4.5 summarizes separately for the chairmen of northern and southern local advisory committees the interview responses concerning the five scaled items in their interview schedule. This table should serve as a quantitative reference for the immediately preceding textual material about the interviews with committee chairmen. This table can serve also as a basis for comparing the collective responses of advisory committee chairmen with those of school personnel in regard to three scaled items common to the interview schedules of both the chairmen and the group of school persons (see Tables 4.3 and 4.4).

TABLE 4.5

SYNTHESIS OF RESPONSES FROM 15 ADVISORY COMMITTEE CHAIRMEN IN NORTHERN OHIO AND 14 ADVISORY COMMITTEE CHAIRMEN IN SOUTHERN OHIO TO THE FIVE SCALED* ITEMS OF THE INDIVIDUAL STUDY INTERVIEW

Item	Average value rating**	
	Northern Ohio chairmen	Southern Ohio chairmen
MEMBER'S interest (and enjoyment) in committee work	4.80	4.93
Member's attendance at meetings	4.43	4.62
COMMITTEE'S interest, as a group, in voc. educ.	3.91	4.92
Cooperation between school and committee	4.60	4.77
Quality of committee's minutes	4.10	3.69

Source: Records of the ERA interviewers.

*The interviewers recorded the interviewee's response on the following 5-point scale for each of the five scaled items in the interview schedule: 5 - very much, 4 - much, 3 - some (average), 2 - little, and 1 - very little or none.

**See Table 3.1, page 24 for method of calculating AVR (average value rating).

Of the 29 committee chairmen interviewed, 60 per cent of those in the northern half of Ohio and 53 per cent of those in the southern half reported that school personnel were members of their committees. The group on whose committees school personnel served were unanimous that this is a good practice.

Not a single committee chairman recommended that his advisory committee be abolished. There were minor suggestions as to how the committee might be modified with regard to name or to number of members; some suggested enlarging the committee and one or two believed it would be improved if there could be a change in the personnel of the committee.

It was surprising to the Study Staff to find that only 33 per cent of the northern Ohio group of chairmen and only 23 per cent of those in southern Ohio said there was any systematic procedure for membership tenure or rotation of members. Most of the chairmen not having any such organized procedure emphasized the need for it.

With respect to whether advisory committees should try to prepare more publications dealing with preparation programs for employment and/or employment needs, two-thirds of those in northern Ohio were for more reports. In southern Ohio, however, only 31 per cent of the chairmen interviewed reported favoring additional publications; in fact, several said that the advisory committees should not attempt any such projects. Those favoring more publications thought they should emphasize job opportunities. A number of the persons interviewed commented that the present practice of disseminating information by word of mouth tended toward fragmentation and misinterpretation. Those opposed to committee publications said that this was "not the job of the committee" and that the committee was "not qualified" to undertake such projects.

Increased committee effectiveness, the chairmen indicated, might be brought about by a variety of means. One that was stressed considerably was that meetings of committees should be scheduled <u>regularly</u> and <u>more often</u>. Another suggestion made by some was that the committees should have definite goals established and certain limitations of responsibility and activity placed upon their operation. There seemed to be discernible sentiment to have the schools "follow through" more satisfactorily regarding committee advice. There was stressed also the need for committee members to inform themselves more fully about the vocational needs and efforts of the schools. Committee suggestions for new vocational offerings in the schools were few, and those made seemed to be limited primarily to improving the situation only for boys. One important suggestion was for more in-the-plant instruction for both instructors and students. No vocational offerings were named for being abolished.

With respect to whether vocational education is better provided in specialized schools (such as vocational high schools and joint vocational schools) than in comprehensive high schools, committee chairmen were more in favor of concentration of programs in specialized schools than were school superintendents and vocational personnel. In this regard, concentration was favored by 6 per cent of the northern Ohio chairmen and 81 per cent of those from the southern half of the State.

Some Conclusions from Chapter 4

1. Data secured from a sample of 65 Ohioans by interview are much fewer than those derived from 2,692 Ohioans by means of questionnaires as detailed in Chapter 3.

2. Wherever data from the two approaches were about related items, the data from the interviews tended to support those from questionnaires.

3. Interviewees proved to be very cooperative with the ERA interviewers as reflected by the interviewee responses recorded on the individual interview schedules; this was taken by the Study Staff as an indication of the interest in the project of those interviewed.

4. There were few significant differences between the collective interview responses of the northern Ohio personnel and those from people interviewed in southern Ohio.

5. The overall picture of Ohio advisory committees as pictured by the interviewees was, for the most part, quite praiseworthy.

6. The responses of committee chairmen imply certain needs for improvement of the system of advisory committees; for example, organized procedures for member tenure and rotation, more publications by advisory committees, more universal recording of committee minutes, and more "follow through" by the schools in response to committee advice.

7. Both chairmen and school personnel strongly favor continuation of the advisory committee system in Ohio.

8. Those interviewed reflected no serious lack of minority group representation.

9. The inclusion of some school personnel on committees was considered a good practice by the chairmen of those committees having such personnel.

10. A majority of all those interviewed expressed a preference for the concentration of vocational programs in specialized schools such as joint vocational schools and vocational high schools, but the preference was considerably stronger in the group of committee chairmen.

11. Cooperation between the committees and the schools was judged to be quite good by both committee chairmen and school personnel.

12. There seems to be considerable desire expressed by chairmen for (a) definitely scheduled committee meetings and (b) more committee meetings.

13. There appeared to be consensus among those interviewed that when a new vocational program is being initiated, the formation of a related local advisory committee is mandatory.

14. The committee chairmen interviewed seemed to imply the need for a re-appraisal from time to time of the composition and work of local advisory committees to determine the need, if any, for membership changes, possible consolidation with another committee, changes in function, and the like.

15. There is apparently little difficulty encountered in securing advisory committee members; some serious difficulty seems to exist with respect to having some organized procedure for committee member tenure and replacement.

16. The level of interest in and enjoyment of committee work as evidenced by the responses of the committee chairmen interviewed was admirably high.

CHAPTER 5

TWO ADDITIONAL (BUT SECONDARY) PHASES OF THE STUDY

Chapters 3 and 4 pictured the general nature of and the major results from the two primary data-gathering approaches to the study as established in the design of the study and agreed to by contract. By design and contract there were two additional facets of the study which were considered by the Study Staff as secondary procedures: (a) an analysis of a sample of minutes from local advisory committees and (b) a scrutiny of materials recently published and distributed by such committees. The contract stipulated that for both facets only those materials delivered (mailed) to the Study Office would be given consideration.

Copies of a letter from ERA were sent in February, 1970 to all advisory committee secretaries for whom names and usable mailing addresses were received by the Study Office from the various responding groups to whom ERA had previously sent written requests for such information. The total number of committee secretaries contacted by letter was 129. In some instances one person served as secretary for two or more advisory committees.

Minutes of Local Advisory Committees

In Table 5.1 is a summary, by type of school district, of what the Study Office received from the 22 per cent of the secretary group which responded to ERA's letter of request for minutes.

TABLE 5.1

DISTRIBUTION, BY TYPE OF SCHOOL DISTRICT, OF COMMITTEE MINUTES RECEIVED FROM COMMITTEE SECRETARIES CONTACTED BY ERA'S LETTER REQUESTING SETS OF MINUTES

Item	Type of school district				Total
	JVS	City	Ex.vill.	Local	
Number of secretaries written by ERA	69	44	1	15	129
Number of secretaries replying	19	7		2	28
Number of districts replying	8	5		1	14
Number of sets of minutes received	39	13		2	54
Number of different programs represented*	18	6		1	25

Source: Records of the Study Office.

*All of the five vocational services except agriculture were represented.

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An analysis of the 54 sets of advisory committee minutes delivered to the Study Office revealed that, for the most part, they dealt with topics that such committees would be expected to consider. Too often, perhaps, the minutes indicated committee time spent on what the ERA analysts thought were less significant and less relevant concerns; for example, the question of whether a student with diabetes would be able to get a job, the "donation of a picture frame by Mrs. ____," discussion of the definition of "a small business concern," examination of student record folders for incoming students, a review of specific student courses of persons in their home schools before entering vocational education, and debate on vocational education versus college preparatory programs in high school.

The topic most often discussed, as reflected by committee minutes, was that of space and equipment (particularly equipment). This was followed by such topics as the nature (primarily content) of the instructional programs, selection of students, and relation of the school to the community (industry, business, professions, labor, parents, voters). All these topics are, the analysts believe, highly significant and relevant.

The ERA analysts rated the committee minutes, set by set, on a 5-point scale in terms of topics (content) and form (style, extent, and nature of presentation). The composite results, on a percentage basis, are shown in Table 5.2.

TABLE 5.2

EVALUATION, BY PER CENTS, OF THE COMMITTEE MINUTES BY THE STUDY OFFICE ANALYSTS WITH RESPECT TO CONTENT AND FORM OF MINUTES

Item	Per cent assigned to scale value*				
	5	4	3	2	1
Topics (content of minutes)	20	40	40		
Form (style, extent, nature)		40	45	10	5

Source: Records of evaluation by ERA analysts.

*Scale is interpreted as follows: 5 - very good, 4 - good, 3 - average, 2 - poor, 1 - very poor.

In the questionnaires used by ERA there were items dealing with the recording and distribution of committee minutes. The data regarding these items were omitted from Chapter 3 (the questionnaire phase) in order to relate them here to the discussion of committee minutes. The item regarding the recording of minutes was included in the questionnaires to three groups as will be shown in Table 5.3 together with a summary of the responses. Information regarding the regular receipt of committee minutes by each of the four responding groups for whom the ERA questionnaires included items about committee minutes will be summarized in Table 5.4.

TABLE 5.3

EXTENT TO WHICH RESPONDENTS REPORTED THAT THEIR ADVISORY COMMITTEES GENERALLY RECORD COMMITTEE MINUTES

Group of respondents	Per cent reporting recorded minutes				
	JVS	City	Ex. vill.	Local	Total
School superintendents	69	50		56	54
Vocational directors	91	73	100	100	81
Advisory committee members	64	63	59	55	63

Source: ERA questionnaires returned to the Study Office.

TABLE 5.4

EXTENT TO WHICH RESPONDENTS REPORTED THEY REGULARLY RECEIVE SETS OF ADVISORY COMMITTEE MINUTES

Group of respondents	Per cent reporting receipt of minutes				
	JVS	City	Ex. vill.	Local	Total
School superintendents	67	88		66	76
Vocational directors	90	88	100	67	87
Supervisors and T & I coordinators	82	64		67	74
Vocational teachers	58	42	45	22	41

Source: ERA questionnaires returned to the Study Office.

Reports Published by Advisory Committees

In ERA's letters to advisory committee secretaries requesting sets of minutes was included a request for copies of recent publications (brochures, pamphlets, reports, etc.) prepared and distributed by the committee. Materials delivered to the Study Office in response to this request were meager. Items were sent to the Study Office by a total of 18 of the 129 secretaries to whom ERA sent letters of request. A number of the items, however, were reprints of magazine articles and thus did not represent committee publications.

In addition to the several reprints of magazine articles, the next most common item sent in was a handbook for advisory committees (general or specific). These were received from six committees. The inclusion of such items as a program for an advisory committee luncheon, a sample employer rating scale, a copy of a letter, and a roster of an advisory committee lead the writers to infer a real lack of meaningful committee publications (brochures, pamphlets, reports). One report was received which dealt with the actual need for a given type of worker in an Ohio city. This report represented the kind of publication the Study Directors envisioned in their request to secretaries for samples.

Items regarding the practice of committees' publishing materials were included in certain of the ERA questionnaires. The data from these items were omitted from Chapter 3 (the questionnaire approach to the study) so that they might be presented in this discussion of committee publications in Chapter 5. In Tables 5.5 and 5.6 are shown, respectively, the responses of vocational teachers and members of advisory committees organized (a) by type of school district and (b) by vocational service.

TABLE 5.5

PER CENT OF TEACHERS AND COMMITTEE MEMBERS REPORTING THAT THE ADVISORY COMMITTEES PREPARE AND DISTRIBUTE COMMITTEE PUBLICATIONS (BROCHURES, PAMPHLETS, REPORTS), BY TYPE OF SCHOOL DISTRICT

Group reporting	Per cent reporting publications				
	JVS	City	Ex. vill.	Local	Total
Vocational teachers	15	19	9	12	16
Advisory committee members	14	18	10	15	15

Source: ERA questionnaires returned to the Study Office.

TABLE 5.6

PER CENT OF TEACHERS AND COMMITTEE MEMBERS REPORTING THAT THE ADVISORY COMMITTEES PREPARE AND DISTRIBUTE COMMITTEE PUBLICATIONS (BROCHURES, PAMPHLETS, REPORTS), BY TYPE OF VOCATIONAL SERVICE

Group reporting	Per cent reporting publications						
	Gen.	Agri.	Bus.	D. E.	H. Ec.	T&I	Total
Vocational teachers	--	14	13	11	6	23	16
Advisory committee members	31	11	13	7	24	12	15

Source: ERA questionnaires returned to the Study Office.

The relatively low affirmative per cents shown in both of the preceding tables confirm the Study Staff's inference stated earlier that there is a lack of published materials by advisory committees. The similarity of the per cents in Table 5.5 for every type of district as between teacher responses and committee responses is quite striking. When it comes to comparisons of the two groups of respondents on the basis of the vocational services, the similarities of two of the services (home economics and trade and industrial) are not so striking.

The questionnaires to school superintendents and vocational directors requested respondents to make their answers regarding committee publications on a 5-point scale of intensity, rather than a dichotomous answer of "yes" or "no." The results from this item in the two questionnaires are summarized, in per cents, in Table 5.7

TABLE 5.7

EXTENT TO WHICH ADVISORY COMMITTEES PREPARE AND DISTRIBUTE COMMITTEE PUBLICATIONS AS REPORTED BY SCHOOL SUPERINTENDENTS AND VOCATIONAL DIRECTORS

Group	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
School superintendents	107	2	10	25	26	37	2.15
Vocational directors	37		13	22	24	41	2.08
Total	144	2	11	24	26	37	2.13

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

In Table 5.7 the responding superintendents seem slightly more optimistic than do the vocational directors regarding committee publications, but both average value ratings are well below average (AVR = 3.00). In Table 5.8 comparisons of the same data will be made on the basis of type of district. In this table the average value ratings for the superintendents and vocational directors combined fall into a pattern which is not surprising. The local districts (generally small and often rural) are lowest, and the joint vocational schools, the sole responsibility of which is basically job preparation and subsequent job placement, lead the list. The JVS's are more homogeneous with respect to purposes, programs, personnel, publicity, and public relations. Consequently they have a more concentrated "area" for published materials, for it deals with employment and jobs and the preparation of those who will be expected to fill these jobs--capably it is hoped.

TABLE 5.8

EXTENT TO WHICH ADVISORY COMMITTEES PREPARE AND DISTRIBUTE COMMITTEE PUBLICATIONS AS REPORTED BY SUPERINTENDENTS AND VOCATIONAL DIRECTORS, BY TYPE OF DISTRICT

Type of district	Number responding to item	Per cent indicating					AVR*
		Very much	Much	Some	Little	Very little or none	
JVS	24		21	42	25	12	2.62
City	76	3	12	18	27	40	2.11
Exempted village	2			50		50	2.00
Local	42		5	24	31	40	1.93

Source: ERA questionnaires returned to the Study Office.

*See footnote to Table 3.1, page 24.

Some Conclusions from Chapter 5

1. The response from the secretaries of local advisory committees for samples of committee minutes and committee publications, as requested by the Study Staff, was poor.

2. In general, the topics discussed by advisory committees, as reflected in the sets of minutes received by the Study Office, were deemed significant and relevant to the schools' vocational programs.

3. Committee minutes received and analyzed by ERA were judged better in content (topics) than in form and style of presentation.

4. A reasonably large majority of advisory committees apparently record and distribute committee minutes.

5. Vocational teachers are the most neglected group of school personnel in terms of receiving committee minutes regularly as evidenced by questionnaire responses.

6. There appears to be a definite lack of relevant published materials prepared under the aegis of local advisory committees.

7. Despite the overall lack of published materials by advisory committees, those from the joint vocational schools seem to be the most productive among the four types of Ohio school districts as regards publications.

CHAPTER 6

MAJOR CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY STAFF

In the preceding five chapters of this report the Study Staff has detailed many data, in both textual and tabular form, regarding the topic of local advisory committees for vocational education in Ohio. At the close of each of the chapters were presented some conclusions from that particular chapter. This arrangement provided, in effect, a kind of brief summary for the chapter.

On the basis of (a) the materials previously presented in this report, (b) the greater amount of study information from which the content of the report was selectively drawn, and (c) the research and survey experience of the members of the Study Staff, a number of major conclusions are presented as the opening section of this final chapter. These conclusions tend not to be specifically related to any one of the chapters but rather to the entire study. Some of the conclusions are positive in tone; others tend to be negative, indicating perhaps some of the situations with which State leadership in vocational education can assist local leaders in helping advisory committees to be more effective in their efforts to improve job preparation programs.

Major Conclusions of the Study Staff

1. The Study Directors are highly pleased with the way the study finally evolved.

2. Through the study have been secured more different kinds of data from a greater variety of people than has ever been achieved before in Ohio regarding the topic of local advisory committees for vocational education.

3. The combination of the two data-gathering techniques (questionnaires and interviews) proved to be very successful as a means of securing relevant information.

4. The system of local advisory committees as it operates in Ohio is an important adjunct to the instructional programs in vocational education, but there are important ways in which the system can be improved.

5. The extent to which local advisory committees are used appears to be related positively to the breadth and depth of vocational offerings in the Ohio schools about which information was received in the study.

6. In too many instances the system of local advisory committees and the schools which such committees purportedly serve seemed to be characterized too greatly by lethargy, indifference, and slipshod practices; this seemed to be more true of the school personnel than of the committee members.

7. There appeared to be more than an acceptable level of carelessness (or thoughtlessness or indifference) evident to the Study Staff in the reporting about local advisory committees by school personnel.

8. There appeared to exist in Ohio an undesirable level of confusion with regard to membership, functions, operating procedures, and other aspects related to the operation of local advisory committees.

9. Local advisory committees, in many instances, appeared more interested in and anxious to help with vocational programs than were the school personnel at times in having them help.

10. The cooperation in the study by members of local advisory committees was at a level equal to or better than that usually found by the Study Directors in studies involving lay people.

11. The cooperation from school personnel, especially from vocational teachers, tended to fall considerably below that usually experienced by the Study Directors in similar studies and surveys.

12. One basic problem associated with the operation of local advisory committees for vocational education is that of <u>communication</u>: between the committee and the school, between the school and the State Division of Vocational Education, between the school and the general community of industry, business, and the professions, and between the advisory committee and the general business, industrial, and professional facets of the community.

13. There are several important ways in which the State Division of Vocational Education can be of assistance in the operation of a system of local advisory committees; and the committees (and to a lesser extent the schools) would welcome such assistance.

Recommendations of the Study Staff

The Study Staff has developed its recommendations on the same three bases as indicated at the beginning of this chapter as the three sources of the major conclusions presented in the immediately preceding section. The order in which these recommendations are presented does not indicate their relative importance nor imply the order in which they should be given consideration or be implemented.

Concerning the future of local advisory committees for vocational education in Ohio, IT IS RECOMMENDED:

1. That the basic concept or plan of local advisory committees for vocational education in Ohio be continued, but that a number of modifications be made, many of which are subsequently recommended herein.

2. That greater and more carefully organized utilization be made of existing local advisory committees in order to capitalize on their apparent interest and assumed competencies in providing assistance to programs of vocational education.

3. That the State Division of Vocational Education make mandatory the creation of appropriate local advisory committees whenever a new center for vocational education is being created and whenever a new program in vocational education is being planned for an existing center.

4. That under the professional leadership of the Director's Office in the State Division of Vocational Education, each vocational service in the Division formulate and distribute to Ohio schools guidelines regarding (a) the creation of a local advisory committee of representative persons, (b) the major functions of such a committee, (c) procedures for committee operation, and (d) methods of evaluating the committee's work and the vocational program(s) with which such committee purportedly assists.

5. That no effort be expended by the State Division of Vocational Education, the State Advisory Council, or any other group or individual to organize a single local advisory committee merely for the sake of having such a committee or of "keeping up with the Joneses" school-districtwise but rather that the creation of such a committee presuppose the intelligent use of it by the schools.

6. That the State Division of Vocational Education assume greater responsibility for developing in local vocational administrative personnel the skills and knowledge necessary for the successful organization and operation of local advisory committees, including a special set of guidelines or "assists" for use by committee secretaries in their recording and reporting of committee minutes.

7. That efforts be made, in the organization of advisory committees and the selection of members, to correct the imbalance which now seems to exist in many committees between employer and employee representation.

8. That planned efforts be made in the creation of general advisory committees in the various school districts to ensure appropriate representation of any community minority groups.

9. That the number of lay members on an occupational or craft advisory committee not exceed eight and that the number on a general advisory committee not exceed 12.

10. That every effort be made by those responsible for appointing members of local advisory committees to resist any temptation to make such appointments for purely partisan political purposes or reasons.

11. That in so far as possible, serious attempts be made by local vocational administrators to avoid having an individual serve simultaneously on two or more local advisory committees.

12. That for every local advisory committee organized, a definite plan be adopted and followed for the replacement or rotation of members on the committee, with definite terms of service and a staggered pattern of replacement.

1956

13. That local advisory committees be encouraged to deal primarily with generally basic problems of vocational education such as space and equipment needs, criteria for student selection, new curriculum approaches, qualifications of staff, placement and follow-up of graduates, dissemination to the public of information regarding vocational programs, and the like.

14. That school superintendents and vocational directors and supervisors assume their expected leadership responsibility in having the schools seek more consistently from their advisory committees the assistance (advice) which this study reveals the committees, for the most part, are willing and anxious (and assumedly able) to provide.

15. That local advisory committees assume more leadership in encouraging, and if possible participating in, studies and surveys related to employment needs, job preparation programs, placement and follow-up of graduates, and other major aspects related to that segment of the vocational education efforts with which the given committee assists; and that reports of such studies and surveys be distributed to the schools and to appropriate community agencies and individuals.

16. That when deemed desirable by vocational administrators at the local level, consideration be given to the temporary (ad hoc) use of interested and knowledgeable individuals or representatives of informal groups as a supplement to a given local advisory committee, and that such temporarily used individuals serve in the role of consultants.

17. That when a majority of the members of an advisory committee repeatedly fail to attend committee meetings, attention be given immediately by the vocational administrators to the task of reconstituting the committee.

18. That a definite schedule of committee meeting dates be pre-established; that the schedule for a committee which is dealing with the planning for and the establishment of a new vocational center or program meet as frequently as the situation warrants; that the schedule for committees for ongoing vocational programs meet at least every other month; and that for both types of committee if it becomes evident that a scheduled meeting is not really needed, it be canceled and members so notified.

19. That improved methods of arriving at committee consensus be developed, even to the point of frequent voting; but that the advisory committee members bear in mind constantly that their committee is advisory (consultative) and not administrative.

20. That the channels and methods of communication between the school and its advisory committee(s) be improved at least to the point that the lay persons really know if they are members and that school personnel working with each such committee know the first names or initials of all the committee members and their correct and complete mailing addresses.

21. That as one means to better communication between the school and its local advisory committees, school personnel serving in vocational education have ex officio membership on appropriate advisory committees to serve as liaison persons and in a consultative capacity but with no voting privilege; and that it be considered appropriate and desirable, in many cases, for the school person to serve as committee secretary.

22. That the one in eight vocational teachers who reported in the study that they NEVER met with their local occupational advisory committees be helped by their vocational director and/or supervisor or their school principal or superintendent to become aware of the possible losses resulting from this type of absenteeism.

23. That increasingly school superintendents be provided with copies of advisory committee minutes as a possible means of communication, and that likewise committee minutes be increasingly provided to vocational teachers as a possible means of inservice teacher improvement.

24. That vocational teachers be encouraged by their vocational administrators to become better acquainted with and more receptive to the efforts of the occupational advisory committees in the teachers' respective areas of vocational service.

25. That the expressed desire of 60 per cent of the vocational teachers (from school districts reportedly having no advisory committees) for the creation of occupational committees be helped by their local educational administrators to have this desire met.

26. That the preference of two-thirds of the 29 committee chairmen interviewed for special vocational centers rather than vocational units or departments in comprehensive high schools for job preparation programs be seriously considered, as a representative sample of thinking, by those educational leaders responsible for making this kind of choice as well as by the voters who likely would be called upon to support the choice.

27. That school superintendents as a total group be encouraged by various means and various vocational leaders and at every opportunity to view vocational education as an integral and valuable part of the total public educational effort and to recognize the importance of local advisory committees in the improvement of vocational education programs.

28. That every effort be made in Ohio to consolidate the programs and efforts of vocational education through the creation of additional joint vocational schools (with adequate potential enrollments) and larger centers of attendance in regular school districts (usually necessitating larger administrative units except for the larger cities).

29. That the appraisal, or evaluation, function in vocational education operations be given a higher priority by those in leadership positions at both the State and local levels, including the leadership of the local advisory committee.

30. That the State Advisory Council for Vocational Education, working through its officers, join with the State Division of Vocational Education and the Division's several components in considering the recommendations from this special study; and that for those recommendations with which there is Advisory Council concurrence strong, consistent, and repeated efforts by the Council be made to seek implementation through the State Division of Vocational Education.

31. That some competent agency or organization outside the State Department of Education be secured to make periodic appraisals (at least biennially) of the work of the local advisory committees in Ohio in order to determine to what extent the recommendations of this report are being implemented and to discern if there are new problem situations needing attention.

32. That the Advisory Council be commended for authorizing the special study of local advisory committees and that it plan for its major research effort in 1970-71 a determination on a state-wide basis of how the various vocational programs are viewed by those who use the great majority of the programs' products: business, industry, and the professions.

33. That copies of this report be widely distributed to those Ohio people working in, or being interested in, vocational education--in the hope that acquaintance with the content of the report might lead to increasing improvement of the State's programs of vocational education.

VT 011 913
Showalter, Ralph
Report--Conference on Health Manpower Innovations (May 26-28, 1967).

Social Development Corp., Washington, D.C.
Maurice Falk Medical Fund, Pittsburgh, Pa.
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ABSTRACT - To explore solutions to health manpower problems, a 3-day conference on health manpower innovations brought together 51 physicians, social workers, psychologists, researchers, and medical facility administrators. Conference activities were centered around proposals designed to insure the continuation and improvement of existent paramedical training programs, to train workers in new skills to relieve pressure on professional personnel, to improve health services for the urban poor, or to draw underemployed people into newly structured health facility work forces. The discussions which followed the proposals were concerned with alleviating shortages of professional manpower through the use of additional and new kinds of supportive staff. Conferees agreed that auxiliary staff can free doctors and nurses from lower level tasks, improve communication with patients, improve productivity, and create efficiency and equity in medical care. There was concensus that medical service systems which encourage change stimulate innovations in manpower usage. (SB)

VT 011 913

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REPORT

CONFERENCE ON HEALTH MANPOWER INNOVATIONS

Social Development Corporation – Maurice Falk Medical Fund

May 1967

VT 011 913

1961

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1962

CONFERENCE SPONSORS

The Maurice Falk Medical Fund concentrates its efforts on social and community psychiatry with particular emphasis on the urban environment and mental illness in children. However, in recent years, the Fund has concluded that it is in a position to attack the longer range, more difficult, and more controversial questions that face our communities and has a chance to be uniquely catalytic in terms of the community planning process. The Fund's support of this Conference is an example of its catalytic role.

The Social Development Corporation also serves as a stimulant to the community planning process. In line with its major interest as a non-profit organization committed to solving social problems and strengthening human development, SDC undertook the organizing of the Conference and preparation of the Report.

The sponsors are indebted to the foundation executives and professional participants whose industry and attention made the Conference interesting and productive.

1963

INTRODUCTION

The shortage of professional and paramedical manpower in the health service industry is a matter of public record. The Federal Government has recognized the seriousness of the problem and has established agencies through which solutions can be sought. Professional groups and private health agencies have acknowledged the critical manpower shortages and have joined the search for solutions.[1]

To explore further solutions to health manpower problems, the Social Development Corporation and the Maurice Falk Medical Fund sponsored a Conference on Health Manpower Innovations on May 26-28, 1967. The Conference brought together private foundation presidents and executives with men and women from medical institutions and health training centers across the nation. These physicians, social workers, psychologists, researchers and

---

[1] In this industry, which employs roughly 3 million workers, there is an immediate demand for an additional half million people; at least 100,000 doctors, 75,000 nurses, 25,000 licensed practical nurses, and 300,000 paramedical workers.
The Public Health Service has created a Bureau of Health Manpower, with a Division of Allied Health Manpower devoted entirely to auxiliary health personnel. The Departments of Labor and Health, Education, and Welfare have committed funds for training paramedical personnel under the Manpower Development Training Act of 1962. More recently the Allied Health Professions Personnel Training Act was established to further close the manpower gap. The American Nurses Association, the American Medical Association, the American Dental Association, the American Hospital Association have directed attention to the problem. Some partial solutions, such as on-the-job training programs, redefining of professional roles and non-professional functions, expanding medical schools to train more doctors, bringing inactive nurses back into the health work force and so on, have been put into practice under the auspices of government and concerned professional groups.

6/7

medical facility administrators were selected on the basis of their demonstrated interest in training programs for new health manpower. They brought to the Conference specific proposals: some designed to insure the continuation and improvement of existent paramedical training programs; others planned to train workers in new skills or new constellations of tasks to relieve pressure on professional health personnel; others were designed to improve health services for the urban poor or to draw underemployed people into newly structured health facility work forces.

The Conference sought and achieved a diversity of approaches. Frequently the presentations during the two days of meetings evoked intensive and animated discussion among the foundation representatives and the medical participants. The knowledgeable audience forced explanations, clarifications, and defense of views.

The Conference had a loose structure to permit discussion of the proposals as they were being presented.

The Conference initiated a new level of communication between the foundations and the experimenting professionals. It became a forum for critical discussion of ethical and pragmatic questions about specific proposed solutions.

1965

PROPOSAL ABSTRACTS

1966

Dr. Abraham B. Bergman, Assistant Professor,
University of Washington School of Medicine,
and Outpatient Director, Children's Orthopedic Hospital
and Medical Center, Seattle, Washington

HEALTH AIDES PROGRAM will train and employ 54 community members as health aides over a two-year period. The first year, under the supervision of a clinic nurse and laboratory director, 24 people will be given practical clinical training in basic laboratory studies, the x-ray, electro-cardiography and central supply. The second year these aides will be trained in clinic clerical work in the record room, reception, billing and dental areas, under the clinic administrator. Another 18 trainees will spend forty-eight weeks rotating through maternity, convalescent and child daycare facilities; 12 trainees will be instructed in much the same way as are medical corpsmen, learning public health techniques and emergency care related to the health hazards in the life of grape workers.

Mrs. Margaret Burnstein, Director, Social Service,
Lincoln Hospital, Bronx, New York

FAMILY HEALTH CARE SERVICE PROJECT will study the organization and function of family care with particular emphasis on pediatric services. The study will elaborate and test two or more model health care systems for the delivery of family health services, utilizing different organizational patterns and new types of health care personnel. Following identification of effective new roles and task classifications, educational programs will be designed to provide knowledge and skill requisite for designated functions of new health personnel. Evaluations will include measures of consumer acceptance as well as vertical and lateral mobility of the new personnel. Field tests of the new organization systems and personnel will conclude the project.

Dr. David Brooks, Medical Director,
Rodrigo Terronez Memorial Clinic, Delano, California, and
Miss Patti Heinrich, Administrator,
Rodrigo Terronez Memorial Clinic, Delano, California

AUDIO VISUAL AIDS FOR HOME CARE PATIENTS will employ an audio visual aids expert to explore uses of newly developed electronic equipment such as the picture phone and closed circuit TV. It is anticipated that the elderly home care patient will be provided with more frequent contact with the hospital staff and home care patient visits to the hospital will be reduced. The new technology may also be used to reduce the isolation of the aged, provide supportive therapy and to provide quick answers to specific medical questions of the bed-ridden.

FAMILY HEALTH PROJECT will establish a comprehensive health center within a large hospital which will provide coordinated health services, including consultation and treatment planning for the patient and his family as a group. The plan includes reorganization of the hospital's social service department to provide family focus for one hundred young families from the "medically vulnerable" community who have major and numerous health problems. A professional social worker, a nurse, social work assistant and nursing assistant will direct diagnostic testing, obtain complete psychosocial and health histories, and plan treatment for these families. The treatment will be implemented through regular in- and out-patient hospital resources. An effort will be made to interpret the project to the community and will conclude with evaluation of the project.

Dr. Frank Dalton, Director, Department of Medicine,
Duke University Medical Center, Durham, North Carolina

RESEARCH-DEMONSTRATION PROJECT FOR YOUTH MENTAL HEALTH COUNSELORS will produce a two-year study to analyze systematically a training project for four paraprofessional counselors in operation at the National Childrens Rehabilitation Center for the last year. The study will conceptualize the practice and methods in training of these paraprofessionals and will develop a model for their recruitment, selection and curriculum. Evaluation will identify non-essential aspects of training and highlight areas of inadequate preparation. The model will be constructed to serve other residential treatment facilities faced with mental health counselor shortages. The study will also include the preparation of a casebook illustrating the performances of youth mental health counselors, a training manual and a technical research report covering the impact of training on the trainee and his relation to the professional structure within the institution.

Mrs. Margaret Burnstein, Director, Social Service,
Lincoln Hospital, Bronx, New York

PHYSICIAN ASSISTANT TRAINING PROGRAM is an expansion of an ongoing training program which now has 10 students. This proposal would increase the number to 40. Through a two-year training period, which combines pre-clinical course work and supervised clinical experience (and specialized on-the-job training in one area), a high school graduate or discharged military corpsman will be certified as physician assistant after testing and evaluation. Training will include diagnosis, research and minor therapeutic procedures, laboratory technique and practical application of didactic material. Graduates of the program will be employed as research assistants, clinical laboratory assistants or patient-care assistants.

Mr. Bernard Haberlein, Coordinator of Service,
National Childrens Rehabilitation Center, Leesburg, Virginia

Dr. Robert Headley, Assistant Professor,
The Bowman Gray School of Medicine, and
Director, Emergency and Outpatient Services,
North Carolina Baptist Hospital, Winston-Salem, North Carolina

TRAINING PROGRAM FOR COMMUNITY AIDES IN PUBLIC HEALTH will assist communities in the training, orientation and supervision of health personnel employed in community action programs and local health departments. A curriculum for health education will be combined in the training program with on-the-job training in such areas as sanitation surveys, insect and rodent control, dental health, planned parenthood, and daycare centers. Use will be made of mobile teams of professionals to conduct the training.

Dr. Edward P. Jordan, Executive Director,
American Association of Medical Clinics, Charlottesville, Virginia

DEMONSTRATION PROJECT IN EMERGENCY MEDICAL CARE SPECIALTY will establish a post-doctoral training program to train physicians for a new specialty in medicine: Emergency Care. The project will train five specialists, skilled in the latest techniques for immediacy care. An analysis will be made of diseases and traumas seen in emergency wards; incoming trainees will be tested and evaluated for factual knowledge and clinical skills; and an advisory committee will discuss and evaluate the various techniques taught to the students. The analysis will occupy the project in the first year; the next three years will be devoted to training the five specialists.

Dr. W. Burns Jones, Jr., Assistant State Health Director,
North Carolina State Board of Health, Raleigh, North Carolina

PHASE I OF A STUDY OF PROBLEMS INVOLVED IN TRAINING PARAMEDICAL PERSONNEL will be conducted in several clinics of variable sizes to determine and subsequently to evaluate methods of training paramedical personnel. The study will examine whether or not the rate of technical personnel produced is adequate to fulfill continuing needs. It will also study the recruitment practices and relevant qualifications of personnel for the training programs, the curricula and methodology of training, the levels of advancement and certification to be achieved and the extent of supervision warranted. A second, operational phase will implement the planning goals decided in Phase I.

FILM-LOOP INSTRUCTIONAL MATERIAL FOR PARA-MEDICAL HEALTH PERSONNEL is a project to develop, test, and evaluate a series of single concept, four minute film loops, covering generic features of a wide spectrum of auxiliary health occupations. Control groups using standard materials will be compared to trainees using the new materials. The films will be used in training programs in health facilities which have training contracts with the Social Development Corporation.

Dr. Raymond Kay, Medical Director,
Southern California Permanente Medical Group
Dr. Rene Cailliet, Chief, Physical Medicine Department,
Southern California Permanente Medical Group, Los Angeles, California

TRAINING FOR PUBLIC HEALTH ASSISTANTS is a two-year program to prepare public health workers for jobs at the health department. It will use for guidance a similar program already completed. The program will increase the education level of poverty community high school graduates, while providing them with compensable employment in three divisions of the Health Department: (1) Child Hygiene, (2) Health Education, and (3) Environmental Sanitation. An outgrowth of the program is the expansion of health services to the community. Twenty trainees will receive a 24-month course; half of the training time will be spent in public health instruction and regular college courses, and half in supervised job experience at federal minimum wage levels.

Mr. Martin Karp, Deputy Director,
Social Development Corporation, Washington, D. C.

TRAINING PROGRAM FOR PHYSICAL THERAPY AIDES will recruit, screen, and select trainees, establish a combined classroom and on-the-job training curriculum, set salary scales and evaluate the job performance of 36 physical therapy aides. Twelve aides will be trained on the job at hospitals in southern California for a three month training period. Three training periods are planned per year. The program includes a plan for educating professional and supervisory personnel to properly utilize the skills of the physical therapy aides. An attempt will be made to standardize the duties of aides who now work in already functioning departments.

Miss Mary Killeen, Program Coordinator,
Public Health Assistants Program,
Department of Public Health, Springfield, Massachusetts

1974

Dr. Russel V. Lee, Consultant, Palo Alto Medical Clinic,
Palo Alto, California
Dr. Stanley Skillicorn, Chairman, Health Manpower Advisory Committee,
and Former President, Santa Clara County Medical Society,
San Jose, California

PARAMEDICAL MANPOWER PROPOSAL will develop a model for a countywide system of recruitment, training, and placement of paramedical personnel. A community action unit, working with the county medical society and related educational and community agencies, will recruit, train and place up to 1,300 paramedical personnel, including licensed vocational nurses, nurse's aides, orderlies, home health aides, x-ray technicians, and psychiatric technicians. Academic courses and on-the-job training will maximize use of available facilities and resources, and a systematic process for evaluation and refinement of future programming will be devised. Upon completion of the training program students will be employed by education, health or employment institutions where shortages exist, rather than in the institutions that trained them.

Mr. Herbert Leibowitz, Head, Social Welfare Extension,
University of California at Berkeley, Berkeley, California

PHYSICIAN ASSISTANTS DEVELOPMENT PROJECT will operate, design, determine a potential advancement ladder, and evaluate a program to select, train, and place 10 physician assistants a year over a three-year training period. Over a five year period 50 physician assistants will be placed in individual and group practice physicians' offices. The program will utilize the academic courses and vocational training skills of a junior college. The three-year curriculum integrates practical work experience with the academic training.

Dr. Russel V. Lee, Consultant, Palo Alto Medical Clinic,
Palo Alto, California
Dr. Stanley Skillicorn, Chairman, Health Manpower Advisory Committee,
and Former President, Santa Clara County Medical Society,
San Jose, California

HUMAN SERVICES CAREER DEVELOPMENT CENTER will provide training for para-professional human services personnel (public health, mental health, social welfare, education) with the major emphasis on training which is generic to all positions: e.g. personal growth, interpersonal sensitivity, and improved communications among new staff teams. This center will also provide basic job skills and on-the-job training for auxiliary personnel in the human service fields.

HEALTH CAREERS PROGRAM will create a core of health career oriented personnel drawn from the community they will serve. A general health service curriculum will be created with a series of career paths in such areas as patient care, social service, community and mental health and several technical health specialties. Job descriptions and function analyses, screening and selection criteria and a community centered recruitment plan will be established in cooperation with professional staff at designated health facilities. Academic, vocational and field placement experience will lead to qualifying for certification and preparation for professional careers in health.

Dr. Newton Long, Associate Professor,
Department of Gynecology and Obstetrics,
and Director, Maternal and Infant Care Project,
Emory University School of Medicine, Atlanta, Georgia

CONFERENCE TO CONSIDER THE PROFESSIONAL TRAINING OF GROUP PSYCHOTHERAPISTS will bring together group psychotherapists and leaders of professional mental health disciplines to examine plans for including group theory training in the professional training of mental health workers. The Conference will develop minimum standards for the didactic and clinical training requirements of group psychotherapists. The Conference plans to set standards for the incorporation of group psychotherapy training into general professional training, to set standards for adequate training, and to designate the procedures necessary for the acceptance of group psychotherapy as a required component of professional training.

Dr. Tom Levin, Assistant Professor, Albert Einstein College of Medicine,
and Project Director, Health Careers Program,
Lincoln Hospital, Bronx, New York

CENTER FOR RESEARCH AND TRAINING IN MATERNAL AND FAMILY PLANNING will contain six divisions: an interconceptional care clinic for which physicians, nurses and medical students will be specially trained; a division of family planning with its own clinic, director and nurse; a division of maternal and infant high risk care (already funded and operating); a division of social and cultural studies which will study local and regional populations to determine the acceptance or rejection of medical and family planning services and to determine effective techniques of communication from the Center to the neighborhoods. The fifth division will do basic research on the public health impact of abortion and sterilization laws, the surplus food program, school policies for unmarried, pregnant secondary school pupils, and other regulations. The sixth division will coordinate training programs in a proposed school of nurse midwifery, an obstetrical technician program, a communicable disease center, and in participating hospitals, medical schools and state and Federal health departments.

Dr. Beryce MacLennan, Mental Health Consultant,
Washington, D. C.

Dr. Darrel Mase, Dean, College of Health Related Professions,
University of Florida, Gainesville, Florida

EDUCATION FOR HEALTH RELATED PROFESSIONS is a curriculum study and development project for the health related professions. Professions as diverse as nursing, pharmacy and medical technology have in common certain aspects of their goals, attitudinal attributes and subject matter. The project will synthesize this core curriculum in a lecture demonstration series using visual aids, television and programmed learning. Laboratory exercises will be developed to allow for further development in the skills and knowledge unique to a particular specialty.

Mr. Ralph Showalter, Executive Director,
Social Development Corporation, Washington, D. C.

PROFESSIONAL CAREERS IN CLINICAL PSYCHOLOGY will develop and train intermediate levels of skilled personnel to carry on specific functions of the clinical psychologist's job. Three programs are proposed: a two year program on the bachelor's level, a two year program on the master's level and a one-year in-service Psychological Assistant program. All three programs would make use of on-the-job training as well as existing psychological technology and academic courses. These personnel would do psychodiagnostic work, research and therapy.

Dr. Darrel Mase, Dean, College of Health Related Professions,
University of Florida, Gainesville, Florida

CIVILIAN MEDICAL CORPSMEN CENTER would maintain a current register of available discharged corpsmen, pharmacists mates and other medical technicians trained by the military services, provide pre-discharge employment counseling for these men and develop systematic placement channels for effective employment. The Center would also develop retraining opportunities in the new professional, technical and non-professional health manpower classifications, and help place the corpsmen in community health programs funded by HEW or OEO and by private foundations.

1980

HEALTH EDUCATION FOR LIVING PROGRAM (HELP) will train 80 non-technical community health and home aides to be recruited from the neighborhood poor. Under the supervision of physicians they will provide patient care to medically deprived families, both in the hospital and at home. Employment and training in this two year program will be simultaneous to permit advancement to more complex tasks. The focus of the HELP aide's role is to improve communication between the hospital personnel and the patient, to guarantee the accessibility of the patient for medical treatment, to facilitate the services of the professional and to maximize the use of the professional's time. The HELP program is designed to increase family income for economically deprived families in the participating neighborhood.

Dr. E. Fuller Torrey, Medical Coordinator, Family Health Workers,
Montefiore-Morrisania Hospital, Bronx, New York

DENTAL HOME CARE PROJECT will serve dental and prosthetic needs of 160 patients of a hospital's home care department who now receive regular home care medical service exclusive of dentistry. The project would use licensed dentists, a dental assistant and the newest portable equipment. A report in the form of a model for utilization of these services in other areas will be written at the project's conclusion.

Dr. Joseph J. Smith, Director, Department of Gynecology-Obstetrics,
Lincoln Hospital, Bronx, New York, and
Dr. Celia Deschin, Associate Professor, School of Social Work,
Adelphi University, Garden City, New York

NEIGHBORHOOD MEDICAL CARE DEMONSTRATION PROJECT is a three year proposal to train, evaluate and create lines of upward-mobility for sixty family health workers from poverty neighborhoods. Groups of 30 workers will be trained in six month cycles. The sequence will combine on-the-job training and general medical and academic orientation, including remedial English. A health center plus two satellite centers will provide a base of operation for the family health workers for therapeutic and preventive ambulatory, medical and dental services, and comprehensive social services. The family health worker will be a part of a team which includes a physician and a public health nurse. Besides providing training and employment for local residents the program will bring comprehensive family-centered medicine into the homes of the poor in place of fragmented health services common in these neighborhoods.

Dr. Raymond Zambito, Director, Department of Dentistry,
Lincoln Hospital, Bronx New York

Dr. Raymond Zambito, Director, Department of Dentistry,
Lincoln Hospital, Bronx New York

DELINQUENCY CONTROL AND COMMUNITY MENTAL HEALTH CENTER will coordinate penal welfare and mental health services. Delinquency-prone individuals will be counseled and assisted and those individuals involved in the penal process will be followed from arrest through trial, sentence, institutionalization and release. The center will provide rehabilitation and after care. The community mental health facilities connected with the Center will be expanded as will the prisoner's aide service. Social work aides and clerical intake workers will be trained and utilized in staffing the Center and the storefront offices serving as out-patient clinics.

DENTAL ASSISTANT TRAINING PROGRAM will, in the first phase (planning), develop and finance the work of an advisory consultant committee to convene the necessary professional and educational resources in the community, identify the skills to be taught, establish program standards and plan facilities for a three phase program for training dental assistants. The training program itself would last nine months and would produce dental assistants qualified for the certification examination of the American Dental Assistant Association.

Mr. Louis Ziskind, Executive Director, Gateways Hospital,
Los Angeles, California

THE REPORT

"Each improvement in social science and social service is initiated when a concerned person asks the right question."

DR. MAURICE CONNERY

The basic *right question* for the Conference participants was: What are the new and better ways to improve medical manpower?

Conference discussions provided extensive comment and some answers. The proposals and discussions about them primarily were concerned with alleviating shortages of professional manpower through use of additional and new kinds of supportive personnel. Conferees agreed that auxiliary staff can free doctors and nurses from lower level tasks, improve communication with patient populations and generally improve productivity, create efficiency and equity in the provision of quality medical care. In an excellent study[2] Dr. Rashi Fein has described the importance of new health personnel:

> Significant productivity increases will permit improvements in health levels and expansion of special programs. Room for such increases in productivity exists. The federal government and the private sector, including foundations, can stimulate efforts in this direction through support for the training of auxiliary personnel. Many of the things that physicians do can be done by persons with less but suitable training who work under the supervision of physicians. There will be a considerable increase in the number of persons in the age group from which such personnel could be drawn. To create these auxiliaries, support will be required from medical educators for the training and from the medical profession or from parts of it for jobs. Employment is important. Supply will not be generated in the absence of employment opportunities. Since the federal government is itself a provider of services, it can exert leadership by structuring its own programs to use this type of personnel. Since it supports demonstration projects to provide services, it can encourage the use of such personnel in these projects. Thus the physician may not only be enabled to perform more services but to practice a different and higher quality medicine. The physician who leads a team may be able to coordinate a program that is more meaningful medically. Experimentation (and evaluation) are required.

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[2] Rashi Fein, *The Doctor Shortage: An Economic Analysis,* Washington, D. C., The Brookings Institution, May 1967.

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Such auxiliaries, including assistant physicians, would also help bring a reduction in the "lumpiness" that now characterizes American medicine. At present the average physician has many years of training. Few opportunities exist for those with somewhat less training. There are Doctors of Medicine but not Masters or persons with BA's in the field. An individual who stops short of graduation from medical school (even by a day) is not a Doctor of Medicine, not a physician. Nor is he part of a physician, able to perform some but not all functions. The creation of "sub-physicians" or "assistant physicians" does not imply the creation of a cadre of poorly trained physicians, but the creation of a cadre of well-trained assistant doctors or medical assistants. It would do much to enable rationalization of services.

Such personnel may do much to ease the allocation and distribution problems that now beset a nation committed to health improvement but characterized both by private practice of medicine and (largely) private financing of medical care. Given this type of personnel assistance, some physicians might find practice in "poorer" areas more rewarding than they now do. Problems of overwork would be eased, and the physician would have the time to practice the better medicine that he is trained for. In any case, fewer physicians would be "needed."[3]

Dr. Fein, an economist, stated his policy proposals in general supply and demand terms and left to health professionals the responsibility for recommending specific types of training programs, particular innovations in reorganization of tasks, and designation of kinds of new health personnel who should be trained.

Through discussion of specific proposals outlined in the Proposal Abstracts of this Report, our Conferees, all health professionals, refined problems, indicated guiding policies, and reached some conclusions regarding the auxiliary personnel approach to improved provision of health care.

DOCTOR ASSISTANTS

Training and establishing in practice personnel who work directly with a doctor to allow the doctor to see more patients is feasible and necessary for equitable and efficient use of the doctor's skills. In pediatrics practice, for example, a major portion of the doctor's work time is spent in tasks which do not require the

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[3] *Ibid.*, pp. 145-147. Copies of Dr. Fein's book (published during the week of the Conference) were distributed to the Conferees. His analysis and the questions he raised about the role, training, licensure, and acceptance of auxiliary personnel were discussed in connection with the specific proposals.

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physician's special training knowledge and skills.[4] The pediatrician's skills should be better used. And what is true of pediatricians may be true in many other specialities.[5]

Acceptance of Doctor Assistants

Training and use of doctor assistants, as proposed by Drs. Lee and Skillicorn, Drs. Bergman and Wedgwood, Dr. Frank Dalton, and Dr. Robert Headley, raise questions about consumer acceptance and professional acceptance. It would do little good to train pediatrician assistants to take over some pediatric tasks if no doctors wanted to use the assistants. Furthermore, even if doctors integrate the new personnel into their practice, patients' acceptance of the new personnel will significantly affect the net value of the effort.

Dr. Bergman's plan would try out experimental health care models with voluntary consumer test populations. Then pilot programs for the expansion of use of the innovations which were effective and acceptable would be undertaken to validate the marketability of the new service patterns.[6]

Drs. Lee, Skillicorn, Mase, Bergman and others at the Conference underscored the necessity of professionals' acceptance of new

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[4] "Time-Motion Study of Practicing Pediatricians," Bergman, Dassel, Wedgwood; *Pediatrics* 38, 254, 1966, and "Performance Analysis in Pediatric Practice," Bergman, Probstfield, Wedgwood; *Journal of Medical Education* 42, 249, 1967. Bergman indicates that 75% of functions performed by practicing pediatricians do not require his special skills and could be assumed by less intensively trained personnel.

[5] Dr. Russel Lee estimates that physicians' assistants now working at Palo Alto Clinic "make doctors 30% more productive."

[6] According to Dr. Bergman: "Any service system must, to be effective, be acceptable on several levels: to the individual recipient of the service, to the family of which he is a part, to the social environment in which he lives. While acceptability depends in part on efficiency and effectiveness, it seems reasonably clear from other service industries that intangibles — previous social status and experience, education, expectation, etc. — play a significant role and can be evaluated as a distinct area. Similarly, the acceptability of role and task function of persons providing services within the system can be studied. Role acceptability, as exemplified for instance by social order or hierarchy, will be an important facet in development of new types of health personnel."

personnel types. In the two proposals of Lee and Skillicorn specific training of doctors in the use of doctors' assistants is provided. In these proposals physician members of the Santa Clara County Medical Society will provide (in their own offices and clinics) on-the-job training for the assistants. This practical work experience for the students will occupy an increasing share of their training time and reciprocally the doctors will increasingly rely on the services of the student assistants. At the end of the three-year training period the doctors will have learned to leave certain functions to the assistants and to use a greater share of their own work time at the higher level professional tasks.

These new systems of health care are more likely to be accepted by patients if the introduction of the new personnel is gradual and is clearly accepted and supported by the doctors. The careful project design, especially the use of on-the-job training, increases the probability of success.

Professional and public acceptance of innovations in practice will no doubt be expedited by participation of local medical schools and community colleges in the training program. Similarly the approval or endorsement of related professional organizations and of government health departments will be helpful. These factors have been taken into account by the Conference participants in their proposals.

Some Alternatives Especially Adaptive

Conferees agreed that, although most medical specialists and general practitioners could profit from some kind of personnel multipliers (doctor assistants or other auxiliaries), certain specialties could, more easily than others, usefully integrate the aid of assistants. Pediatrics looks like a particularly good field for new personnel. Research has illustrated that well child care and minor respiratory illnesses constitute a majority of cases seen in the pediatrician's office. The pediatrician can turn his attention to the tougher and more serious problems (like chronic illness, cerebral palsy and the congenital defects) if part of the load of well baby care is taken on by well trained assistants. A carefully developed plan, once accepted by patients, might allow the pediatrician to see three to four times as many children with serious illnesses as he now sees.

Neurosurgeons, ophthalmologists, and others may function exclusively at skill levels where little economy could be gained by introducing assistants. General practitioners, obstetricians and internists, however, appear to be at the pediatricians' end of this adaptation continuum. These primary positions should be analyzed first and multiplier demonstrations tried out in them. They

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give the greatest promise of increasing doctor utility through use of assistants.

New Assistants in Dentistry

Doctors of dentistry also can be helped to spend more of their time at the tougher tasks of their profession if appropriately trained assistants are brought into the system.

In 1963 Dr. James P. Hollers, President of the American Dental Association, predicted that "Unless we have a substantial increase in the number of dental graduates — nearly doubling the present number — the present ratio of dentists to population will not be maintained in the year 1975." The increase in "the segment of the population under 15 years of age will have increased 35 per cent over its present population. . . . It suggests that a decade or so in the future, we may be less successful in controlling dental disease than we are today."[7]

More recently Dr. Jeffrey Weiss' study of dentists' productivity finds that the supply of dentists will not be a major constraint on needed increases in dental services because of anticipated "diverse methods of producing dental services" and resultant increases in productivity of dentists.[8] Weiss has reported a striking increase in output per dentist (1963 was at the rate of 145% of 1950). Use of dental labs, application of new technology, and increased group practice account for some part of the increase but use of dental assistants and other auxiliaries has been the primary factor.[9]

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[7] See Dr. Hollers' testimony in support of Health Professions Educational Assistance Act of 1963. U. S. Congress, House, Committee on Interstate and Foreign Commerce, *Health Professions Assistance,* 88th Congress, 1st Session, 1963, p. 170.

[8] Weiss, Jeffrey, *Health Manpower Uses as a Solution to the Doctor Shortage,* Chapter III, Unpublished Ph.D. thesis, Harvard University, 1966.

[9] *Ibid.,* pp. 148-9. "It should be evident that the substitution of dental hygienists, dental assistants, and dental technicians for dentists has resulted in an increase in the level of job content of the dentist's job. The typical dentist now spends more time at the chairside and has been relieved of many of his routine tasks. . . . Similarly, since the dentist has transferred many of his functions to auxiliary dental personnel, the level of job content of his job has also risen. These increases in the level of content of the jobs encompassed within the patient care-dental job family, as opposed to the relative increase in the number of persons who work at jobs with a low and middle level of job content, may indicate that the 'average' level of job content of

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Weiss' study and others which have been concerned with private dentistry or with all dentists (80% of whom are in private practice) have not highlighted the fact that the output of dentists who are not in private practice has increased at an even higher rate.[10]

This may be the result of more experimentation with new assistant roles, greater use and more efficient use of auxiliary personnel in the non-private settings. But productivity, especially for the municipal or other public dental clinic, may be expanded far more through innovative deployment of the auxiliary personnel. This is what Dr. Zambito proposed to the Conference.

Dr. Zambito's *Dental Assistant Training Program Project* would extend training opportunities to people in the hospitals' service area. The trained assistants would be made available to a tandem *Dental Home Care Project* which would serve the regular load of Home Care Department patients. These patients are now offered complete home medical care *except dental care* by Lincoln Hospital. The limited dental service now provided is emergency surgical work. Dr. Zambito found that 138 of 142 of home care patients surveyed have dental and oral surgical needs, mostly prosthetic. Dr. Zambito described the circumstances which promoted his proposal:

> We have developed the idea of an office of dental education and community dentistry . . . education that will get out in the community — a practice which will reach these people. The biggest segment of our people who do not now receive any dental care of any kind are the home care patients. They receive continuous and consistent good medical care on a fixed rotational basis regardless of whether they live on the first floor or the tenth floor. Some physician gets up to see them and to take care of their multiple chronic ills on a regular basis. They also get nursing care service; they get nutrition service; they get helpers aid service; all of this generally through the welfare department.
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> But if they require any oral health service as identified by pain or swelling or complaint they have to be brought to the hospital. This is a tremendously expensive endeavor. If they are immobilized

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the patient care-dental job family has not declined over time. The evidence suggests that the substitution of auxiliary dental personnel, who work in dentists' offices, for dentists has been the most important single causal factor in explaining the increase in the productivity of dentists."

[10] *Ibid.*, p. 128, Table IV-B. One can deduce that the 20 per cent of dentists not in private practice has consistently contributed proportionately more than private practice dentists to the increases in productivity.

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they must be carried down by two people in a wheelchair and I don't need to go through all the ramifications of getting a car assigned, having them sit in the clinic for hours and then getting them back. We surveyed all of these people and we did discover that for much of the input in money and energy that the City of New York was doing in terms of nutrition and food a good deal of it was not even chewable because many of these people didn't have opposing teeth with which to chew food . . . so that in some sense the welfare effort made on their behalf in the form of meats and groceries was wasted.

We discovered that most of their ills associated with oral care were curable by prosthetic appliances. Our first thrust here is to try to render this service to the patient in his home under the home care service.

This project would service the Home Care patient, for his dental and prosthetic needs in his own home by a licensed practitioner of dentistry and dental assistant, with the latest in portable equipment. The oral surgical needs of the patient would be cared for at the hospital Clinic on an out-patient basis, since this service can best be rendered at the hospital. The project will research the administrative practicalities and develop cost accounting data for the new practices.

Discussion of Dr. Zambito's projects developed a general Conference consensus of this kind: If this innovation in dental service is tried and found effective and economic, the clinic dentists' productivity will not only be increased but a way will be shown to extend dental care to those who are left out of the pattern of practice as it now exists. Moreover, careful attention to total social costs for these people may attract municipal welfare and health care systems to pattern their practices after the Zambito experiment. The product of this work may stimulate the use and perfection of portable dentistry equipment and stimulate further the institutional training of dentists in the use of "extra pairs of hands" (dental assistants) in their work.

Research Related to Doctor Assistants

Several doctors at the Conference pointed to the need for additional research on the need for and feasibility of training and using doctor assistants beyond what is being done and beyond the anticipated findings in the doctor assistant proposals discussed at the Conference. Dr. Edwin P. Jordan, Executive Director of the American Association of Medical Clinics, reported that a survey of his membership (5,000 physicians in 180 clinics) indicates a variable pattern of expressed need for auxiliary personnel. In some cases the reported need for auxiliary health workers is related to the need for medical specialists. In an exploratory survey Dr. Jordan found that 95% of his clinics indicate need for physicians. The greatest number of openings is in internal medicine, opthal-

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mology, and otolaryngology. There is less need in urology and pediatrics. But the extent to which use and potential use of auxiliary people in clinics can fill these "doctor shortages" is not well researched. Dr. Jordan has addressed himself to the task of pin pointing the numbers and kinds of auxiliary health workers needed and the kinds of training programs which will best prepare in each discipline the worker who can be effectively used. His project would, furthermore, develop information on the size and organization pattern of clinics which will produce optimal use of particular arrays of auxiliary personnel.[11] Armed with this information the American Association of Medical Clinics could give informed guidance to member clinics and to the profession generally in matters of training and recruitment of auxiliary workers, strategies for economic introduction of new systems and so on.

Use of Medical Corpsmen in Doctor Assistants Program

Dr. Frank Dalton's proposed expansion of an on-going physician assistants program at Duke University would not only improve doctors' output but would make use of skilled people (medical corpsmen and pharmacists' mates) whose training and experience in medical practice might otherwise be wasted.[12] Graduates of this two-year program of clinical course work, supervised clinical experience, and specialized on-the-job training in one medical specialty would be certified as physician assistants and employed as clinical laboratory assistants, patient care assistants or medical research assistants. Discussion of this program raised questions about licensure, standardization of curricula, mobility of trained people, infringements on established professional jurisdictions and related matters which are discussed below.

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[11] The number of orthopedic surgeons and patients necessary to justify economic use of a number of cast technicians or the ratio of ophthalmologists to optometrists given specific clinic practices and similar data will be developed.

[12] The Social Development Corporation proposed a mechanism for screening, recruitment, job development, and training of discharged military medical corpsmen and pharmacists' mates (see supra Section I – Civilian Medical Corpsmen Center).

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PARAMEDICAL[13] AND HEALTH SERVICE MANPOWER DEMONSTRATIONS

Most of the proposals brought to the Conference were concerned either with programs to prepare broad strata of new health manpower personnel or with more narrowly defined specialists within these strata. Significantly, participants in this Conference universally felt that more such personnel should be trained. They agreed too that institutional, bureaucratic and association resistance to experimental training and employment in these new jobs restrict health professionals in their responsibility to meet the nation's health needs.

Values of Demonstrations

Conferees agreed that testing innovative practices in allocation of resources and uses of manpower in health care has great potential values for the society, in terms of improvement of quality of care, reduction in costs, more equitable distribution of professional skills, more rational use of manpower and so on. But Conference discussion centered mainly on criticism of demonstration projects. This criticism can be summarized: there is too little evaluation of results of demonstrations in this field; there is a serious failure of effective communication of the useful findings; there are no attempts to aggregate and organize the findings and to expedite their introduction into health facilities' practices; there is too little attention paid to the obstacles to change and how they may be overcome (especially those touchy subjects like self-interest of established professional groups, traditionalism in hospital personnel practices, rigidity of civil service systems, cultural lag in state licensure legislation and malpractice legislation, and so on). Sev-

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[13] Discussion of appropriate terminology for classification of the new jobs being developed in the health industry took considerable time at the Conference. There were those who felt "subprofessional" or "paraprofessional" were demeaning or misleading. Some urged generic titles such as "aides," "assistants," "new professionals," "technologists," "auxiliary personnel" and so on. Dr. Skillicorn stated a consensus of the Conference when he said we should use titles which communicate our meaning in common usage and rely on the need for the new personnel and the wisdom of pioneering in training to establish the titles as acceptable. This is the practice followed in this Report.

eral of the proposals brought to the Conference seek to remedy these weaknesses in the field.[14]

Foundation representatives and the health professionals agreed that great social waste results from the "obscured findings of research and demonstrations in this field."[15]

Health Manpower Innovations and the Poor

The manpower use ideas presented to the Conference are aimed at improving the quality of health care systems by reorganizing professional or service employee functions but there are variations in motivation and purposes among them. The reduction of the doctor and nurse shortage by infusion of supporting workers is the focus of some of these projects. In others the emphasis is on new practices which would guarantee better care for poor people. Others place the emphasis on the training and employment opportunities for unskilled people in the health industry.

The direct purpose of Dr. Bergman's pediatrics assistant program at the University of Washington, Dr. Dalton's doctor assistants program at Duke University and the San Jose County Medical Society program is to add rational multipliers for productivity of the medical doctors — not to provide employment opportunities or to improve medical services to the poor. These secondary values, however, are inevitably served by seeking the first. Excerpts from the transcript of the Conference are of interest in this connection.

> DR. JOSEPH SMITH: The Bronx where we work has a population of about 350,000. About 75 to 80 per cent are Spanish speak-

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[14] See especially (in the Project Proposals) the projects of Drs. Lee and Skillicorn, Dr. Torrey, Mr. Leibowitz, Dr. Jones, and Dr. Bergman. Dr. Beryce MacLennan addressed the Conference on this subject urging the use of graduate theses for evaluation research and ". . . putting more money into immediate publishing and distribution of the results of these diverse and scattered efforts so that more practical use could be made of them."

[15] Social Development Corporation, reacting to the Conference expressions on this point, has planned a two-year Health Manpower Utilization Project to speed up the process of systematic use of innovations. The three-phase project will: 1) study effective innovations in job structure and training and their impact on manpower use systems, 2) recommend strategies for systematic integration of new practices into use systems, and 3) plan and execute several activities designed to communicate findings about useful innovations to public and private institutions and to promote their adoption.

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ing, mostly Puerto Ricans, about 20 per cent Negro and the other 5 per cent a mixed group.

Some of the serious problems that we have seen within the hospital walls itself, we have begun to work out; particularly, in maternal-infant relationships. After viewing the serious pathology within the walls there are those of us who felt strongly that the social pathology in the community was such that it was directly and indirectly related to what we were seeing in our wards.

Outstandingly, the community reflects the most severe grades of socio-economic deprivation. This is obviously related to patho-psychological functioning so that what we see in the community is that the hospital itself is set up to deliver about 1,500 women, we are delivering 3,600 to 3,800 and we are sending another 500 or 600 to deliver elsewhere.

We have a prematurity index of about 20 per cent. (Throughout the country it runs somewhere between 5 and 7 per cent.) Our prematurity rate is reflected in the prenatal mortality in the first twenty-eight to forty-eight hours. And we get our cerebral palsies, mental retardations, and other neurologic deficiencies. So what we try to do first is set out to make a much better type of prenatal approach to the group. We have a large immunization center for prenatal care. We use neighborhood women to act as a link between our professionals and the pregnant women.

Another serious problem was the shortage of RN's and professional people for us to utilize in the hospitals. The nurses disappear to other hospitals that are newer, more attractive, the work is easier, pay is a little higher. So actually what we are getting is the distillate of bad physical plans, overwork, too many patients, lack of facilities.

We didn't have any help in the labor and delivery floor. Out of this we developed another program using neighborhood women in an obstetrical technician program. We trained about forty-eight obstetrical technicians to be used on the labor-delivery floor and the operating room. This has worked out very well.

Many of our women come in bringing their children to sit on the bench while they go in labor. Women come to our hospital to deliver leaving again really in much worse condition than that in which they started. With all our advice of family planning that we cram into two days or so, only about 30 per cent of our patients return for postpartum care or family planning. The rest come back but they come back pregnant or with an abortion.

So about three years ago, we organized an obstetrical home care unit — again using neighborhood women as social worker assistants, trained in obstetrics and in the social work department. We have made now 3,200 home visits. The patients are seen immediately postpartum on the labor floor by a social work assistant. Most of these patients are Spanish speaking, and our assistants are bilingual. One of the innovative parts of this program is that somebody says hello to these patients, unsolicited, and asks if there is anything we can do for them, discusses family planning and so on, offering to "come to your home if you want it."

We developed our program out of what was needed in the homes

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of those people who have no extended families — some way of supporting them, call it medical, call it social. Out of this developed the first phase of the Home Health Aid Program.

. . . The concept brought out in HELP is really the fundamental basis of educating the population so that they become a kind of therapeutic community themselves. Each one of these individuals who will be trained by a group of professionals will have on-the-job training as well as continued supervision in minor kinds of tasks like baby sitting and taking care of the house while Mama goes to the clinic.

They learn a little bit about budgeting, learn a little bit about nutrition. In other words, a very small umbrella in the community spotted around what might be the beginning: a) of uplifting for the individual; b) *the development of a health career or a section of health career for the people themselves.*

DR. RUSSEL LEE (discussing his paramedical program): . . . The question was are you writing this up as an employment project or are you writing it up as a new category of medicine? Well, we're writing it primarily to provide a new concept of medical care; not to try to satisfy employment needs. *Developing jobs for people is not a primary concern; it's to try to demonstrate a new way of improving medical service. But this will result in new health careers for people.*

DR. BERGMAN: What are the tasks that we have to train people for? We placed medical students into four pediatrician's offices for five days each and they sat there with a stopwatch and just noted how these people spent their time.

This is a very basic type of study in industry, but this very simple-minded paper has gotten a lot of publicity because seemingly no one has ever done this in the medical profession to see how a professional spends his time, a time-motion study. *It was found that some of the time spent might be more usefully spent in other ways.*[16] *We can do a lot by making our current doctors more efficient. Efficient and effective.*

We then did a study the following year, called a performance analysis, of a task identification. This was again taking four pediatricians and analyzing every single thing they did; like every question they answered or asked in the history, everything they did in a physical examination, did they look in the eyes, did they look in the mouth, did they listen to the chest, front and back? We found that these people have certain things in common and they do certain things differently.

But also we could identify tasks that might be performed by subprofessionals — people to do work to multiply physicans' services and expand physicians' services.

The physician multiplier is the person who comes in and works with the physician; he is able to allow him to do more care in

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[16] Bergman, Abraham B., Dassel, Steven W., Wedgwood, Ralph J., "Time-Motion Study of Practicing Pediatricians," *Pediatrics,* Vol. 38, No. 2, Part I, August 1966.

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other directions. In child health care this may be a lady who has raised a family, has some experience. If she is a nurse or if she had some nurses' training in the past, fine, but she would require a relatively short training period and then work in a physician's office and give essentially well child care. (We found that well child care in minor respiratory illness constitutes 75 per cent of what a practicing pediatrician sees in his office.) The practicing pediatrician today is not turning his attention to some of the serious problems like chronic illness, cerebral palsy, the congenital defects.

If he could turn his attention to some of the tougher problems and leave some of the well child care to people who would be just as qualified to tell babies whether they could eat rice cereal or whole-wheat cereal . . . we could also answer the question is he able to see three or four times as many patients? We think we will have some helpful data.

DR. ABRAHAM BERGMAN (discussing the medical corpsmen program): . . . We're particularly interested in placing people where doctors aren't and never will be. We think of rural Alaska and places like that.

The salary question is an interesting one because we are recruiting men for these rugged tasks who want to support their families. Are they going to be getting higher salaries without a college degree than nurses who have a Master's degree? I hope the salary level can be set by the tasks performed and not how long you sat on a stool in college.

We feel it is morally wrong to recruit people into something when we don't have jobs for them later. So we are trying to line up jobs before we even recruit.

These people will have to exist within a framework of organized medicine and probably, within the public health service, have a civil service rating. They can't go out in private practice. They would work directly under a physician, maybe by two-way radio. But they will go out in these communities where there are never going to be doctors, say in Alaska. Of the native population, half the children under the age of two have chronic draining ears. Well, this is something not terribly difficult to take care of if we could get these people out there. *But we are interested in distributing medical care primarily, not in making jobs for people.*

DR. RAYMOND KAY: The problem of lack of trained physical therapists required to meet the increasing needs for patient care is becoming more critical. One possible solution to this problem would be to design an in-service training program for supportive personnel in this field. *Utilization of aides in the performance of non-technical duties normally done by physical therapists would enable the physical therapists to employ their special skills and techniques in a more efficient manner. In this program the employment and upgrading features are subsidiary.*

Dr. Zambito's program (see supra pp. 30-31) is not designed to relieve dentists of a part of their regular tasks and only incidentally will create a new classification of work for poor people in

the community. Its real purpose is to bring dental care to a particular population wholly passed over by the classic dental practice. Similarly, Mrs. Burnstein's *Audio Visual Aids for Home Care Patients* project is not a matter of reassignment of tasks but an inventive use of new technology (two-way TV-telephone) to create a communication system between the hospital personnel and home patients to supplement home care visits. She expects that this technique may result in changes in the job structure:

> This would permit us to use a non-licensed psychotherapist, for instance, because the non-licensed person would be supervised by a therapist actually from the hospital. Likewise a nursing assistant would go out with the public health nurse who would be able to deploy herself better because she could be in the hospital while a nursing aide might be in the home.
>
> The nursing aid might stay longer and visit more frequently than we can currently afford the public health nurse to do. Still, I think this would be over and above what we are trying to do now. We want to reach these people much more frequently and in different ways.

Dr. Tom Levin's very comprehensive proposal for a *Health Careers Project* is motivated by concerns for the appropriate training and use of nonprofessionals in health and by the contribution which it can make to community health by the employment of people drawn from the community served. As a corollary Dr. Levin intends to relieve the frustration of the typical deadend nonprofessional job by assuring that it leads to better jobs. His object is "to train pre-professional and professional manpower for the health professions with the object of providing skilled, committed and motivated personnel who will relate to the total health field in a manner which will release creativity and productivity for community service and personal growth."

The problem to be attacked, as Dr. Levin sees it, is the "guild" orientation in the health field.

> DR. TOM LEVIN: There are sharp demarcations between the professional and sub-professional, as well as within the various sub-specialties. The structural emphasis is on the integrity of the "guild" rather than the continuity of the field. Similar problems led to the formation of the CIO in the 1930's. The CIO adopted an industry-wide, vertical structure as an antidote to the horizontal craft union approach which obscured the common interests of the labor force. The Albert Einstein College of Medicine–Lincoln Hospital *Health Careers Program,* by emphasizing in an educational setting the continuity of interest which is intrinsic to the health "industry," would attempt to establish continuity in the health professions.
>
> . . . The *Health Careers Program* would address itself to the need for a coordinated program in order to achieve the fullest utility of the expanding role of the nonprofessionals in community health

1998

and mental health programs. The burgeoning utilization of the nonprofessional in the service professions requires: 1) Models for the effective training of nonprofessional manpower in the broad spectrum of functions in community health and mental health programs; 2) Methods for the systematic evaluation of the on-the-job performance of nonprofessionals in such programs; 3) Development of methods to build in motivation, commitment and effective functioning for the nonprofessional within the health and mental health services.

The structure of training offered will allow the easy passage from sub-professional to professional training, while offering an interim career as a fully qualified subprofessional. The program will provide, as a viable choice, opportunity to pursue fully qualified professional education and careers.

Dr. Torrey's *Neighborhood Medical Care Demonstration Project* similarly sets as its objective to "demonstrate how a neighborhood resident, trained for six months and supervised by Public Health Nurses, can perform many of the functions traditionally assigned to Public Health Nurses and Social Workers. The effect should be to close the gap in home health services and help integrate services to patients that have become hopelessly fragmented." The concept grew out of discussions with community residents about their needs; not the needs as perceived in a hospital and clinic setting. Therefore, the attention is paid to new functions and organizations of care (physician-nurse-family-health worker team) and concerns (e.g. creating upward mobility lines) which might not have occurred without involvement of the community.

In these last two proposals (and in those of Miss Mary Killeen and Dr. W. Burns Jones) there is a common premise for action. Each proposes to use personnel from the poverty population as trainees and to prepare them (and the system in which they will work) for their ascendance to higher levels of skill.

The Conference proposals respond nicely to the challenges thrown out by Dr. George Silver, Deputy Assistant Secretary for Health and Scientific Affairs, Department of Health, Education and Welfare, in his remarks to the Conference.

The health manpower situation is a pressing and urgent problem that is in the forefront of the minds of all of us who are engaged in considerations of improvement of medical care.

Eli Ginsberg had a very beautiful and rather sardonic article in *The New England Journal of Medicine* not long ago in which he epitomized this as a "chronic crisis" and he didn't leave much hope that it was ever going to be resolved. . . . *I think we need to work to increase the numbers and types of people who will be working in the health field in order to achieve our objective of access to the best of modern medical care for every American.* Also, from the standpoint of the best possible use of the available resources. It is to this point that the government is devoting a considerable amount of time and effort.

We have to develop a sensible hierarchy of medical service personnel. We've got to develop new techniques of recruiting — new ways to use our manpower pools.

There are pools of manpower at present totally untapped. We've got to experiment with new ways of teaching and we must examine with a very critical eye the content of the curriculum with which our health professionals and subprofessionals are now being trained. The overall objective is to try and provide access to the best of modern medical care for every citizen. Those words are very carefully chosen because it is not a matter of providing medical services for everyone; it is a matter of providing the access.

The obstacles in the way of providing access as you are all aware have to do with first of all the lack of sufficient resources which means enough people, enough facilities. In many cases this lack is intensified by virtue of certain economic obstacles; some things have to be paid for and the money simply is not available to the individual or to the community. Some of the obstacles are geographic . . . the isolated rural communities . . . the ghettos where you have to take three buses to get to a hospital.

Finally, the chief villain or major enemy to providing opportunities to the medical services in this country is the defective form of organization of our medical system. Our system is inadequate. It is inadequate because it does not take advantage of the knowledge and experience and technological equipment and human resources which are available in the present to perfect the delivery of service.

If the purposes of the Conference proposals are achieved they will have attacked the problems posed by Dr. Silver and will have served employment as well as health needs of the poor.

The "untapped" pools of labor to which Dr. Silver referred are not limited to the underemployed ghetto residents or to the ex-nurse or medical corpsman who should be encouraged to re-enter the health field. Workers already in the hospitals and clinics held down in low paid, unskilled jobs by the rigidity and short sightedness of personnel practices are an excellent and available resource. They are often the employed poor[17] and they are typically Negro, Puerto Rican and other minorities. Training these people for higher skilled work provides an opportunity to achieve several social goals at once: creating career lines which should increase

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[17] According to data collected by the Bureau of Labor Statistics in 1963, 29% of nongovernmental hospital employees in the United States earned less than $1.25 per hour. In some cities in the South the percentage was much higher: 71% in Atlanta, 61% in Baltimore, 62% in Dallas, 74% in Memphis, for example. In Atlanta and Memphis three out of five workers earned less than $1.00 per hour. (cf. *Minimum Wage-Hour Amendments 1965,* Hearings before the General Subcommit-

worker identification with the field and reduce labor turnover,[18] increasing racial integration in higher strata of the health work force which should have salutary effects, and more efficient and economic systems of care.[19]

Ferment for Innovation

Conferees were generally agreed that health care can be and should be improved through systematic changes in manpower uses. But their views ranged from evolutionary approaches (accommodation within existing institutions) to radical proposals (abolishing existing institutions and building new ones).

"Radical" conferees felt that new uses of manpower in medical services should be used as an intervention point for widespread social change and as a tool for restructuring conventional medical facilities and training institutions. Dr. Tom Levin, who presented the most revolutionary plan, sees "any program doomed to failure . . . which is based upon the idea that you can deliver effective service in ineffective institutions." Levin puts before the Conference "a structural response to what is essentially a structural problem." He would abolish the conventional colleges of medicine and replace them with colleges of health. "When people enter into the health field . . . there will not be . . . two classes of entry," one for the poor as health aides, one for the wealthier as medical students. To accomplish this goal he felt strongly that "the present guild approach to health services" must be abolished so health care will become a total service, not a physical plant where members of guilds occasionally rub elbows. Philip Hallen echoed this call for a basic restructuring approach when he postulated that the involve-

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tee on Labor, Committee on Education and Labor, House of Representatives, First Session, Part 1, Table 26, p. 125 and Tabulation Showing Employees Not Now Protected by Fair Labor Standards Act, p. 117.)

[18] Turnover rates in hospital service categories often exceed 100% per year according to SDC field staff working with hospitals. Resultant economic costs and sacrifice of quality of care are appalling.

[19] Systematic use of this mechanism can provide entry level jobs for additional low income people from outside the facility who can learn a generic core of facts and habits about the work place valuable to moving up to any higher skill job. The fact of an in-service on-the-job training program itself should attract better people and interest them in aspiring to the better jobs.

ment of the physician and the creative use of supportive personnel was part of "a tremendous social engineering process . . . of massive scale."

In contrast to Dr. Levin, Dr. Burns Jones, Dr. Abraham Bergman and Dr. Darrel Mase did not feel that existing institutions had to be abolished to accommodate new health manpower innovations. The use of paramedical people by the North Carolina Health Department, according to Dr. Jones, is approached by first asking the professionals how they would use these new aides; what task they, the professionals, could delegate; what problems they think might be encountered. The local health departments determine "what tasks need to be accomplished and who are the people who can accomplish them." Unlike Dr. Levin who, as part of his insistence on community involvement, asks the neighborhood poor what tasks they feel are not being done for them and what jobs they themselves could do if taken into the health service industry, Dr. Jones concentrates on incorporating new people into a functioning public health system. They become part of a team effort while still receiving training. The program is complete with involvement of community colleges and provision for professional certification.

Dr. Bergman illustrated from his studies that "you can innovate within the framework of existing medical systems . . . within the framework of organized medicine. But you have to work at it . . . risk being martyred. . . ." Dr. Mase felt the issue was not so much "revolution or evolution in medicine but a recognition of the dynamics of change . . . the ferment for new ways. . . . We have to plan in respect to the way medicine is *going* to be practiced, not the way it *was* or *is* practiced. We need to anticipate and influence changes."

Conferees, whether or not they agreed on the need for large scale, intrinsic institutional change of hospitals and medical schools, agreed with Dr. Silver that "many things need to be done to reduce the numbers of people and aggregate years of training that are required to take care of the sick in this country. "We can't," he stressed, "simply produce more health workers and not do anything to improve the systems in which they are employed."

Who Is "The Doctor" In Health Manpower Policy?

Health is bigger than medicine and it comprehends medicine. Health is a bundle of socio-economic problems. They are community problems and the community (not just M.D.'s) should participate in solving them. Inadequate housing, irrelevant schooling, air pollution, rat bites, child neglect, underemployment of heads of households are often important factors in a problem which reveals

2002

itself as *medical*. So went the Conference discussion. The M.D. is not wholly suited to make all the decisions about the shape and thrust of health care systems.

Dr. David Brooks, in discussing the Rodrigo Terronez Memorial Clinic in Delano, California, emphasized that "what they have out there is a place in which the community participates and helps formulate their needs and the ideas about how to satisfy those needs. It is a place in which the community can be trained along with the trainees and the medical, dental and nursing staff."

Several other doctors suggested that appropriate innovations will be developed when we begin analyzing effectiveness of medical care from the point of view of the patient — the consumer of health care. There may well be, they said, new and useful ideas which cannot be discovered any other way than through consumer insights.

Whatever innovations are made in providing comprehensive care with continuity for the community, problems will arise until the "innovative" becomes the "ordinary." One of the larger continuing problems will be the question of who shall do the planning that will result in the new community-wide, socio-medical care which the Conferees agreed is necessary.

Dr. Elsie Georgie, Director of Watts Medical Center in Los Angeles, set forth her view in this matter:

> I would like to add something here as a physician and I pose it as a physician merely to give you a perspective of what may be to some an unusual view for a physician. . . . I think we have to recognize that health has become "a community affair." I think it is a community responsibility and it's going to be increasingly a community determination.
>
> Physicians are disease oriented; they are not social oriented. This is a good thing. I think that local citizens, including consumers and business, should decide what do we want in health, what can we afford, how are we going to do it? Some federal funds are beginning to come in for health planning, comprehensive health planning. If this isn't implemented by community citizen groups, I think it is lost. If it goes into the hands of the medical profession alone to plan for community health or if it goes into public health departments alone or governmental departments, it's missing its potential.
>
> Health of a community is a complex thing. It is no longer a category of disease like pneumonia. It's poor housing; it's lousy food; poor habits; drug abuse and so forth. This is a very complex health-social problem. Social problems are community problems.
>
> I don't think a physician should even be expected or asked to take the leadership in determining health programs. People are going to have to do this in their communities. [The physician] is an expert; he has knowledge of medicine. Utilize him there. But he doesn't have the knowledge of the overall picture. He is often ignorant of the overall picture as a matter of fact.

2003

Dr. Tom Levin, who would build not only the organization and dimensions of health services on non-medical advisories from the community but the health education system as well, agreed with Dr. Georgie. A consensus for Dr. Georgie's position — but not a universal one — seemed to have developed in the record of the Conference.

Hospital Emergency Room in Transition

Dr. Robert Headley set forth a plan for training physicians for a specialty in emergency medical care. Through such training, doctors staffing emergency rooms could make more accurate diagnoses and administer more competent treatment for the crises and illnesses that show up most often as "emergencies." At the present time most hospital accident rooms are staffed by relatively inexperienced doctors: interns, residents, or whatever specialist is assigned to duty. "Often these busy, young doctors are ill-equipped, possess inadequate knowledge and skills, and are inexperienced in the areas of emergent medicine," said Dr. Headley.

Traditionally, few doctors consider the emergency room the major place for diagnosis and treatment for any but a small number of patients. "But," Dr. Headley points out, "the pattern of medical practice in which the physician goes to the home to see the patient . . . is disappearing . . . and there are some patients whose total medical care is administered in the emergency room, whether the admitting symptom is an emergency or not." "Also," Dr. Headley continues, "even when the illness is not technically an emergency many physicians expect the patient to come to the hospital . . . where the equipment is available." In addition, Dr. John Scott pointed out, "people are using emergency rooms as community health centers whether we as doctors think they should or not. . . . They are coming in great numbers." For all these reasons emergency room practice must be upgraded — radically improved. One method for improvement is Dr. Headley's proposal to specially train physicians for this service.[20]

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[20] However, some Conferees doubted the wisdom of the plan in light of the emergency room's new use as a "community health center." If the doctors who now staff emergency rooms are seeing many non-emergent and routine cases, perhaps a physician assistant, such as Dr. Skillicorn is training in California, or Dr. Dalton is training in North Carolina, is the best staff for emergency rooms. The participants concluded that the answer might lie in training both kinds of manpower and deploying them to fit the practice of the locality.

2004

For the poor, and increasingly even for people able to afford private care with the help of pre-paid medical insurance, the emergency room is often the only "family doctor" they know. One Conference doctor in talking about the emergency room in which he used to work said, "The kind of people who came in depended upon the weather. In the cold weather you got alcoholics, homeless men and so forth. . . . Even with the improvement of care for the poor the kind of persons coming for emergency care has not in every community changed. If the poor can't get medical care in any other way, they will come for emergency care." For this doctor, the changing use of the emergency room and the failure of the hospital to adjust quickly enough to the change is a failure on the part of the medical schools to orient physicians to their new, as well as traditional, use. Perhaps, some Conference members felt, the most efficient method of adapting new manpower uses to the changing emergency room demands is better orientation of students and interns during their medical school training, rather than special training for physicians as Dr. Headley proposed. Perhaps what is required is a professional public health specialist, one trained in public health with liaisons to the police, the fire department, welfare department and housing department. He could work in conjunction with a physician trained in such areas as "accident room" head injuries, the most common injury seen in emergency rooms.

At this point the discussion passed to wider ramifications of the expanded medical need. A regional emergency room to replace the conventional individual emergency room in each hospital was suggested. It could be staffed by emergency care specialists (known as casualty officers in England). The patients would be flown by helicopter from these regional centers to big city hospitals. Another suggestion: physician assistants in the rural areas and along remote sections of highways acting with two way radio communication with medical experts in central emergency rooms. Helicopter ambulance service to those well staffed emergency centers could save many lives.

2005

VIEWS TOWARD INNOVATION

The Conference produced specific proposals for inventive manpower uses. It suggested principles and guides for systemic change in health service systems. The spectrum of this short Conference was not all inclusive; many areas for productive innovation were not explored and others were alluded to only cursorily. The Conferees agreed that the Conference format used here did encourage valuable communication between the foundation people and the experimenting physicians. They stated emphatically that more similar conferences should be held. Several varieties of conferences were suggested such as *single subject conferences:* e.g., conferences on upward mobility in hospital service work forces or doctors' use and patient acceptance of pediatric assistants, or on state licensure and other legal obstacles to efficient manpower use, and so on; *conferences of foundation representatives* to consider priority areas and coordination of funding in health manpower; *conferences of doctors and foundation people* in which principles, ethics, and general policy rather than specific proposals would be the focus of discussion and so on.

A manpower stretching or doctor multiplier device not specifically explored by the Conference but often referred to is the extension of comprehensive group practice (see Rashi Fein[21] and Jeffrey Weiss[22] as well as many Conferees).[23]

Doctors practicing in groups create obvious efficiencies and greater opportunity for appropriate and high quality care. In addition doctor groups produce aggregates of tasks which can be appropriately performed by auxiliary personnel.[24]

The importance of conditions which stimulate innovation, *medical service systems which encourage change,* was a recurring

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[21] Fein, *op. cit.,* pp. 94-111 and pp. 147-49.

[22] Weiss, *op. cit.,* Chapter III.

[23] Including Dr. Russel Lee, Dr. Abraham Bergman, Dr. Raymond Kay, Dr. Stanley Skillicorn, Dr. Edwin Jordan, and Dr. George Silver.

[24] Many examples were given, e.g. Dr. Russel Lee cited the use of dieticians in his clinic who "relieve M.D.'s of instructions to

2006

theme in the Conference. There was a consensus that group practice clinics,[25] certain university teaching hospitals, some city, state and county departments of health, certain developing cooperative paramedical education ventures among junior colleges, universities, and medical schools, present hospitable frameworks for injection of new systems of manpower usage.

This point was particularly stressed by Dr. George Silver, Dr. Edwin Jordan and Dr. Russel Lee. Group practice, according to Dr. Silver, not only makes more efficient use of professionals' time but creates a "service system which encourages rather than conflicts with the idea of increasing output through the employment of properly trained paramedical people." He urged foundations which are interested in solving the doctor shortage to give financial assistance to comprehensive group practice plans which are struggling to get underway. According to Dr. Silver, more large and complete group practices mean more quality medical care for more people and more training grounds and work stations for new auxiliary personnel.

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diabetics and others and do a better job of it because they take more time."

[25] At the HEW *Secretary's Conference on Group Practice,* University of Chicago, Center for Continuing Education, convened just at the time this report was going to press, leading doctors, administrators, health insurance program executives in the group practice field made many conclusions and recommendations which support the views of our Conferees. Selections from the Secretary's Conference discussion group conclusions are illustrative:

> The use of ancillary personnel is a feature of group practice that expands the productivity of physicians and other health personnel. An excellent example is the expanding role of the dental hygienist, in dental group practice, which permits a remarkable increase in productivity of the group's dentists. The role of nurses has been expanded in a number of directions, including the utilization of nurses as cardiac monitoring professionals, pediatric assistants and anesthetists. Also noted was the use of optometrists to significantly handle much of the workload of ophthalmologists and the success of the psychiatric social worker in releasing the psychiatrist for other professional duties. The possible role of the medical corpsman was discussed and it was agreed that further exploration of proposed activities was in order.
>
> The expanded use of ancillary health personnel presents the greatest opportunity for increased utilization of health manpower. However, the rigid classifications and role definitions should be avoided because of the inherent limitations to growth and accept-

ance. Good business administration affords the most efficient use of professional health personnel and provides opportunities for experimentation and community participation. Potential is demonstrated by joint efforts of medical school and community to develop rural group health centers as illustrated by the Wakita, Oklahoma experience.

•

Enactment of new legislation and modification of existing legislation to permit increased responsibilities for ancillary personnel will create opportunities for expansion of group practice as well as improved utilization of health personnel.

•

The utilization of health manpower in ambulatory care health facilities needs to be developed to the same degree of excellence as has been evolved for in-patient care.

•

Accreditation policies must not be so restrictive as to stifle innovative design in the optimal utilization of health manpower, but should be used positively to improve health care.

•

The superior quality control and supervisory mechanisms characteristic of group practice should be utilized in order to promote widespread acceptance of the expanding service roles of ancillary personnel.

•

Public education is necessary in properly identifying and supporting good medical care, especially that derived from optimum use of all types of health manpower in group practice.

•

Through annual meetings an interdisciplinary forum should be established for the continuing discussion of problems in the use of new kinds of health manpower as they relate to group practice.

•

Groups should redefine the roles of service personnel through study of practice patterns and by experience with large patient populations.

•

State licensing restrictions on medical manpower. The discussion group recommends elimination of State law provisions which obstruct the free flow of physicians among states, and which impede redefinition of the functions of health manpower professions, with special reference to restrictions in licensing laws.

•

Physician satisfaction with group practice is dependent upon many factors. One is opportunity for economical use of physician and other health manpower resources and facilities.

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The good group practice should be capable of accomplishing long-range planning activities such as: experimenting with the utilization of health manpower, facilities and other resources for the purpose of obtaining greater efficiency and effectiveness.

2008

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2009

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2011

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2012

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2013

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Marian Karp, Deputy Director
JoAnne Hellander, Research Assistant
Donna Huddleston, Administrative Assistant

CONFERENCE DISCUSSION SCHEDULE

Saturday Morning, May 27

Mrs. Harriet Rosenstein
Dr. David Rogers
Miss Mary Hilliard
Dr. Joseph Seidl
Dr. Colin Douglas
Dr. E. Fuller Torrey
Dr. W. Burns Jones
Dr. Tom Levin

Saturday Afternoon, May 27

Dr. Raymond Kay
Dr. Bruce Cashin
Dr. Frank Culnan
Dr. Robert N. Headley
Dr. Raymond Zucchito
Dr. Abraham Bergman
Mr. Morris Kay

LUNCHEON SPEAKER: Dr. George Silver, Deputy Assistant Secretary for Health and Scientific Affairs, Department of Health, Education and Welfare

Saturday Night, May 27

[illegible]
[illegible]
[illegible]
[illegible]
Dr. Sylvia P. [illegible]
[illegible]

Sunday Morning, May 28

Mrs. [illegible]
Dr. [illegible]
[illegible]
Mr. [illegible]

2014

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ABSTRACT - Data collected from a study of 2,526 junior and senior high school students, 460 of their teachers, and 280 of their parents provided many insights into their attitudes and goals. This report explores a few selected findings from that report, particularly (1) the probable abilities and future educational plans of the student population, (2) the high school drop-out problem, and (3) programs for in-school and out-of-school youth orientation, work experience, and vocational training. Among the reported conclusions were: (1) Counselors perceive that 65 percent of all students achieve a grade point average of "C" or less, (2) Teachers and parents overwhelmingly support increased expenditures for programs designed for non-college bound youth, and (3) Occupational goals of students reflect a high interest in the professional, technical, and managerial area. (JS)

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Needs of the Non-College Bound, as Perceived by Students, Parents, and Teachers in Selected Counties of Oregon

From data supplied by Oregon Council for Curriculum and Instruction, Region V.

Compiled by Ronald J. Saris
and C. Edward Tyler

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INTRODUCTION

During the course of discussions conducted in 1965, representatives of school districts comprising the Oregon Council for Curriculum and Instruction, Region V* developed a primary interest in assessing the adequacy of educational programs and facilities designed to serve the interests and needs of the non-college bound student.

As an initial step in such assessment, it was felt that the attitudes of variously involved groups of persons should be determined. Attitudinal measurements were desired concerning a wide range of topics related to the school and its offerings, community employment opportunities, and student self-concept. However, particular emphasis was to reflect the committee's interest in programs and services for the non-college bound.

With the assistance of consultative personnel, questionnaires were designed and administered and interviews were conducted during the 1965-66 school year in the ten selected Region V schools and communities of Brookings, Coos Bay, Coquille, Drain, Myrtle Point, North Bend, Oakland, Powers, Reedsport, and Roseburg.

Data were collected from 2,526 junior and senior high school students (ranging in age from 11 to 19 years), 460 of their teachers, and 280 of their parents who were selected at random as an interview sample. These data were then analyzed and programmed by staff of the Bureau of Educational Research and Service and the Oregon School Study Council, School of Education, University of Oregon.

A complete computer print-out copy of the study results showing frequency and percent item analysis was adapted for distribution to the administrator of each O.C.C.I., Region V school district.

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*Region V consists of Coos, Curry, and Douglas Counties.

An enormous amount of material is contained in the full report which offers many insights into the attitudes and goals of students, parents, and teachers. Interesting comparisons revealing the degree of perception agreement and disagreement among these groups may also be drawn from the data.

The complete report illustrates the possibilities available to cooperating school districts who wish to engage in action research projects designed to answer important questions of concern to those involved.

As an example, information received from some Region V schools indicates that the study results are being utilized to gain a more accurate perspective of how students, teachers, and parents feel about the school experience and to develop viable guidance programs for the non-college bound.

The intent in this Educational Research Report is to explore a very few selected findings taken from the complete report which may prove of general interest to the reader and serve to illustrate the variety of applications which may be made from such a study.

Specifically, the areas to be examined will be various group attitudes concerning:

(1) The probable abilities and future educational plans of the student population.

(2) The high school dropout problem.

(3) Programs for in-school and out-of-school youth in work orientation, work experience, and vocational training.

PROBABLE ABILITIES AND FUTURE EDUCATIONAL PLANS
OF THE STUDENT POPULATION
AS VIEWED BY SCHOOL COUNSELORS

A Pupil Information Form was prepared for each of the 2,526 students by the counseling staff in each school building. Each student was rated by the counselors (who consulted official records and professional staff) in the areas of estimated G.P.A. (grade point average) for current year, estimated academic aptitude, estimated probability of completing high school, estimated probability of attending college, and general adequacy of overall adjustment to school.

Although the resulting student groupings were desired as a basis for identification of categories to be proportionately sampled in later parental interviews, an examination of the material contained in Tables 1 through 5 provides additional information which reflects staff perception of the student population.

It should be emphasized that these judgments, made primarily by counselors, may or may not coincide with those held by other groups such as teachers, students, parents, etc. No attempt was made to measure the perceptions of non-counselor groups, so consequently no comparisons may be drawn.

It is reasonable to assume that counselors' judgments of student characteristics and potential are a significant measure in terms of the counseling staff's unique training and opportunity to observe individual students, draw upon centralized data describing the student, and consult with the student's teachers. Furthermore, the counseling staff is often in a position to design and redesign guidance services in light of student needs as counselors perceive them.

Table 1

ESTIMATED STUDENT G.P.A. FOR CURRENT YEAR

G.P.A.	Boys	Girls	Total
1	307 (24.9%)	211 (16.4%)	518 (20.5%)
2	546 (44.4%)	587 (45.5%)	1133 (45.0%)
3	274 (22.3%)	382 (29.6%)	656 (26.0%)
4	15 (1.2%)	27 (2.1%)	42 (1.7%)
No response	91 (7.3%)	86 (6.5%)	177 (6.8%)

From Table 1, it was estimated that a 1.00 G.P.A. (average grades of "D") would be achieved by 25 percent of the boys, 16 percent of the girls, or 20.5 percent of the total student group. A 2.00 G.P.A. (average grades of "C") was assigned as an estimate to 44 percent of the boys, 45 percent of the girls, or 45 percent of the combined total. An estimated 3.00 G.P.A. (average grades of "B") is shown for 22 percent of the boys, 30 percent of the girls, or 26 percent of the combined total. A 4.00 G.P.A. (average grades of "A") was estimated for one percent of the boys, two percent of the girls, or 1.7 percent of the combined total. No estimate was made for 6.8 percent of the total student group.

Counselors perceived 65 percent of all students achieving at a "C" average or less, with a slight tendency for girls to achieve at a higher level than boys.

From Table 2, in estimating student academic aptitude, counselors perceived 25.8 percent as "high" with girls slightly higher (4 percent) than boys; 48 percent as "medium" with girls and boys equal; and 20 percent as "low" with 4 percent more boys so classified than girls. No estimates were made for 6.1 percent of the students.

Table 2

ESTIMATED STUDENT ACADEMIC APTITUDE

Academic Aptitude	Boys	Girls	Total
High	307 (23.6%)	359 (27.8%)	650 (25.8%)
Medium	595 (48.3%)	616 (47.8%)	1211 (48.0%)
Low	270 (21.9%)	235 (18.2%)	505 (20.0%)
No response	77 (6.1%)	83 (6.2%)	106 (6.1%)

Again, girls were perceived as having slightly higher academic aptitude than boys.

Table 3 shows counselor/staff estimates of student probability of completing high school. Considering "very likely" and "likely" as one category, it was estimated that 81.8 percent of the students could be thus described. Four percent more girls than boys were so placed.

Table 3

ESTIMATED PROBABILITY OF STUDENT COMPLETING HIGH SCHOOL

Probability	Boys	Girls	Total
Very likely	553 (44.9%)	674 (52.2%)	1227 (48.7%)
Likely	426 (34.6%)	408 (31.6%)	834 (33.1%)
Doubtful	117 (9.5%)	93 (7.2%)	210 (8.3%)
Very unlikely	35 (2.8%)	18 (1.4%)	53 (2.1%)
Cannot predict	36 (2.9%)	34 (2.6%)	70 (2.8%)
No response	66 (5.2%)	66 (4.9%)	132 (5.0%)

Of all students, 8.3 percent were considered "doubtful" and 2.1 percent were classified as "very unlikely."

No prediction was felt possible for 2.8 percent of total students and no prediction was made for 5 percent.

Counselor/staff opinion indicated that completion of high school was at least "likely" for four-fifths of the students with the probability slightly higher for girls than for boys.

Considering the probability of students attending college, Table 4 shows counselor/staff estimates to include 41.1 percent of all students as either "very likely" or "likely" to attend college. Four percent more girls than boys were placed in this combined category.

A total of 42.8 percent of all students were considered as either "doubtful" or "very unlikely" with no prediction felt possible for 10.9 percent, and no prediction made for 4.8 percent.

Table 4

ESTIMATED PROBABILITY OF STUDENT ATTENDING COLLEGE

Probability	Boys	Girls	Total
Very likely	166 (13.5%)	221 (17.1%)	387 (15.4%)
Likely	315 (25.6%)	341 (26.4%)	656 (26.0%)
Doubtful	287 (23.3%)	317 (24.6%)	604 (23.9%)
Very unlikely	259 (21.0%)	218 (16.9%)	477 (18.9%)
Cannot predict	140 (11.4%)	134 (10.4%)	274 (10.9%)
No response	66 (5.2%)	62 (4.6%)	128 (4.8%)

Counselor/staff estimates were that two-fifths of all students were at least "likely" to attend college while doubts could be expressed regarding the probability of another two-fifths. Attendance probability was considered as slightly greater for girls than for boys.

The counselors' perception of the general adequacy of student adjustment (academic and social) to school is shown in Table 5.

Although 24.5 percent of all students were considered as demonstrating "very good" adjustment, nearly 10 percent more girls than boys were so considered.

Combining the adjustment measures of "very good" and "good," it is seen that 54.2 percent of all students were so classified with the 10 percent differential favoring girls over boys holding constant.

Table 5

GENERAL ADEQUACY OF OVERALL STUDENT ADJUSTMENT TO SCHOOL

Adequacy of Adjustment	Boys	Girls	Total
Very good	236 (19.2%)	381 (29.5%)	617 (24.5%)
Good	365 (29.7%)	385 (29.8%)	750 (29.7%)
Average	433 (35.2%)	397 (30.8%)	830 (32.9%)
Unsatisfactory	108 (8.8%)	51 (4.0%)	159 (6.3%)
Poor	21 (1.7%)	9 (0.7%)	30 (1.2%)
No response	70 (5.5%)	70 (5.2%)	140 (5.3%)

"Unsatisfactory" adjustment for 6.3 percent of all students was perceived with twice the percentage of boys as compared to girls contained in this classification.

"Poor" adjustment was ascribed to 1.2 percent of all students with boys more frequently mentioned (1.7 percent) than girls (0.7 percent).

No estimate was made for 5.3 percent of all pupils.

Considering the data presented in Tables 1 through 5, there is an apparent (and not atypical) tendency on the part of these counselors to rate girls higher than boys. Thus, it is estimated that girls will achieve a higher G.P.A., possess greater academic aptitude, are more likely to complete high school, are more likely to attend college, and exhibit a more adequate overall adjustment to school.

Whether or not counselors' estimates of a sex differential may in fact be accurate[1], counselors perceive such differences existing between girls and boys which gives rise to the question, In what ways do the implications of such perceptions influence the various guidance programs and other services provided by the school?

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[1]Research on "Individual and Sex Differences" as reported in the Encyclopedia of Educational Research (pp. 685-86) tends to generally support this contention while also offering an excellent review of possible determinants. Additional material of value is to be found in Lewis, Edwin C., "Counselors and Girls," Journal of Counseling Psychology, 12: 159-66, Summer 1965, and Taylor, Ronald G., "Personality Traits and Discrepant Achievement: A Review," Journal of Counseling Psychology, Vol. 11, No. 1, 1964, pp. 76-81.

THE SCHOOL DROPOUT PROBLEM AS VIEWED BY TEACHERS, PARENTS, AND STUDENTS

This section will present attitudes which were expressed by teachers, parents, and students concerning the high school dropout.

In the teacher questionnaire and the parent interview, one of the questions asked was, "Suppose that your school district were planning to increase (the following) programs. How would you feel about . . . increasing efforts to prevent school dropouts?"

Table 6 shows the response of teachers and parents to this question. Combining "strongly approve" and "approve" as a single category, it is seen that 96 percent of the parents and 88.3 percent of the teachers felt that the school should increase its efforts to salvage the potential dropout. Indeed, parents appear to be located definitely further toward the approval end of the continuum than do teachers.

Table 6

INCREASING EFFORTS TO PREVENT SCHOOL DROPOUTS

	Strongly Approve	Approve	Unde-cided	Dis-approve	Strongly Disapprove	Don't Know	Don't Care	No Response
Teachers	216	190	28	14	3	4	0	5
N=460	47.0%	41.3%	6.1%	3.0%	0.7%	0.9%	0.0%	1.1%
Parents	151	118	8	3	0	0	0	0
N=280	53.9%	42.1%	2.9%	1.1%	0.0%	0.0%	0.0%	0.0%

Table 7

IMPORTANCE OF PROGRAM TO INCREASE
EFFORTS TO PREVENT SCHOOL DROPOUTS,
AS RANKED BY STUDENTS

Rank Order of Choice	Number	Percent
1	780	(30.9%)
2	497	(19.7%)
3	219	(8.7%)
4	185	(7.3%)
5	154	(6.1%)
6	103	(4.1%)
7	125	(4.9%)
8	67	(2.7%)
9	63	(2.5%)
10	38	(1.5%)
11	46	(1.8%)
12	50	(2.0%)

From Table 7, it is seen that when students were asked to rank in order of importance 12 school programs which their school might increase, 30.9 percent indicated "increasing efforts to prevent school dropouts" as their first choice. This percentage, expressing a primary concern for the potential dropout, was more than double that of any of the other 11 first-rank choices. It also led the second choice by 7.5 percent (19.7 percent over 12.2 percent, respectively).

It may be concluded that 50 percent of the students feel that a high priority (rank of one or two) should be assigned to efforts aimed at preventing school dropouts.

Table 8

"School dropouts have made their choice and it is wasted effort to spend more time and money trying to help them."

	Agree Strongly	Agree Somewhat	Agree Slightly	Don't Know	Disagree Slightly	Disagree Somewhat	Disagree Strongly	No Response
Teachers N=460	8 (1.7%)	24 (5.2%)	47 (10.2%)		55 (12.0%)	103 (22.4%)	213 (46.3%)	10 (2.2%)
Parents N=280	10 (3.6%)	7 (2.5%)	15 (5.4%)		39 (13.9%)	49 (17.5%)	159 (56.8%)	1 (0.4%)
Students N=2,526								
Boys N=1,233	271 (22.0%)	215 (17.5%)		132 (10.7%)		249 (20.2%)	341 (27.7%)	25 (1.9%)
Girls N=1,293	183 (14.2%)	160 (12.4%)		101 (7.8%)		287 (22.2%)	542 (42.0%)	20 (1.3%)
Total N=2,526	454 (18.0%)	375 (14.9%)		233 (9.2%)		536 (21.3%)	883 (35.0%)	45 (1.6%)

An additional item focusing upon the dropout called for an expression of the degree of agreement with the statement, "School dropouts have made their choice and it is wasted effort to spend more time and money trying to help them."

Responses of teachers, parents, and students are presented in Table 8.

From Table 8, combining the categories "agree strongly" and "agree somewhat," it is found that the degree of response on the part of teachers (6.9 percent) and parents (6.1 percent) corresponds closely, while student response in these categories represented a combined total of 32.9 percent. Interestingly, a somewhat higher percentage of boys is represented in this total (39.5 percent boys compared to 26.6 percent girls).

Examining the opposite end of the continuum, "disagree somewhat" and "disagree strongly" as a combined category drew a response of 68.7 percent of the teachers, 74.3 percent of the parents, and 56.3 percent of the students. Girls were represented in greater proportion (64.2 percent) than boys (47.9 percent).

It would appear that students are less inclined than are their parents and teachers to see more "time and money" expended in an effort to try to help the dropout. On the other hand (from Table 7), 30.9 percent of students assign a first place rank to a program designed to increase efforts to PREVENT school dropouts.

Comparing teachers and parents, there is a slight tendency for parents to be more willing than are teachers to see more time and money expended in an effort to try to help the dropout following his withdrawal from the school. It will be recalled that this same tendency was present in attitudes expressed toward PREVENTING school dropouts (see Table 6).

In order to obtain a more specific indication of the type of "help" the school might extend to the dropout, teachers and parents were asked to indicate their degree of approval of the school district initiating specially designed programs to provide job training for high school dropouts. Responses are shown in Table 9.

From Table 9, 77.6 percent of the teachers and 83.9 percent of the parents would either "approve" or "strongly approve" of such programs. Again, one observes this slight differential between teachers and parents, with parents more inclined than are teachers to be favorably disposed toward such programs.

Table 9

"Specially designed programs to provide job training for high school dropouts."

	Strongly Approve	Approve	Unde-cided	Dis-approve	Strongly Disapprove	Don't Care	Don't Know	No Response
Teachers	162	195	57	21	13	1	2	9
N=460	35.2%	42.4%	12.4%	4.6%	2.8%	0.2%	0.4%	2.0%
Parents	76	159	27	14	0	0	2	2
N=280	27.1%	56.8%	9.6%	5.0%	0.0%	0.0%	0.7%	0.7%

With over three-fourths of the teachers and over four-fifths of the parents so disposed, one concludes that proposals for such programs should be received by these groups with enthusiasm. Reception on the part of the general public, of course, can not be estimated from these data unless it can be established that parents may be community influentials in such matters.

Table 10 summarizes teacher and parent responses to a proposal focusing upon financial support of experiences designed for the non-college bound. The inference is that the potential dropout is more likely to be found in the non-college bound group of youngsters which, according to counselors' estimates (see Table 4), includes 43 percent of all students ("doubtful" or "very unlikely" probability of attending college).

Considering "approve" and "strongly approve" as a combined category, nine-tenths of the teachers (90.8 percent) and parents (90.0 percent) could be expected to favor expenditures for such experiences.

One is left with a question as to whether approval of such expenditures is confined to a reallocation of existing resources or extends to a situation requiring additional tax money. In any event, it would appear that a significant recognition of responsibility toward providing for the non-college bound student does exist in the minds of teachers and parents sampled.

Table 10

"The schools trying to prevent high school dropouts by spending money on courses and programs that would interest and be of greater help to students who are going to work instead of to college."

	Strongly Approve	Approve	Unde-cided	Dis-approve	Strongly Disapprove	Don't Know	Don't Care	No Response
Teachers	226	192	18	9	5	0	0	10
N=460	49.1%	41.7%	3.9%	2.0%	1.1%	0.0%	0.0%	2.2%
Parents	101	151	17	7	1	3	0	0
N=280	36.1%	53.9%	6.1%	2.5%	0.4%	1.1%	0.0%	0.0%

There may also be a recognition of the fact that "preparation for work instead of college" may have utility for a greater number of students than expectations would indicate because (as revealed by school follow-up records on graduates) the youngster who is planning on work instead of college may be joined rather soon by a sizable number of those who planned on college but, for various reasons, changed their plans after a short duration of college experience.

As a concluding comment in this section, a related consideration concerning the accuracy of teacher identification of the potential dropout is of interest and is discussed by Amble[1]:

> Teacher evaluations of student behavior were reliable predictors of future school attendance and reflective of pupil adjustment.

[1]Amble, Bruce R., "Teacher Evaluation of Student Behavior and School Dropouts," The Journal of Educational Research, Vol. 60, No. 9, May-June 1967, pp. 408-10.

VOCATIONAL ORIENTATION, TRAINING, AND EXPERIENCE OF STUDENTS
AS VIEWED BY TEACHERS, PARENTS, AND STUDENTS

By selective matching and reorganization of the study data, it is possible in this section of the report to present some comparative answers to questions often asked by those concerned with vocational education:

1. How many students are engaged in after-school and summer work experience, and which occupations are represented?

Examining, first of all, the area of after-school work experience, Table 11 shows student responses to the question, "Do you have an after-school job (not including home chores) for pay?" A total of 20.4 percent indicated that they did have either a "full-time" or "part-time" after-school job (boys, 24.1 percent; girls, 17.2 percent). A total of 39.7 percent have no after-school job, but 28.3 percent would like to have one.

Table 11

"Do you have an after-school job (not including home chores) for pay?"

	Boys (N=1233)	Girls (N=1293)	Total (N=2526)
Yes, part-time	128 (10.4%)	115 (8.9%)	243 (9.6%)
Yes, full-time	60 (4.9%)	31 (2.4%)	91 (3.6%)
Yes, on weekends, too	38 (3.1%)	11 (0.9%)	49 (1.9%)
Yes, on the weekends only	70 (5.7%)	64 (5.0%)	134 (5.3%)
No, but I expect to get one	81 (6.6%)	39 (3.0%)	120 (4.8%)
No, but would like to have one	306 (24.9%)	408 (31.6%)	714 (28.3%)
No	477 (38.7%)	525 (40.7%)	1002 (39.7%)
No response	73 (5.8%)	100 (7.5%)	173 (6.6%)

Table 12 identifies the type of after-school work engaged in by the employed students. "Baby sitting" represents the most frequent occupation for all (13.6 percent) with 20.1 percent of the girls and 6.7 percent of the boys so engaged. Other service occupations employ an additional 4.9 percent (boys and girls equally represented). For boys, farm jobs represent the second most frequent occupation (5.6 percent).

Table 12

"What type of work do you do ?"

Occupation	Boys (N=1,233)	Girls (N=1,293)	Total (N=2,526)
Service -- motel maids, food preparation and serving, carry-out boys	61 (5.0%)	64 (5.0%)	125 (4.9%)
Service -- baby sitting	83 (6.7%)	259 (20.1%)	342 (13.6%)
Sales clerks	20 (1.6%)	22 (1.7%)	42 (1.7%)
Clerical -- secretary, receptionist	6 (0.5%)	25 (1.9%)	31 (1.2%)
Farm -- lily and berry harvests, haying, sheep herding	69 (5.6%)	20 (1.6%)	89 (3.5%)
Fishing -- bait boys	29 (2.4%)	10 (0.8%)	39 (1.5%)
Forestry -- Coos Forest Protective Association, lookouts	5 (0.4%)	2 (0.2%)	7 (0.3%)
Processing -- shrimp picking	2 (0.2%)	0 (0.0%)	2 (0.1%)
Service stations	26 (2.1%)	0 (0.0%)	26 (1.0%)
Other	6 (0.5%)	2 (0.2%)	8 (0.3%)
No response	926 (75.0%)	889 (68.7%)	1815 (71.8%)

Table 13

"With regard to summer work, my parents - - -"

	Boys (N=1,233)	Girls (N-1,293)	Total (N=2,526)
Don't let me work	12 (1.0%)	30 (2.3%)	42 (1.7%)
Don't want me to work	15 (1.2%)	44 (3.4%)	59 (2.3%)
Leave it up to me if I work or not	638 (51.8%)	917 (71.1%)	1555 (61.6%)
Expect me to work	406 (33.0%)	205 (15.9%)	611 (24.2%)
Make me get a job	23 (1.9%)	12 (0.9%)	35 (1.4%)
No response	139 (11.2%)	85 (6.4%)	224 (8.7%)

Concerning summer work experience, Table 13 summarizes students' views of their parents' attitude toward summer employment for their child. A majority (61.6 percent) of the students indicated that parents, "leave it up to me if I work or not," but this is more frequently so in the case of girls (71.1 percent) than boys (51.8 percent). One-fourth (24.2 percent) of the students indicated that parents "expect me to work," but this is twice as prevalent for boys (33 percent) as for girls (15.9 percent). It was found that 5.7 percent of the girls and 2.2 percent of the boys felt that their parents either "don't let me work" or "don't want me to work."

Table 14 indicates that 69.7 percent of all students worked either part-time or full-time during part or all of the summer (boys, 77.4 percent; girls, 62.3 percent). Of those not working, 7 4 percent could find either no job or no "satisfactory" job.

Table 14

"Did you work last summer?"

	Boys (N=1250)	Girls (N=1281)	Total (N=2531)
Yes, full-time all or most of the summer	275 (22.3%)	123 (9.5%)	398 (15.8%)
Yes, full-time part of the summer	121 (9.8%)	104 (8.1%)	225 (9.0%)
Yes, part-time all or most of the summer	153 (12.4%)	126 (9.8%)	279 (11.0%)
Yes, part-time part of the summer	338 (27.5%)	316 (24.5%)	654 (25.9%)
Yes, other	67 (5.4%)	134 (10.4%)	201 (8.0%)
No	154 (12.5%)	278 (21.6%)	432 (17.1%)
No, because I couldn't find a job	64 (5.2%)	69 (5.3%)	133 (5.3%)
No, because I couldn't find a job that was satisfactory to me	29 (2.4%)	23 (1.8%)	52 (2.1%)
Other	49 (4.0%)	108 (8.4%)	157 (6.2%)

Table 15 shows the summer occupations of employed students. Nearly one-fourth (23.6 percent) of the boys were engaged in farm work with the next most frequent occupation that of baby sitting (9.6 percent). Girls concentrated in the area of baby sitting (28.3 percent) with farm work the next most frequent occupational choice (12.6 percent).

The data presented in Tables 12 and 15 describing student after-school and summer employment seem to show that job experiences concentrate in the areas of baby sitting, services (maids, food preparation, carry-out boys), and farming.

Understanding that the availability of student part-time and summer work experiences is often determined by factors beyond the control of students, it may still be hoped that work experience could provide the student with an "occupational

Table 15

SUMMER OCCUPATIONS

Occupation	Boys (N= 617)	Girls (N= 692)	Total (N=1,309)
Service -- motel maids, food preparation, and serving, carry-out boys	66 (5.4%)	89 (6.9%)	155 (6.2%)
Service	118 (9.6%)	365 (28.3%)	483 (19.1%)
Sales clerks	22 (1.8%)	22 (1.7%)	44 (1.7%)
Clerical -- secretary, receptionist	7 (0.6%)	23 (1.8%)	30 (1.2%)
Farm -- lily and berry harvests, haying, sheep herding	290 (23.6%)	163 (12.6%)	453 (18.0%)
Fishing -- bait boys	28 (2.3%)	8 (0.6%)	36 (1.4%)
Forestry -- Coos Forest Protective Association, lookouts	10 (0 8%)	2 (0.2%)	12 (0.5%)
Processing -- shrimp picking	8 (0.6%)	11 (0.9%)	19 (0.8%)
Service stations	36 (2.9%)	1 (0.1%)	37 (1.5%)
Government agencies - NYC schools	32 (2.6%)	7 (0.5%)	39 (1.5%)
Other	0 (0.0%)	1 (0.0%)	1 (0.0%)

preview" and a degree of on-the-job-training impossible to obtain in other ways at such an early age. In this regard, it is interesting to note the degree to which these work experiences may reflect student future occupational goals. This interest gives rise to a second question.

2. <u>What are the specific occupational goals of students?</u>

Table 16 summarizes student occupational goals on the basis of first, second, and third choices.

Of immediate impact is the "no response" category which would evidently indicate that these students were unable to specify a definite occupational goal. It is

Table 16

"What specific job or jobs do you want when you have finished school?"

Occupational Field	1st Choice			2nd Choice			3rd Choice		
	1233 Boys	1293 Girls	2524 Total	1231 Boys	1290 Girls	2521 Total	1231 Boys	1290 Girls	2521 Total
Professional, technical and managerial	457 37.1%	427 33.1%	882 35.0%	255 20.7%	299 23.2%	554 22.0%	138 11.2%	182 14.1%	320 12.7%
Clerical--secretarial bookkeeping, bankteller	19 1.5%	297 23.0%	316 12.5%	16 1.3%	175 13.6%	191 7.6%	9 0.7%	92 7.1%	101 4.0%
Service--food service, child and adult care, housekeeping, barber, police, fireman, janitor	51 4.1%	258 20.0%	309 12.3%	32 2.6%	174 13.5%	206 8.2%	18 1.5%	106 8.2%	124 4.9%
Farming, forestry, (not logging)	44 3.6%	13 1.0%	57 2.3%	34 2.8%	7 0.5%	41 1.6%	30 2.4%	3 0.2%	33 1.3%
Processing--foods	6 0.5%	4 0.3%	10 0.4%	0 0.0%	4 0.3%	4 0.2%	3 0.2%	1 0.1%	4 0.2%
Machine trades--sawmills, machinists, mechanics	137 11.1%	3 0.2%	140 5.5%	57 4.6%	5 0.4%	62 2.5%	50 4.1%	5 0.4%	55 2.2%
Bench wood--plywood, electrical repair	19 1.5%	4 0.3%	23 0.9%	19 1.5%	2 0.2%	21 0.8%	8 0.6%	3 0.2%	11 0.4%
Structural work--construction and building trades, welders, house painters, carpenters	68 5.5%	1 0.1%	69 2.7%	46 3.7%	1 0.1%	47 1.9%	27 2.2%	1 0.1%	28 1.1%
Miscellaneous--transportation, military, utilities	75 6.1%	17 1.3%	92 3.6%	55 4.5%	13 1.0%	68 2.7%	25 2.0%	17 1.3%	42 1.7%
Sales--store clerks, salesmen	23 1.9%	56 4.3%	79 3.2%	23 1.9%	47 3.6%	70 2.8%	20 1.6%	33 2.6%	53 2.1%
Logging--tractor operators, timber cutters, chocker setters, etc.	3 0.2%	1 0.1%	4 0.2%	4 0.3%	0 0.0%	4 0.2%	2 0.2%	3 0.2%	5 0.2%
Fishing (not processing)	23 1.9%	1 0.1%	24 1.0%	29 2.4%	1 0.1%	30 1.2%	17 1.4%	1 0.1%	18 0.7%
No response	308 24.9%	211 16.1%	519 20.4%	661 53.7%	562 43.6%	1223 48.5%	884 71.8%	843 65.3%	1727 68.4%

noted that 20.4 percent made no selection for first choice, 48.5 percent made none for second choice, and 68.4 percent made none for third choice. In all instances, boys were more undecided than were girls. An additional inference which may be drawn from the above percentages is that students (and particularly boys) are inclined to think in terms of only one occupational area rather than in terms of alternatives.

First choice occupations shown in Table 16 may be identified by sex of student. In first place rank is the area, "professional, technical and managerial," with 37.1 percent of the boys and 33.1 percent of the girls represented. Although the percentages vary, this occupational area retains first place rank for both sexes in both the second and third choice categories, thus clearly indicating a strong preference for this area.

An analysis of subsequent rankings would indicate a preference on the part of boys for "machine trades" followed by "miscellaneous," while girls more frequently selected "clerical" followed by "service."

These occupations would not appear to be strongly represented in the after-school and summer work experience of students. Furthermore, they may reflect unrealistic goals and a lack of familiarity with the total world of work and the degree of opportunity available.

3. How do students, parents, and teachers feel about the proper role of the high school in preparing students for the world of work?

Table 17 shows that 46.5 percent of all students expressed the judgment that their high school education would be insufficient to prepare them for the kind of job they want.

Table 17

STUDENT PERCEPTION OF THE HIGH SCHOOL PROGRAM
AS PREPARATION FOR VOCATIONS

		Agree Strongly	Agree Somewhat	Don't Know	Disagree Somewhat	Disagree Strongly	No Response
My high school education will be enough to get me the kind of job I want	Boys 1233	111 (9.0%)	141 (11.5%)	179 (14.5%)	190 (15.4%)	581 (47.2%)	31 (2.4%)
	Girls 1293	91 (7.1%)	142 (11.0%)	216 (16.7%)	213 (16.5%)	593 (46.0%)	38 (2.7%)
	Total 2524	202 (8.0%)	283 (11.2%)	393 (15.6%)	403 (16.0%)	1174 (46.5%)	69 (2.5%)
I think that the high school ought to do a lot more about training young people for jobs	Boys 1233	467 (37.9%)	477 (38.7%)	178 (14.5%)	64 (5.2%)	16 (1.3%)	31 (2.4%)
	Girls 1311	475 (36.8%)	520 (40.3%)	164 (12.7%)	85 (6.6%)	14 (1.1%)	53 (2.5%)
	Total 2526	942 (37.4%)	997 (39.5%)	342 (13.5%)	149 (5.9%)	30 (1.2%)	66 (2.4%)

A total of 37.4 percent "agree strongly" and an additional 39.5 percent "agree somewhat" with the statement, "I think that the high school ought to do a lot more about training young people for jobs."

In each case, there is virtual agreement between boys and girls.

Table 18 shows the reactions of teachers and parents to proposed programs of work orientation and training for non-college bound high school students. A surprisingly large percentage (92.4 percent of the teachers and 94.3 percent of the parents) would either "approve" or "strongly approve" of such programs.

Table 18

REACTION TO PROPOSED PROGRAMS OF WORK ORIENTATION
AND TRAINING FOR NON-COLLEGE BOUND HIGH SCHOOL STUDENTS

	Strongly Approve	Approve	Undecided	Disapprove	Strongly Disapprove	Don't Know	Don't Care	No Response
Teachers N=460	205 (44.6%)	220 (47.8%)	19 (4.1%)	4 (0.9%)	1 (0.2%)	0 (0.0%)	2 (0.4%)	9 (2.0%)
Parents N=280	67 (23.9%)	197 (70.4%)	10 (3.6%)	2 (0.7%)	0 (0.0%)	0 (0.0%)	4 (1.4%)	0 (0.0%)

Table 19 summarizes teacher and parent responses to increasing stress on vocational training for the non-college bound.

As was the case in the question regarding work orientation and training for the non-college bound (Table 18), a consistent and nearly unanimous "approve" or "strongly approve" was indicated by 95.8 percent of the teachers and 96.1 percent of the parents. Evidently, the item represented in Tables 18 and 19 measures the same thing and "vocational training" is synonymous with "work orientation and training." Thus one is provided with a verifying check.

Although it is true that in excess of 90 percent of all teachers and parents are represented in the combined "approve" and "strongly approve" category for both Tables 18 and 19, it should be noted that in each instance a much greater percentage of teachers as compared to parents is represented in the "strongly approve" category.

Student opinion concerning a proposed increase in stress on vocational training for children not going on to college was also measured (although not portrayed in table form in this report). Such a program was selected as having first priority by only 7.2 percent of all students. However, 31.4 percent selected this program as among the top three priority programs ranked.

Having established what would appear to be a strong interest (especially on the part of teachers and parents) in vocational training for the non-college bound the curious will naturally wonder how the college preparatory courses are viewed by these same groups.

Table 19

"Increasing stress on vocational training for children not going on to college."

	Strongly Approve	Approve	Unde-cided	Dis-Approve	Strongly Disapprove	Don't Know	Don't Care	No Response
Teachers N=460	318 (69.1%)	123 (26.7%)	7 (1.5%)	5 (1.1%)	1 (0.2%)	0 (0.0%)	0 (0.0%)	6 (1.3%)
Parents N=280	114 (40.7%)	155 (55.4%)	4 (1.4%)	6 (2.1%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	0 (0.0%)

Allowing the luxury of such an "aside," Table 20 presents the responses of teachers and parents to the proposed"increasing stress on college preparatory courses."

Although teachers and parents are equally (14 percent) undecided concerning this proposal and not extremely separated in "strongly approve" (teachers, 13.5 percent; parents, 19.6 percent), a strong disparity is evident in the response categories, "disapprove" (teachers, 27 percent; parents 7.5 percent) and "approve" (teachers, 36.7 percent; parents, 55 percent).

Student opinion (not shown in this report) indicates 25.8 percent of all students consider this program among the top three in priority.

Table 20

"Increasing stress on college preparatory courses."

	Strongly Approve	Approve	Unde-cided	Dis-Approve	Strongly Disapprove	Don't Know	Don't Care	No Response
Teachers N=460	62 (13.5%)	169 (36.7%)	66 (14.3%)	124 (27.0%)	13 (2.8%)	6 (1.3%)	2 (0.4%)	18 (3.9%)
Parents N=280	55 (19.6%)	154 (55.0%)	41 (14.6%)	21 (7.5%)	1 (0.4%)	8 (2.9%)	0 (0.0%)	0 (0.0%)

Table 21

Establish "employment training centers to provide job training for out-of-school youth."

	Strongly Approve	Approve	Unde-cided	Dis-Approve	Strongly Disapprove	Don't Know	Don't Care	No Response
Teachers N=460	142 (30.9%)	219 (47.6%)	55 (12.0%)	22 (4.8%)	8 (1.7%)	1 (0.2%)	2 (0.4%)	11 (2.4%)
Parents N=280	62 (22.1%)	170 (60.7%)	29 (10.4%)	16 (5.7%)	0 (0.0%)	0 (0.0%)	3 (1.1%)	0 (0.0%)

In summary, it would appear that there exists a high degree of congruence between teacher and parent approval of increased stress on vocational training for the non-college bound. Conversely, parents are much more inclined than are teachers to increase stress on college preparatory courses, as well.

Returning to the area of vocational training, and specifically to that aspect affecting persons not currently enrolled in school, Tables 21 and 22 indicate the degree of teacher and parent support of school-sponsored vocational programs designed to aid out-of-school youth and adults.

Table 21 shows that 78.5 percent of the teachers and 82.8 percent of the parents would either "approve" or "strongly approve" of the establishment of employment training centers to provide job training for out-of-school youth.

Table 22

"Increasing vocational education for adults."

	Strongly Approve	Approve	Unde-cided	Dis-approve	Strongly Disapprove	Don't Know	Don't Care	No Response
Teachers N=460	181 (39.3%)	222 (48.3%)	27 (5.9%)	13 (2.8%)	7 (1.5%)	3 (0.7%)	2 (0.4%)	5 (1.1%)
Parents N=280	74 (26.4%)	159 (56.8%)	17 (6.1%)	19 (6.8%)	2 (0.7%)	6 (2.1%)	2 (0.7%)	1 (0.4%)

Table 22 indicates that 87.6 percent of the teachers and 83.2 percent of the parents would either "approve" or "strongly approve" of increasing vocational education for adults.

On the basis of data presented in Tables 17 through 22, it is evident that programs in vocational education designed for in-school and out-of-school youth and for adults would receive a broad base of support from teachers, parents, and students. Indeed, it would appear that in most instances parents take the lead in encouraging such programs while at the same time desiring increased emphasis on college preparatory courses. Is it possible that the "comprehensive" high school is more clearly envisioned and desired by parents than it is by teachers?

4. How do teachers, parents, and students perceive the effectiveness of guidance services in the area of educational and vocational planning?

Although such an area was not treated directly in the study, some evidence concerning this question may be inferred from the data presented in Tables 23 and 24.

According to Table 23, when teachers and parents were asked to react to the statement, "Teen-agers are expected to make too many educational plans before they really know what's going on," the "agree" half of the continuum encompassed 69.9 percent of the teachers and 55.7 percent of the parents, while the "disagree" half of the continuum included 28.9 percent of the teachers and 43.6 percent of the parents. A need for increased knowledge or guidance for students in educational planning would seem to be clearly desired by both groups, but this feeling is more pronounced among teachers than it is among parents.

Table 23

"Teen-agers are expected to make too many educational plans before they really know what's going on."

	Agree Strongly	Agree Somewhat	Agree Slightly	Disagree Slightly	Disagree Somewhat	Disagree Strongly	No Response
Teachers N=460	78 (17.0%)	153 (33.3%)	90 (19.6%)	40 (8.7%)	65 (14.1%)	28 (6.1%)	6 (1.3%)
Parents N=280	58 (20.7%)	59 (21.1%)	39 (13.9%)	24 (8.6%)	59 (21.1%)	39 (13.9%)	2 (0.8%)

Although deviating slightly in wording, a parallel question was asked of students. Table 24 summarizes the responses of students to the statement, "Teen-agers are expected to make too many educational and occupational plans."

With 15.8 percent of all students indicating "don't know," the remaining responses will be categorized as a total percent for degrees of agreement and degrees of disagreement.

Table 24

"Teen-agers are expected to make too many educational and occupational plans."

Students	Agree Strongly	Agree Somewhat	Don't Know	Disagree Somewhat	Disagree Strongly	No Response
Boys N=1,233	227 (18.4%)	366 (29.7%)	209 (17.0%)	277 (22.5%)	120 (9.7%)	34 (2.6%)
Girls N=1,293	165 (12.8%)	347 (26.9%)	191 (14.8%)	336 (26.0%)	231 (17.9%)	23 (1.6%)
Total N= 2,526	392 (15.5%)	713 (28.2%)	400 (15.8%)	613 (24.4%)	351 (13.9%)	57 (2.1%)

A total of 43.7 percent of all students agreed with the statement--boys (48.1 percent) indicating greater agreement than girls (39.7 percent).

A total of 38.3 percent of all students disagreed with the statement--girls (43.9 percent) indicating greater disagreement than boys (32.2 percent).

In terms of the total student population, it would appear that opinion was rather equally divided on this matter, but an analysis by sex shows boys to be much more concerned about educational and vocational planning. Perhaps increased guidance and other experiences implied in earlier sections of this report would tend to minimize this concern and, undoubtedly, the dysfunctional consequences engendered.

CONCLUSIONS

From this report of a portion of an attitudinal study conducted in a specific geographic region of the state of Oregon, the following conclusions may be summarized:

1. Counselor perceptions of student aptitude, achievement, adjustment, and potential

   With girls slightly more favored than boys, counselors perceive that:

   (a) 65 percent of all students achieve a grade point average of "C" or less;

   (b) 81.8 percent of all students are likely or very likely to complete high school;

   (c) 41.4 percent of all students are likely or very likely to attend college; and

   (d) 54.2 percent of all students demonstrate good or very good general adequacy of overall adjustment to school.

2. Teacher, parent, and student perceptions of the high school dropout problem

   With parents slightly more favorable than teachers:

   (a) All three groups indicate a substantial degree of approval for increasing school efforts (including programs, time, and money) to prevent school dropouts and to provide for students who have in fact left school.

   (b) Teachers and parents overwhelmingly support increased expenditures for courses and programs designed for the non-college bound youth (which may encompass the potential dropout).

3. Student work experience

   (a) One-fifth (20.4 percent) of all students hold after-school jobs with "baby sitting" the most frequent occupational level for all, followed by "farm work" for boys and "service" occupations for girls.

   (b) A total of 69.7 percent of all students hold summer jobs with boys most often employed in "farm work" followed by "baby sitting" and girls most often employed in "baby sitting" followed by "farm work."

(c) More than one-third (35.7 percent) of all students with neither after-school nor summer jobs would like to be so employed.

4. The occupational goals (post-schooling) of students reflect a high interest in the "professional, technical and managerial" area, although 20.4 percent have made no tentative choice as yet.

5. Vocational training programs for the non-college bound

   (a) An overwhelming majority (above 90 percent) of teachers and parents approve of work orientation and vocational training programs for the non-college bound although teachers more strongly approve. Interestingly, parents are much more inclined than are teachers to increase stress on college preparatory courses, as well.

   (b) Nearly two-fifths (37.4 percent) of all students feel strongly that . . . "the high school ought to do a lot more about training young people for jobs."

6. Employment training and vocational education programs for out-of-school youth and adults would receive approval from a significant majority of teachers and parents.

- -

Although fully aware of the dangers inherent in reporting only a small portion of a detailed study, such a procedure was employed in this report in an effort to share with a wider reading audience an indication of the significant accomplishment of O.C.C.I., Region V, in providing a broader knowledge base upon which to draw in the local decision-making process engaged in by school personnel and supporting publics.

Measurement of student, parent, and teacher attitudes regarding matters of such vital concern as the needs of the non-college bound student and achieving balance in the curricular experiences of that student represents significant progress and is of interest to all educators and others involved in the work of the school.

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ABSTRACT - Recommendations from two previous studies form the basis for this study which sought to investigate and evaluate the feasibility of effecting changes in the nursing education program of Prince Edward Island, Canada. Questionnaires and interviews were obtained with female 12th grade students, students in three hospital diploma nursing programs, currently employed registered nurses, and a group of university teachers and community leaders. To determine implications of value to program planning, data were analyzed to answer these questions: (1) What are the implications of change from present operation of nursing schools to operations which have been recommended, (2) What does the method of financing existing nursing programs imply about financing the recommended programs, (3) How do community members perceive the recommendations, (4) What are the most effective ways to stimulate public interest in transition in nursing education, and (5) What are the implications of the high school and nursing students' and graduate nurses' reactions to the recommendations. (SB)

VT 011 931

A STUDY OF TRANSITION IN NURSING EDUCATION

ON

PRINCE EDWARD ISLAND

EDO 54390

HAROLD R. ROWE

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A STUDY OF TRANSITION IN NURSING EDUCATION

ON

PRINCE EDWARD ISLAND

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PREFACE

Through legislation and by recommendations from the Association of Nurses of Prince Edward Island, efforts have been made to improve the quality of nursing service and nursing education on Prince Edward Island since 1922 when the first Nurses' Act was passed. At that time affiliation with the Canadian Nurses' Association was established.

In 1949 a mandatory Nurses' Act was enacted by means of which all nurses in active practice were required to be licensed. Incorporated in this Act were certain clauses directed toward improving the calibre of nurse education in the province.

However, it was not always possible for schools of nursing to implement recommendations made by the Association of Nurses, because of lack of monies for the purpose. The three Island schools were conducted by hospitals whose funds for operation came primarily from a per diem fee charged to the sick person. Some money was raised each year through community compaigns, but the hospitals have never been fortunate in the amounts of their endowments.

When a provincial hospital insurance plan came into effect in 1959, the financial base for hospital care and for education of hospital personnel was changed so that expenses began to be shared by the sick and the well through payment of federal and provincial taxes.

In 1960 the idea of establishing one school for students of nursing instead of three on the Island was discussed at a committee meeting of the Association of Nurses. The wording in the minutes, dated September 23, 1960, is as follows:

> "The members of the committee discussed the future possibility of a Central School for students of nursing in the province, at least for instruction in the sciences applied to nursing, with assignment of students to nursing experience in the best possible setting."

In November 1961, a Brief on Nursing Needs was presented to the Royal Commission on Health Services for Canada. In this brief the following problem areas in nursing education were spelled out:

1) Lack of a sufficient number of qualified teachers, both for science and clinical instruction.

2) Difficulty in retaining faculty.

3) Lack of adequate library facilities.

4) Limitations set on the educational experience of students because they provide nursing service to such a degree in hospitals.

Significantly, the final statement in this Brief was:

"We are anticipating a national program of accreditation for schools of nursing and are eager to participate in this and prepare for it. We firmly believe that it is only through enriching our educational programs and improving the practice field where students are learning to function as nurses, that our people will receive the type of care they deserve in hospitals and in the community."

Dr. Helen Mussallem, Director of the Pilot Project for the Evaluation of Schools of Nursing in Canada, came to the province as an observer for Canadian Nurses' Association at the Royal Commission hearing in Charlottetown. At this time she was invited by the Executive of the Association of Nurses to meet with them and selected faculty members of schools of nursing. The main focus of the discussion at this meeting was on the feasibility of fusing our three schools of nursing into one.

In September of 1962, the directors of schools of nursing met with representatives of the Hospital Services Commission to discuss the present educational system on the Island. Dissatisfaction with the present system was apparent. It was felt that the present educational programs on the Island could not prepare the kind of nurse needed to meet the nursing needs of the community.

In January 1963, the Executive of the Association of Nurses of Prince Edward Island initiated steps to acquire the services of a qualified nurse to study the nursing education programs in the three schools of nursing and to make such recommendations as might be indicated.

The purposes of the study were outlined to include:

a) The evaluation of nursing programs in the light of community needs

and

b) The evaluation of the clinical areas where students receive their nursing experience.

The Association indicated that it wished to have recommendations made regarding the following:

a) The size of a school that can function efficiently and economically.

b) The clinical resources that are essential for a sound basic education.

c) The number and types of schools of nursing suitable for this province.

Our Association approached the Canadian Nurses' Association with these terms of reference and objectives and asked for their assistance and guidance. As a result, a study director was appointed in the person of Miss Glenna Rowsell, who had directed the Canadian Nurses' Association School Improvement Program.

The procedure selected for our study followed the plan used in the Pilot Project for the Evaluation of Schools of Nursing in Canada. The first phase of the study was initiated in March 1964. The Study Director made a preliminary visit to each of the three schools of nursing on the Island to establish contact and to interpret the study to the faculties of the schools of nursing. Two visitors surveyed each school of nursing to provide balanced judgment in the writing of the survey report.

A Board of Review was then formed for the purpose of:

1) Evaluating the survey reports of the three schools of nursing, which were written by the director and a regional visitor.

2) Formulating recommendations with respect to nursing education on Prince Edward Island.

The Board met in Charlottetown on November 13th and 14th, 1964. Members of the Board were representative of hospital administration, nursing education, nursing service and professional organizations.

The criteria used by the Board of Review were predetermined national criteria used in the Canadian Nurses' Association School Improvement Program. The Board evaluated each school surveyed, on the basis of the report of the school.

As a result of the evaluation of the schools of nursing, the Board formulated recommendations to be presented to the Association of Nurses of Prince Edward Island. These were divided into short and long term recommendations.

The principal short term recommendations are as follows:

1) That a recruitment analysis be done to determine the possible number of students of nursing entering schools of nursing in the future. This will have an influence on the facilities needed for nursing education in this province.

2) That a cost analysis be conducted to determine the present cost of nursing education in Prince Edward Island.

3) That a study be made to consider the cost of changing from existing programs to a program or programs which are educationally independent.

4) That a study be made to determine better ways and means for the schools to interpret their programs to the community and that an effort be made to establish closer relationships with all those concerned with the education of the student of nursing.

5) That the Association of Nurses of Prince Edward Island initiate a program on continuing education for faculty members from the three schools of nursing.

6) That the Association of Nurses of Prince Edward Island support the principle of the need for more qualified nursing service personnel in all areas of the hospital.

The principal long term recommendations are as follows:

1) That a central institution be established in the City of Charlottetown to offer a nursing education program, the purpose of which will be to give a high level of education by qualified and able instructors in an environment which is wholly educational.

2) That clinical experience in the learning of nursing care of patients be obtained primarily in the three existing hospitals which are presently offering programs in nursing education.

3) That the proposed nursing education program meet the qualifying standards in existing colleges in Prince Edward Island and that, where possible, selected parts of the course of studies be obtained at these colleges.

In September 1964, as was recommended by Miss G. Rowsell in her Survey of Schools of Nursing in the province, a Cost Study of Nursing Education was initiated. The Association of Nurses was more than fortunate to secure consultative service for this study from the National League for Nursing in New York. The Director and a research scientist of the Research and Studies Service of the National League came to the province to orient directors of nursing and fiscal officers at our hospitals to a method of collecting cost data.

In this connection, through the generosity of the National League, travelling expenses and consultative fees were paid from monies channeled to the League from the United States Public Health Service. The two scientists who participated in this Cost Study were Dr. Hessel Flitter and Mr. Harold Rowe.

In June 1966, a third study of nursing was launched. This is captioned "A Study of Transition in Nursing Education on Prince Edward Island." The aim of the project, as stated by the Study Director, Mr. Harold Rowe, is to assess the feasibility of instituting the changes in nursing that have been recommended for Prince Edward Island. In his words, it is designed to evaluate two factors of great relevancy to this feasibility. One factor is the degree to which citizens at large, educators, health personnel and prospective students of nursing hold attitudes which lend support to the proposed changes. The second factor is the degree to which the physical facilities, qualified personnel and financial resources are or will be available to implement proposed changes.

Incorporated in his report of the transition study, the reader will find Mr. Rowe's report on a Cost Study of Nursing Education in Prince Edward Island which was originally planned to include data from the three existing schools of nursing.

The Association of Nurses of Prince Edward Island, which sponsored and financed in part the three studies in nursing referred to above, wishes to acknowledge the contribution made to their completion by the following individuals, groups and agencies.

Study I - A Survey of Schools of Nursing in Prince Edward Island

1. For Financial Assistance
   a. Canadian Nurses' Association

2. For Consultative Service
   a. Glenna Rowsell, Survey Director (Consultant with Canadian Nurses' Association)
   b. Reverend Sister Mary Felicitas, Survey School Visitor (Director of Nursing, St. Mary's Hospital, Montreal)
   c. Anna Christie, Survey School Visitor (Educational Consultant, New Brunswick Association of Registered Nurses)

3. For Service on the Survey Board of Review
   a. Kathryn Wright, Director of Nursing, Moncton Hospital.
   b. G. B. Rosenfeld, Consultant, Hospital Administration, Department of National Health and Welfare (Canada).
   c. Anna Christie, Educational Consultant, New Brunswick Association of Registered Nurses.
   d. Dr. Helen Mussallem, Executive Director, Canadian Nurses' Association.

Study II - A Cost Study of Nursing Education in Prince Edward Island

1. For Financial Assistance
   a. The United States Public Health Service.
   b. The National League for Nursing, Inc., New York.

2. For Consultative Service
   a. Dr. Hessel Flitter, who as Director of the Research and Studies Service of the National League for Nursing, provided consultative service by a visit to the Island, as well as through an interview in New York with the local co-ordinator for the Cost Study and through correspondence.
   b. Harold Rowe, who oriented directors of nursing and hospital fiscal officers to a method of collecting data and in the final stages of the study expended every effort to collect the required data to complete the study.

3. For Assistance with Data Collection and Reporting
   a. The directors of nursing and fiscal officer who cooperated in providing data.

Study III - A Study of Transition in Nursing Education on Prince Edward Island

1. To the Study Director, Harold Rowe
   a. Who designed the study in such a way that data could be collected and processed at a cost which was not prohibitive to the Association.
   b. Who transported data to the United States for final processing and completed the study under the handicap of long distance correspondence.
   c. Who motivated and directed health personnel to assist with collecting and processing data.

2. For Arranging Class Room and Other Schedules to Facilitate the Administration of Questionnaires in Connection with the Study
   a. Reverend Sister Rita Hughes, Principal of Notre Dame Academy.
   b. Professor Thomas Lothian, Registrar, Prince of Wales College.
   c. Monsignor George MacDonald, President, Saint Dunstan's University.
   d. Davis Lidstone, Principal, Summerside High School.
   e. Thomas Hall, Principal, Athena Regional High School.
   f. The Administration of all Island hospitals and health agencies.

3. For Assistance with Publicity
   a. Hartwell Daley, Editor, Journal Pioneer
   b. Pius Callaghan, Assistant Managing Editor, Guardian-Patriot.

4. For Providing Conference Room Space and Office Equipment
   a. Sisters of Saint Martha, Charlottetown Hospital School of Nursing.
   b. Dr. O. H. Curtis, Deputy Minister of Health of Prince Edward Island.
   c. Charles Praught, Administrative Assistant, Department of Health of Prince Edward Island.

Association of Nurses
of
Prince Edward Island

FOREWORD

It is customary if not fashionable today for research reports to begin with a list of recommendations. It would be somewhat repetitive to begin the following report with a series of recommendations because the incentive for the study was itself a list of recommendations for changes in nursing education, some of which were designed for Prince Edward Island and others for larger regions which include the Island. None of these recommended changes had been adopted by the Island at the time of the present study.

The investigator is aware that at least once in the past, researchers have descended upon the Island, conducted a study and left a list of recommendations which were ignored. There is, however, one recommendation that the investigator will voice again and again throughout the report. He urgently recommends that a group be established at once to plan for the future education of nurses in the province. The following report is addressed to such a group. Each chapter of the report begins with implications for the nurse education planners. Some of the implications suggest who the members of the planning group should be. The investigator is thoroughly convinced that the findings contained in the report can be best put to use by the deliberations, decisions and actions which initiate with a planning group. He is convinced also that the next step toward progress in the province's nursing education is more action and not more studies.

In lieu of a formal summary of study findings, the following seven pairs of opposing statements were selected to summarize the findings. The pairs of statements, which are sometimes contradictory, give an overview of the knowledge obtained and in addition, highlight situations where there is a real need for deliberations and decisions:

1. On the one hand, the type of Prince Edward Island applicant who would be best suited to the recommended nursing education programs is at present not being recruited into nursing. On the other hand, the recommended changes would make nursing much more attractive to highly qualified high school seniors.

2. On the one hand, the qualifications of Prince Edward Island nurse faculty are so far below national standards as to make it extremely difficult to

institute some of the recommended changes. On the other hand, by instituting just one of the recommended changes, there could be an immediate increase in the efficiency and effectiveness of the present nurse faculty.

3. On the one hand, there is on Prince Edward Island strong opposition to the proposed changes in nursing education because the amount of nursing care presently given by students would be curtailed. On the other hand, it is fairly obvious that at present students of nursing spend many months of the last year of the course in giving service with little or no planned instruction.

4. On the one hand, many Islanders are concerned that the proposed nursing education changes would result in financial barriers to desirable potential nursing students. On the other hand, thousands of dollars are presently being spent by the Hospital Services Commission to educate, feed and house students of nursing whose parents could well afford to bear the cost of their education.

5. On the one hand, the ordinary Prince Edward Island citizen is not greatly concerned about or interested in the future of nursing education and is more apt to reject than favour the recommended changes. On the other hand, the Island's community leaders and its intellectual community are both keenly interested in the future of nursing education and anxious to contribute toward its progress.

6. On the one hand, Island nurses, especially young graduates and students of nursing, are generally more opposed to the recommended changes in nursing education than they are supportive of them. On the other hand, to the degree that the nurses do not perceive the new education as a threat to them, they do support it. The more experienced the nurse or the nursing student, the more apt she is to favour the recommended changes.

7. On the one hand, of all the groups on the Island who were contacted in the study, the only groups who gave really substantial support to the proposed changes were those with little direct contact with nursing, namely, community leaders and general educators. On the other hand, when nurses worked directly with educators and other community leaders on problems facing transition in nursing education, both groups found the interchange of ideas pleasant, stimulating and profitable.

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CHAPTER I

WHAT IS THE STUDY ALL ABOUT?

What changes were recommended for nursing education on Prince Edward Island?

On October 5, 1966, the Association of Nurses of Prince Edward Island notified the Executive Council of the Provincial Government of a problem which was of great concern to the Association. Unless nursing education on Prince Edward Island moved from the apprenticeship system to the type of nursing education recommended for the Island and the nation, its nursing education could not hope to win national accreditation. The move would entail a transition composed of many changes. The purpose of the present study was to provide knowledge that would be necessary and useful to plan for the transition in nursing education on Prince Edward Island.

Ever since 1960 nursing leadership on Prince Edward Island has voiced concern that recommended changes for nursing education in the province had not been implemented. The recommended changes have come from many sources. Some recommendations originate on the Island. In 1960 the School of Nursing Advisory Committee of the Association of Nurses of Prince Edward Island discussed the possibility of the three existing diploma programs being amalgamated into a single program. Some recommendations were the result of studies conducted on the Island, such as that directed by Miss Glenna Rowsell in 1964, which resulted in twelve recommendations.[1]

Some recommendations have been part of national studies such as Dr. Helen Mussallem's Study, "A Path to Quality," which recommended that nursing education on the Island be limited to two technical level programs; one to be conducted by a nonsectarian college and the other conducted by a college operated under religious auspices.[2]

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[1]Glenna Rowsell, Survey of Schools of Nursing in Prince Edward Island. (unpublished 1964).

[2]Helen K. Mussallem, A Path to Quality (Ottawa: Canadian Nurses' Association, 1964), p. 172.

Some of the recommendations have come from the Canadian Nurses' Association and apply to the Island because they apply to all of Canada. Two such recommendations applicable to the province are: (1), that hospital conducted nursing schools be replaced by nursing education programs conducted by educational institutions and (2), that when educational institutions develop diploma programs, they be guided by the model of a curriculum organized within a framework of a two year period.[3] Some recommendations for the practice of nursing have implications for nursing education such as that which appears in the 1965 Report on Nursing Education in Canada by the Royal Commission on Health Services, which was, "that of every four graduate nurses, three should be graduates of a diploma program and the fourth nurse should be the graduate of a university basic nursing course".[4]

What questions did the recommendations raise?

The present study sought to investigate and evaluate the feasibility of effecting the changes in the previously cited recommendations, rather than seeking to arrive at still further and additional recommendations. The study sought to discover data which would have implications of value to those who were planning for the future of nursing education in the province.

The design of the study was necessarily eclectic because the knowledge needed for planning had to be obtained in a variety of ways. In general the study was an attempt to secure answers to the following questions:

1. What are the implications of change from the way nursing schools presently operate in the province to the type of operations which have been recommended?

2. What does the method of financing existing programs of nursing education imply about financing of the recommended programs of nursing education?

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[3]See Chapter II, p. 16, Table 6.

[4]Helen K. Mussallem, Nursing Education in Canada; Royal Commission on Health Services; (Ottawa: Queen's Printer, 1964), p. 138.

3. How do the community members who would be affected by the recommended changes perceive the recommendations?

4. What are the most effective ways of communicating with the public to stimulate its interest in transition in nursing education?

5. What are the implications of the reactions of the province's student and graduate nurses to the changes recommended for nursing education?

6. What are the implications of the reactions of the province's high school students to the changes recommended for nursing education?

How were the questions answered?

The method used to secure data for the study included both interviews and questionnaires. All interviews were conducted by the investigator or by interviewers trained by him. All questionnaires were administered by the investigator or someone trained by him.

Following a press release and a television broadcast dealing with transition in nursing education on Prince Edward Island, a randomly selected sample of persons listed in the Charlottetown telephone directory was interviewed by telephone. All interviewers followed a structured interview guide. The investigator interviewed small samples of each group of persons who completed questionnaires and interviewed, with varying degree of depth, persons in key positions in the fields of health and education which could be affected in some way by the proposed changes.

Questionnaires specifically designed for four different groups were administered. The groups were as follows:

1. Female 12th grade students in representative secondary schools on the Island.

2. Students in each of the three diploma nursing programs conducted by hospitals in the province.

3. Actively employed registered nurses of all types and levels in the Public Health Department and all of the Island's hospitals.

4. A comprehensive group which included each of the foregoing groups plus university teachers and other community leaders.

All of the data were collected between September 6, 1966 and October 7, 1966.

CHAPTER II

HOW DOES THE ISLAND EDUCATE ITS NURSES?

There are already available complete, detailed and authoritative reports on each of the three schools of nursing which were carried out in the summer of 1964.[1] So far as the investigator could determine they were applicable in the fall of 1966 as well. There would have been little purpose or profit in duplicating the reports. They contain, as they stand, pertinent observations which deserve the attention of those who plan for the future of the Island's nursing education. The present study was for the most part limited to data supplied by the administrators of each of the three schools. These data rounded out and updated a part of the 1964 study findings and supplied details about a group of persons not included in the reports, namely, applicants to the nursing programs.

Investigation of the characteristics of applicants to the three Island nursing schools and of the outcome of their applications yielded knowledge of value in planning for future nursing programs.

Implications for planners

There was evidence of need for better information for the public, students and counselors as to nursing manpower needs and admission criteria for programs which prepare nursing manpower. Clearly in the area of manpower planning, planning for nurses must articulate with planning for other services, especially those in health manpower. The present lack of planning or planning for nursing in isolation from other occupations, presents problems to the nursing school and the applicants as well.

There were other study findings indicating that planning for changes in nursing education may well necessitate planning for a change in recruitment for nursing. Present recruitment fails to attract the more capable students who were born outside of the province, students who are capable of doing work on the university level and the more talented daughters of those in community leadership positions.

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[1] Glenna Rowsell, Survey of Schools of Nursing in Prince Edward Island. (unpublished 1964).

Although the findings indicate that there would have been sufficient applicants to expand the existing nursing education programs, there was little evidence that existing recruitment methods could result in any significant upgrading of the quality of nursing on the Island.

Findings pertaining to students following their enrollment in schools of nursing on the Island indicated that planners should expect the Island's nursing programs to have an attrition rate at least as low as the national attrition rate. However, the large number of nursing school dropouts who were asked to leave for failure in science courses merit greater attention in future nursing education planning than presumably has been given in the past.

One question which the nurse education planners must answer if they plan to upgrade the quality of nursing education in the province is "When and how can a larger number of nurse teachers with at least minimum teaching qualifications be recruited?" It may be a wise move to invest a sizeable portion of any monies forthcoming for the improvement of the province's nursing education in the upgrading of the nurse teacher. The planners have every right to demand a justification for the continuance of the practice of requiring many faculty members to pose as experts in many content areas. If the three schools were to combine their resources, an individual teacher would be much better able to develop a degree of expertness in one content area.

The planners have every right to demand as well a justification for a third year of "education" when in one instance all of the actual class hours given in the third year could conceivably be given in one forty hour week.

If the plans for nursing education on the Island will be directed toward making the nursing course truly educational, why shouldn't the student be able to take her licensing examinations at the end of her instruction rather than many months after the time when for most of the students instruction has ceased. The study report includes a sample - a pattern for a shortened nursing program which on paper, at least, appears to be applicable to the Island.[2] Planners will want to consider many such suggested approaches as well as the patterns of shortened programs which have been successful elsewhere.

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[2] See Chapter II, p. 16, Table 6.

Some findings of the study which pertained to the student's clinical experience, which some would argue should not be changed, indicate that in certain instances clinical experience does not appear to be an educational experience at all but a type of employment. Certainly the study findings show that there is already such great variation among the three schools in the amount and variety of clinical experience in their programs as to justify variances which a new and creative approach to clinical experience would entail.

Who wants to go to nursing schools on the Island?

In 1966, the three Prince Edward Island diploma programs processed 145 applications to the point of making a decision to accept or reject the applicant. Sixty-nine applicants were accepted and enrolled. However, an additional fifteen who were notified of their acceptance did not enroll. Sixty-one were rejected. Among these were forty-two who did not meet entrance criteria and nineteen who were desirable but who could not be accommodated. However, the aforementioned categories were not evenly distributed among the three schools. Variations in distribution are apparent in Table 1. Judging on the basis of data in the table alone, recruitment for School A is more efficient than it is in either one of the other schools. A much larger percentage of applicants to School A are desirable candidates for the school. School A could have accepted more than half again as many students as it did accept without lowering its standard for admission. Also, no applicant to School A applied to either of the other two schools, but seven of the applications included in the data in the table for School B and School C were duplicates. The 145 applications represented a total of 138 applicants.

TABLE 1

Category of Applicant	Number in Category in Each School		
	School A	School B	School C
Accepted and enrolled	31	18	20
Accepted, did not enroll	5	6	4
Rejected (undesirable)	9	17	16
Rejected due to limited capacity	18	0	1
Total	63	41	41

Six of the seven applicants who submitted duplicate applications did enroll in a nursing school on the Island. Two of the six chose School B in preference to School C and three chose School C in preference to School B. However, one applicant who was rejected as undesirable by School B was accepted and enrolled in School C. The seventh applicant with duplicate applications was rejected as undesirable by both schools. From the point of view of recruitment for nursing generally rather than recruitment for an individual school, duplicate applications are sometimes desirable in that they lessen the chance of worthy students being rejected because of limited capacity.

It is possible that School B did not enroll all of the students which its facilities could accommodate. Not one of the students who were turned away from School A due to lack of accommodation applied for admission to School B. However, School A and School B which are located near one another are evidently perceived by nursing school applicants as representing two religious groups. Every applicant to one of the schools was Roman Catholic; every applicant to the other was Protestant. Despite the admirable objective attitudes shown by administrators and faculty members in the two institutions, in all probability so long as they are separate institutions, applicants will continue to identify with them on a religious basis and to, therefore, preclude many advantages and economies that could be realized by a single combined school.

Practically all of the 145 applications were from persons born on Prince Edward Island whose parents were also born there. The percentages of applicants born outside the province does not differ significantly from the percentages of enrolled students of nursing born outside the province which are discussed elsewhere in this report. There was, however, a much better than chance relationship between whether or not the applicant had been born on the Island and whether or not she was rated desirable or undesirable by the school of nursing to which she applied. The 103 desirable applications were from applicants over 90 percent of whom were Island born and only 10 percent were born outside the province. Of the 42 applications adjudged undesirable, however, over one fifth - precisely 21 percent - were born outside the Island. The differences in place of birth should not be misconstrued as bias on the part of the nursing schools. Their selection criteria do not include place of birth. It is more likely that more capable students born outside the province have a lesser tendency to enroll in a nursing school on the

Island. With one exception the reason for adjudging any applicant undesirable was low scholastic ability, low scholastic achievement, or both. The exception was one student rejected by School C who was rejected as having undesirable personality traits. Two of the schools indicated that in their selection process greater weight was given to high school achievement than to pre-entrance examination results. The third school indicated that it normally gave greater weight to the applicant's standing in her high school graduation class. However, there was an obviously high correlation between the two criteria. In no case did any of the three schools accept students who either scored below 60 percent on the Atlantic Provinces Examining Board examinations or were in the lowest 1/4 of the high school graduating class.

The A.P.E.B.E. test scores of the students who were accepted and enrolled in any one of the three hospital schools ranged from 60 percent to 86 percent. The middle half of the accepted and enrolled students' scores ranged from 63.8 percent to 71.1 percent. By comparison, the average of the students who were rejected because of lack of accommodations was 65.3 percent and was somewhat lower than the average score of the accepted and enrolled group. However, the accepted but not enrolled groups' average score which was 69.1 percent was higher than the average score for those who did enroll. The least variation in scores occured within the group of applicants which were rejected as undesirable. Excluding the one applicant deemed undesirable because of personality traits, the rejected applicants' scores ranged from 54 percent to 59 percent and the average scores and median score were almost identical. The former was 57.5 percent and the latter 57.7 percent.

There was evidence of two relationships between the test scores and other variables. One was the relationship between the scores and preferences for college shown by the applicants who were accepted and who did not enroll. Those who chose, that is preferred, college to the school of nursing to which they applied had an average test score of 72.8 percent which was considerably higher than the average of 68.2 percent for those who expressed their preference by enrolling in another school of nursing. In addition to those who preferred a nursing school elsewhere in the province, there were four accepted, not-enrolled, applicants who were said to have enrolled in a nursing school elsewhere than Prince Edward Island.

The second relationship was apparent between the scores of the accepted not enrolled group and the fathers' occupation. This can be shown simply by listing the number of applicants above and below the median grade (middle grade for all) in each father's occupational categories as Table 2 illustrates.

TABLE 2

Test Score Standing on A.P.E.B.E.	Occupation of Father[1]			
	Administrative Professional	Services-Craftsmen	Labourers-Unskilled	Deceased Unemployed Retired
Above median	1	6	24	4
Below median	9	12	10	3

If there were no statistical relationship between the test score of the applicant and the occupation of the father one would expect approximately the same number above and below the median under each occupational category. However, as Table 2 shows, only one in ten of the applicants with fathers in the "Administrative-Professional" category were above the median, but over two-thirds of applicants with fathers in the "Labourer-Unskilled" category were above the median. The data pertaining to the occupational category of the applicants' fathers as well as

[1]Occupational categories used in this study are combinations of categories used by the Dominion Bureau of Statistics. The first of the study's categories is composed of the Bureau's two headings "Management" and "Professional and Technical" and includes occupations for which university level education is advisable. The second "Services-Craftsmen" is composed of Bureau headings "Clerical, Sales, Services and Recreation, Transport and Communication and Craftsmen" and includes occupations for which vocational school or technical school level education is advisable. The third category includes "Farmers, Loggers, Fishermen, Trappers, Miners, Quarrymen and Labourers" which are generally associated with on-the-job training.

data collected (reported elsewhere) from high school students indicate that highly capable daughters of the "Administrative-Professional" category are much less inclined toward nursing than highly capable daughters of labourers and unskilled workers.

Data from the present study and from a national study of applicants to nursing schools in the United States, which was conducted by the investigator, are generally in agreement. For instance, approximately 45 percent of all applications to schools of nursing in the United States, processed in 1960, resulted in enrollments in the school compared with 48 percent in Prince Edward Island in 1966. In the United States 45 percent of applications resulted in rejection as compared with 42 percent in Prince Edward Island. Eleven percent of the applications in the United States resulted in application being accepted but the applicant did not enroll. The comparable percentage for Prince Edward Island was approximately identical with that in the United States.

There were, however, differences between the applicant picture in the two areas which should be noted. In the United States the portion of rejected applicants who met the admission criteria and who were rejected because of limited facilities was an insignificant fraction of all those rejected. On the Island, 68 percent of those rejected did meet admission criteria but could not be accommodated.

A second difference is that applicants in the United States showed a much greater tendency to apply to several schools than did applicants on the Island. In the United States 82 percent of the applicants applied to more than one school of nursing - some applied to as many as 10 different schools. The United States national average for number of nursing school applications per student was 2.6. Although precisely comparable data were not collected for Prince Edward Island, those applicants who applied to several schools appeared to be exceptions.

The study findings revealed that the province could, if it wishes to do so, increase its supply of nurses merely by providing employment for more of those who graduate from the Island's schools and by increasing the institutional facilities for nursing education. Findings which follow and which pertain to the applicants who were admitted to the schools, reveal that the criteria used for selecting applicants to be admitted do not always ensure successful completion of the course of study.

What happens to the students who enter the nursing schools?

Table 3 illustrates that there was relatively little fluctuation in the number of students admitted to and graduated from hospital diploma programs on the Island in the last five years. The slight increase in the 1965-66 academic year should be viewed in light of the rapid increase in the number of high school graduates in the province who would be eligible to enter nursing if they chose to do so.

TABLE 3

ADMISSIONS, GRADUATIONS AND WITHDRAWALS TO/OR FROM PRINCE EDWARD ISLAND NURSING SCHOOLS 1961-2 THROUGH 1965-6

Academic Year	Admissions	Graduations	Withdrawals
1961 - 1962	72	51	14
1962 - 1963	70	58	13
1963 - 1964	70	56	7
1964 - 1965	65	59	7
1965 - 1966	81	61	13
Average per Year 1961 - 1966	72	57	11

Further data were collected about students in order to answer two questions; namely; "Where do the graduates seek employment?" and "Why did students withdraw from the school?"

A follow up of the 1966 Island nursing school graduates shows that approximately two-thirds of them (68 percent) were employed as nurses in the province and that at least nine of every ten working in the province were working at the hospital where they attended school. The remaining third of the total group of graduates were employed elsewhere in Canada.

Of known reasons for withdrawal from Prince Edward Island nursing schools during the period 1961-66, almost half of them (49 percent) could be categorized as failure to pass courses in natural or social sciences. Approximately one-tenth (12 percent) of withdrawals were the result of failure in nursing subjects. Other reasons, which accounted for an average withdrawal of less than one student per year in the three schools combined, included marriage, undesirable personal characteristics and poor health. In comparing Prince Edward Island withdrawal data with the published results of studies dealing with withdrawals from hospital diploma programs elsewhere, one would have to say that the three schools on the Island were relatively successful in seeing a large portion of their students through the entire nursing program. However, the large percentage of Island students who withdrew because of failure in the sciences is worthy of note. As has already been noted, the applicant most capable of college work in the sciences, tended to be the applicant who did not enroll in nursing school - even though she was accepted. By and large a student with such capabilities preferred to enroll in an educational institution rather than to enroll in a nursing school on the Island.

What are the nurse teachers like?

A crucial factor that often limits the number of students who can be enrolled in a school of nursing is the number of nurses who can be employed and who are qualified to teach in the school. The aforementioned 1964 report on the Prince Edward Island schools includes a picture of the number and qualifications of faculty in each of the three schools of nursing. The numbers and qualifications had changed little by 1966.

When one compares the statistical picture of the nurse teachers on Prince Edward Island with those elsewhere in Canada, the Island's faculty is not so much lacking in numbers as lacking in preparation to teach. On the basis of 1960 and 1962 statistics, Dr. Mussallem found the academic preparation of nurse faculty in schools of nursing throughout Canada so inadequate as to present a serious problem to the improvement of nursing education. However, in both 1960 and 1966, schools of nursing in the other provinces had relatively well prepared faculty when compared with the Prince Edward Island schools. Table 4 illustrates the relative lack of qualified nurse faculty on the Island as compared with Canada - especially nurse faculty with a baccalaureate degree. There were only four

full time nurse teachers teaching on the Island with a baccalaureate degree at the time of the present study.

TABLE 4

PERCENT OF NURSE FACULTY MEMBERS IN HOSPITAL PROFESSIONAL SCHOOLS HOLDING ACADEMIC DEGREES

Academic Degree	Canada[a]	Prince Edward Island	
	Full time faculty only	Full time faculty	Full and part time faculty[b]
Bachelor's Degree	30%	12%	12%
Master's Degree	3%	0%	3%
No Degree	67%	88%	85%

[a]From Salaries and Qualifications of Full Time Nurse Faculty in Hospital Professional Nursing Education Programs released by Research Unit of C.N.A. June 1966.

[b]Part time faculty computed in terms of full time equivalent (i.e. nurse who spent ½ time teaching was counted as .5 faculty member).

If in 1966 it had been possible to employ each part time nurse faculty member teaching on Prince Edward Island as a full time teacher, the Island could have reached the national level of nurse faculty with a master's degree but still would have had a percentage of faculty with a bachelor's degree only half as great as that of Canada as a whole.

Although the 21 full and part time nurse faculty members counted in the study were evenly distributed numerically among the three schools, they were not evenly distributed as to their qualifications. One school had three

faculty members with academic degrees, one school had two so qualified and the third school had no faculty members with any college degree. In the third school and in the hospital supporting it, all but two of the persons interviewed reminded the interviewer that one of their nurses had gone to university and was unsatisfactory when she returned. These and other evidences of low valuation of education which were apparent in the institution caused the investigator to wonder why the hospital continued to invest money and manpower in a basic program in nursing education.

If, instead of the present arrangement, all nursing education on the Island were under the aegis of an institution or organization whose sole purpose was education, much better use could be made of the 21 faculty members who are available. The individual nurse teacher could concentrate her talents and efforts on about one-third of the spectrum of the nursing curriculum which she covers at present. The educational institution would undoubtedly encourage and make provision for nurse teachers to continue their own education. It is highly probable that such a change in the existing nurse education structure in the province could go far in improving the quality of the Island's nurse faculty members.

What do nursing students learn in the classroom?

Although the curriculum of the three Prince Edward Island nursing schools was covered comprehensively in the 1964 evaluations of the schools, there are aspects of the curriculum pattern which, while not new findings, are worthy of comment here. While presumably each nursing course aimed to produce graduates with skills which were comparable, if not equal, to skills of graduates from the other two schools, the schools differed among themselves as to the amount of instruction needed to achieve the skills. One school had over half again as many clock hours of class room instruction during the three year course as did another. Records of interviews conducted with faculty and administrators of the three schools indicated that the institution which appeared to place the greatest value on education had the greatest number of clock hours of class. The number of clock hours of instruction in each of the three schools is given in Table 5 by hours of instruction in nursing and in other areas, such as natural and social sciences.

TABLE 5

CLOCK HOURS OF CLASSROOM INSTRUCTION IN NURSING AND OTHER CONTENT AREAS BY THREE PRINCE EDWARD ISLAND NURSING SCHOOLS 1966

Nursing School	Hours of Instruction		
	Nursing	Other areas	All areas
A	856	398	1,254
B	643	390	1,033
C	540	260	800

The curriculum of the three schools differed also in the distribution of the class room hours among the three years of the course. Although it could be said that in each of the three nursing programs at least half of the instruction was given in the first year and less than one fourth of it in the last year, the program which ranked lowest in hours of instruction was even more outstanding in that only one twentieth of the instruction that was given occurred in the third year of the program, that is, only 40 hours of classes in the entire third year of the three year program. One of the most frequent suggestions given by students for improvement of the nursing programs was that more of the instruction be given during the third year. One student said that long periods of "work" with no class instruction made it difficult for the student to realize that she was still a student.

Some of the data collected for the study pertained to nursing school curriculums located elsewhere than the Island. Descriptions of curriculums of shortened nursing courses elsewhere in Canada were studied in order to explore their applicability to a nursing course on Prince Edward Island, which would meet four conditions, namely; (1) be shorter than the existing course, (2) accommodate the largest number of instructional hours presently given on the Island, (3) offer at least as many hours of clinical experience as the number of hours which other nursing programs have found

sufficient to prepare well qualified bedside nurses and (4) not exceed forty hours per week of clinical and classroom experiences combined with four weeks of vacation per year or a total of 1920 hours per year. Table 6 illustrates one possible arrangement of classroom and clinical hours which meets all of the four conditions. Such a course could be completed in two calendar years.

TABLE 6

Year of Program	Hours of Nursing Program		
	Classroom Instruction	Clinical Experience	Total
First	780	1,140	1,920
Second	480	1,440	1,920
Total	1,260	2,580	3,840

The 2,580 hours of clinical experience shown in Table 6 are more than double the number of hours of clinical experience in one of the shortened programs which were studied, namely, that of the Ryerson Institute of Technology in Toronto.

Each of the three schools had instruction in psychiatric nursing given outside the home hospital by faculty employed by the psychiatric hospital. In addition, two of the schools had instruction in the natural and social sciences given at a university by university faculty. One would logically deduce that the outside instruction was justified in that it contributed to the overall objectives of the nursing curriculum and that measures were taken to see that each part of the nurse's education including outside instruction contributed to the overall goals. When each of the three schools was asked to describe its method for coordinating outside instruction with that of the rest of the program, one school seemed to evade the question, one answered with generalizations and only one gave a direct answer describing its method of coordination. The school admitted that the existing pattern of education made it difficult to coordinate all of the learning experiences into a meaningful whole. Planning the entire

nursing program under the control of an educational institution should be a major step toward stressing the overall educational objective throughout the program.

Considerable data were compiled during the study pertaining to the physical facilities which are now used by the Island's three nursing schools and the different approaches to nursing education on the Island. The data included the square footage of educational and residential areas as well as architectural evaluations of the facilities. Although the information may be of great value to a working group of planners and will be available to them, it is not included in the report. Before the adequacy and appropriateness of the facilities can be evaluated, many decisions about the future of nursing education in the province will have to be made.

Comparable data on the clinical experience assignment of the student of nursing were obtained from only two of the three nursing schools. One of the schools submitted in lieu of the requested data a description of "actual hours" of students' evening and night experiences. The investigator asked a nurse educator who was experienced in clinical assignment of students to check the description of the "actual hours" of experience and to suggest any way in which it could be compared with the data from the other schools. The educator responded that the description could not be compared with the other data and added that (1) the description sounded like a rationalization in that it claimed that students were assigned to only a small percentage of the total shifts of evenings and nights to which they could have been assigned. The total shifts which were listed represented, according to the educator, the number of shifts that could have been worked if the students had been employed as full time nursing staff on evenings and nights, and (2) students were described as having "worked" a certain number of shifts rather than as having "experience" or even "practice" which literally categorized the student as a worker rather than as a learner.

Data submitted by the other two schools, although comparable with one another, were markedly contrasting. The school previously identified as School C, which had the least number of instructional hours, assigned students to over one half again as many (64 percent) more weeks of clinical experience as did the school having the greatest number of class hours. Although students in the school with the greatest number of class hours, (School A) spent no more than one fifth of the second and third years of the

course on evening and night experience, students in School C spent over one half of the last two years of the course on evening and night duty. The aforementioned nurse educator said she was "concerned" about the educational merit of the nursing program in the last mentioned school. She did not see how with the limited number of faculty members and with so many students on duty around the clock, it was possible to plan a truly educational clinical experience for the students. Rather, the data appeared to indicate that much of the students learning at the bedside was "left to chance."

Although directors of the three programs all expressed the belief that the amount and kinds of clinical experience available to students is sufficient for the number of students presently enrolled, none of the three directors believed that their hospital's clinical facilities in one or more areas were sufficient to permit a marked expansion in the number of students who could be enrolled in the school. However, the intended purpose of the clinical experience is instruction. There is good reason to believe that with sufficient clinical instruction the students' clinical experience could be used more effectively. It may take a relatively long period of time for a student on her own to chance upon the clinical experience she needs at the particular point in her learning. However, if the student's learning were directed by a clinical instructor who knew both the needs of the student and the clinical experiences available, the student could be guided to the needed experience in a relatively short period of time.

CHAPTER III

WHAT IS THE COST OF EDUCATING A NURSE?

Implications for planners

In order to determine the financial effects which could result from any changes in nursing education which might be planned for Prince Edward Island, the planners must first know what the education costs at present and who pays the cost. Both of these facts are included in the following information. Despite the lack of cooperation of two of the three hospitals with nursing schools, the following evidence should convince planners that the hospitals spend a considerable sum to operate their nursing schools, but they spend much less on educating the student of nursing than they do for functions which have nothing to do with instruction per se. The findings show that the most expensive part of the hospital schools' cost is for the physical maintenance of the student, that teachers' salaries are a fairly good index of educational cost and that the cost of educating a student in the first year of the program is more than double the educational cost in the third year of the program.

In view of the following findings, it would be foolhardy to plan for any sort of financially self-supporting nursing education today. Furthermore, most of the proposed nursing education changes are apt to diminish the students' service value to the hospital from what it is at present. Therefore, one of the less pleasant decisions the Island's nurse education planners must make is the decision as to who should pay for the nurses' education.

Does the nursing school pay for itself?

Although one could conceivably ignore some of the social implications of the changes recommended for nursing education on Prince Edward Island, it would be virtually impossible to ignore the financial implications of the changes. If, for instance, nursing education were to be transferred from the hospital system to the educational system, there would have to be a corresponding transfer of funds to operate nursing education. If the diploma nursing program were to be shortened, fiscal planning for the change must include more than merely the financial

compensation for any resulting loss of student services. It must compensate as well for the monetary effects of the increase in rate in which the instruction is to be given. Because the financial implications of the transition in nursing education were so important, they were given considerable emphasis in the design of the study of transition. Regretfully, the investigator must report that several attempts to secure the needed knowledge on the cost of existing programs in nursing education on the Island were thwarted. Although as a result, a part of the cost picture of nursing education in the Province had to be estimated, sufficient knowledge was obtained to serve as a valuable guide in planning for a smooth transition in the Island's pattern of nursing education.

The two of the Island's three hospitals which had schools of nursing and which did not supply the data needed to analyze the actual cost of operating the school deserve some comment. The third hospital which did supply the needed data, by merely doing so, demonstrated that the tasks involved presented no significant challenge or hardship to the hospital's fiscal department. The investigator is convinced that the refusal of the other two hospitals did not represent a deliberate attempt to thwart the study. The refusals were rather the result of a well established and most often commendable pattern of giving preference to the central objective of a hospital, namely, patient care. Peripheral objectives, such as educational programs, were superceded by the high-priority central objective. The refusals are themselves significant knowledge to those who plan for the future of nursing education, because they illustrate an important shortcoming of the placement of an educational program in a service institution.

The cost of existing programs of nursing education on the Island was studied in two ways: (1) the analyzed cost to the hospital of operating the school of nursing for one year and (2) the value of the students' clinical experiences as they contributed to nursing services in the hospital. The analyzed cost was computed from a detailed cost analysis of the hospital's actual records of operating expenses. The value of student services was computed on the basis of the hospital's actual rate of payment for professional nurses' skills, the degree of skill possessed by the student in each semester of each year of the program and the degree to which care given by the student was of use to the hospital.

The cost study revealed that hospital nursing schools on the Island resemble those elsewhere in North America in that they are a financial liability to the hospital. The liability is attracting more and more attention from the public as well as hospitals themselves in both Canada and the United States. The analyzed cost to the Island's hospital (known here as Hospital A) for operating its school of nursing was approximately one eighth, actually 13 percent, of its annual operating costs. (The total operating costs of the hospital were well in excess of one million dollars). The portion of the hospital's operating expenses spent on its school of nursing is precisely in line with the portion spent by hospitals in the United States of similar bed capacity and with schools of similar size. When the cost of operating the school of nursing was divided by the total number of patient days accumulated in the hospital during the year, the result could be interpreted as "the cost of operating the nursing school is $3.34 per patient per day".

What is the cost of "keeping" versus "teaching" the nursing student?

Those who plan for nursing education on the Island should keep in mind that if the hospitals were relieved of the function of maintaining a school of nursing, they would be relieved of considerable financial liability as well. However, if only the instruction now provided by hospitals were assigned to educational institutions and the hospitals continued to provide all of the other services they now provide for their students, hospitals would continue to bear well over half the cost that they bear at present. They would continue to do so because the major portion of the cost to the hospital for operating a school of nursing is the cost of providing functions which have no relationship to instruction per se. These functions, hereafter called non-educational functions, include provision for the students' room and board, laundry and recreation. In School A, the cost of providing non-educational functions was half again as great as the cost of providing educational functions. The average cost of providing one week of educational functions was $16.20 per student and the average cost for non-educational functions was $26.03 per student per week, which was 61 percent again as great as the educational functions cost.

The non-educational functions costs were for the most part the cost of maintaining the student. Providing laundry, meals, heating, cleaning and upkeep of the nurses' residence altogether accounted for 85 percent of the non-educational functions cost. By contrast, health services for students accounted for only 1.3 percent of the non-educational functions cost. The only item of non-educational functions cost which would appear on most nursing school budgets was the salaries of the house mother and the receptionist and accounted for only 5 percent of the total non-educational functions cost.

Unlike the cost of non-educational functions, a large portion of the cost of educational functions could be accounted for by the item of direct expense which is included in practically every nursing school budget, namely; instructors' salaries. Both educational and non-educational functions costs were composed of both direct expenses which often appear on budgets and overhead or indirect expenses which seldom ever appear in school budgets. In School A, 85 percent of the direct expenses for educational functions were expended for salaries of all types of positions. Approximately three-fourths of the salary expenditures were for the salaries of nursing instructors. Although indirect expenses (expenses of maintaining classrooms, housekeeping, etc.) added to the direct expenses, resulted in a total cost which was 48 percent greater than direct expenses alone, the cost item, salaries, was still the largest single item of cost. If future plans for nursing education require increases in the quantity and quality of nurse teachers, the resulting expenditures for salaries should be expected to have a noticeable effect on the overall cost. Similarily, if combinations of educational facilities were to permit more economic use of qualified faculty, the saving would be a significant one.

The above quoted cost of $16.20 per student week for educational functions cost is somewhat misleading in that the cost is distributed to freshman, junior and senior students equally. In reality the hours of classroom instruction given to freshman students in the first year of the course is many times as great as that given to senior students the third year of the course. In the analysis the part of the educational functions pertaining to salaries was prorated on the basis of hours of instruction per year of course. All college tuition cost was allocated to the freshman year of the course where it occurs and other general costs such as administration and secretarial costs were more evenly distributed. The result of the

analysis was a different educational functions cost for each of the three groups of students - Freshmen, Juniors and Seniors. The result is shown in Table 7.

TABLE 7

Year of Program	Educational Functions Cost Per Student-week
Freshman	$21.47
Junior	18.48
Senior	7.90

The above variations in educational costs are of particular importance if one plans to shorten the nursing education program. During the third year the cost of education per se was only 37 percent of what it was during the first year. Therefore, even though shortening the program from three years to two may increase the rate of instruction half again as much, it should not increase the yearly cost of instruction proportionately.

Unlike a college or university where dormatories and dining halls are looked upon as self-supporting services, the hospital must compute the cost of its nursing school as the sum of the cost of educational and non-educational functions. A more accurate accounting of the cost of each respective year of the program can be obtained by adding the year's educational functions cost to its non-educational functions cost. The resulting total costs to the hospital by year of program were as shown in Table 8.

TABLE 8

Year of Program	Educational and Non-educational Functions Cost per Student-week
Freshman	$47.50
Junior	44.51
Senior	33.93

Assuming that 49 student weeks are equal to one student year, the total costs per student year were as shown in Table 9.

TABLE 9

Year of Program	Cost of Student-Year		
	Educational Functions	Non-educational Functions	Total
Freshman	$1,052	$1,276	$2,328
Junior	906	1,276	2,182
Senior	387	1,276	1,663
Total Program	$2,345	$3,828	$6,173

Can the nursing student pay her own way?

Several decades ago the idea that a student nurse more than pays for her education in service was widely accepted. The idea still prevails - anachronistically so - among many students in the Island's three nursing schools. The cost study of nursing School A demonstrated, that even during the senior year when the student receives so little formal instruction and has a considerable amount of clinical practice, she is still a financial liability to the hospital. The computation of the value of the students' services was not based, as was the cost analysis, upon records of money having changed hands. Thus the dollars of the value of student service have a different basis from dollars of the cost of education. Nonetheless, the detailed analysis of valuations of students by every faculty member and every nursing service administrator on each clinical area open to students resulted in a dollar value of student service, which in all probability is a more accurate measure of the worth of the student than graduate nurses' salaries are of their worth.

The total value of all of the services contributed by students to the hospital for the year of study was $69,649, which was slightly greater than the cost to the hospital for educational functions only. The value per student week, which was the result of dividing the total

value by the total number of student weeks, was $18.74 per student week. The result was also somewhat misleading because the value of student services varied more from year to year of the program than did the cost of educational functions. Actually, the method of determining the value of student services involved computations for students in each of the six semesters of the entire program. Figure 1 illustrates graphically the rate of increase in value of student services throughout the program. The rapid acceleration of values in the third and fourth semesters (second year of the program) is typical of the acceleration of values which was apparent in the data from most hospital diploma programs which have undergone similar studies.

From the point of view of cost, a wise investment for the hospital diploma program would be investment in measures that would ensure that once a student was admitted to the program she would complete the three year course. Her cost to the hospital diminishes as the course proceeds and as the value of her services increase. Figure 2 illustrates the point and summarizes the foregoing discussion of cost and value.

FIGURE 1

VALUE OF STUDENT SERVICES PER SEMESTER
PER STUDENT WEEK

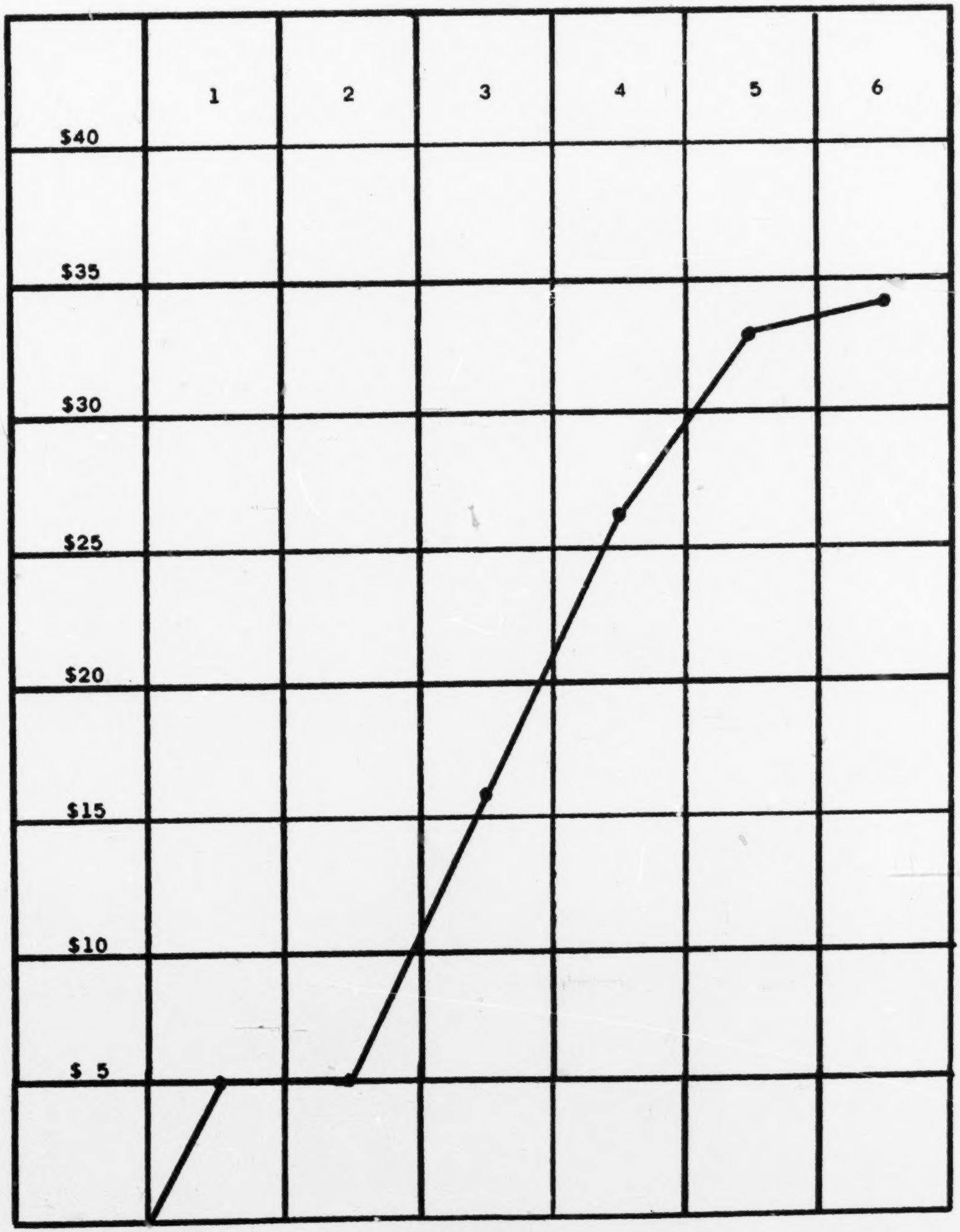
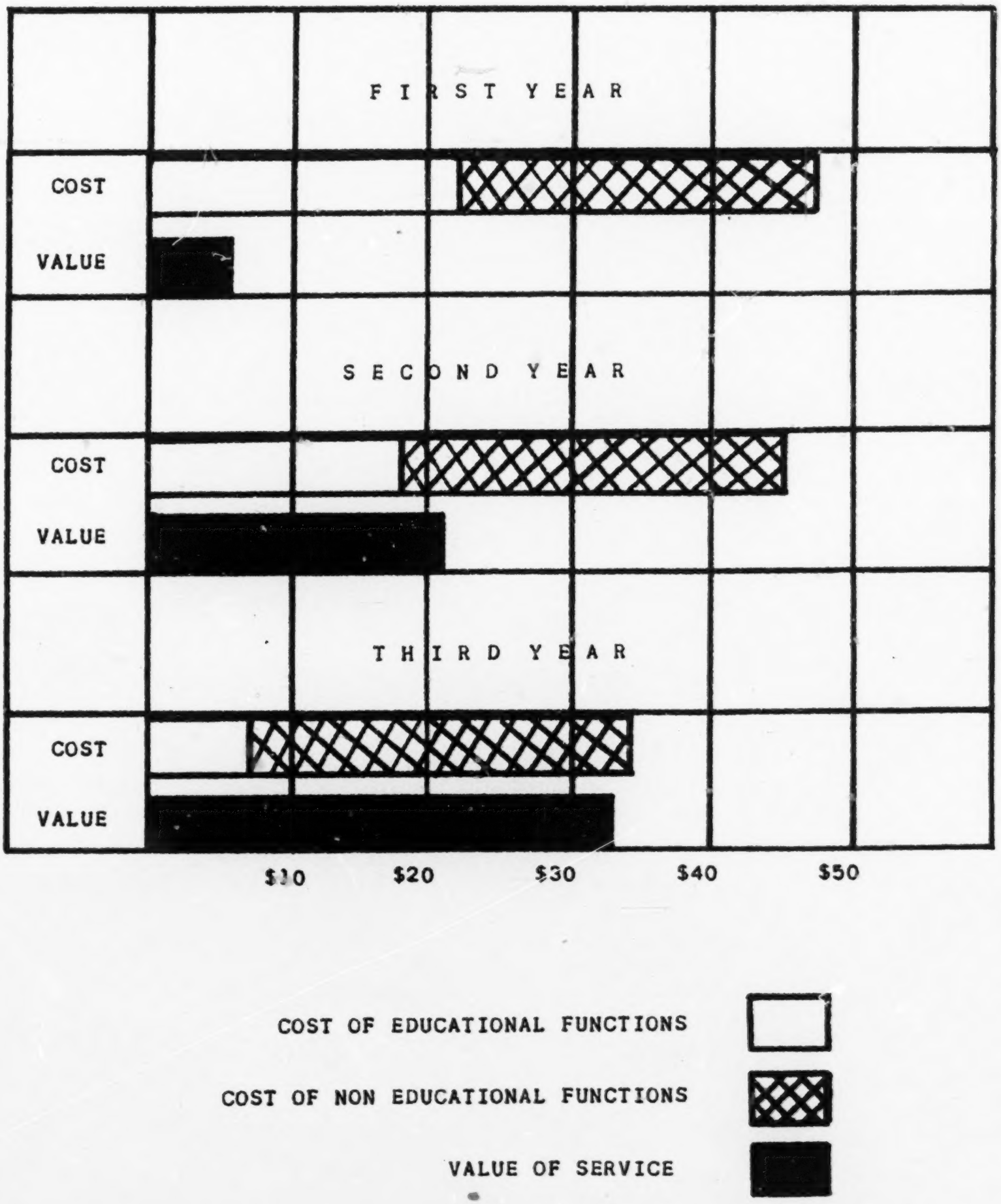


FIGURE 2

COST PER STUDENT WEEK AND VALUE PER STUDENT WEEK
BY YEAR OF PROGRAM



It would be hazardous to predict what effect any of the proposed changes in nursing education would have upon the value of student services. In a nation wide study of cost of nursing education of all types of programs, the service value of clinical experience of students in a nursing program offered by a college or university was usually a small if not insignificant fraction of the value of services of students in a hospital diploma program. The diminution of value of college and university students of nursing as compared with hospital students was not proportional to hours spent by each group in clinical experience. The objectives of the controlling institution, the philosophy of the nursing program and the nursing curriculum may each and all have a marked effect on the service value of the students. Here planners for nursing education must rely heavily upon the judgment of the nurse educator. She, fortunately, will feel much more comfortable in advising on the value of the student services than she will in advising on the cost of the program.

Contrary to the design of the study, the cost picture presented so far is limited to the cost of only one of the Island's three diploma nursing programs. One of the two other hospitals with schools did share its annual fiscal report with the investigator. Comparing the fiscal report data with those of the hospital whose costs were analyzed, there is good reason to assume that the unit cost of nursing education would not vary significantly between the two institutions. The results of computations to determine the cost per patient-day in the two institutions were strikingly similar and varied less than five cents per patient-day. Although the third and remaining hospital refused to release any cost data, there is no reason to assume that its costs or its unit of cost of nursing education differed appreciably from those of the other two institutions.

The nursing and nursing education departments of the hospital which shared its fiscal report (hereafter referred to as School B) did a complete and detailed analysis of the value of student services. The resulting unit values from School B were so similar to those of School A as to inspire confidence in the method used to analyze value. Comparable values of nursing services contributed by students in both schools are shown in Table 10.

TABLE 10

Year of Program	Value per Student Week School A	School B
Freshman	$ 5.24	$ 5.32
Junior	20.94	20.85
Senior	33.47	30.64

The investigator is less willing to assume that the unit values for School C approximate those of Schools A and B than he is to assume that the cost of operating the three programs are similar. There were many signs that the high priority given to patient care by the parent hospital of School C resulted in greater emphasis on service and less on education in School C than in either of the other schools. However, rather than making a sheer guess as to the value of student services in School C, the value estimates are, with some misgivings, based upon the findings of the other two schools.

Table 11 illustrates then an estimation of the cost of all nursing education on Prince Edward Island in 1965 and of the value of all student services during the year.

TABLE 11

ESTIMATED COST OF NURSING EDUCATION AND
VALUE OF STUDENT SERVICES
PRINCE EDWARD ISLAND
1965

Year of Program	Costs Educational Functions	Non-Educational Functions	Value of Student Services
Freshman	$66,278	$80,355	$16,176
Junior	52,520	73,977	59,512
Senior	21,766	71,752	92,260
Total	$140,564	$226,084	$167,948

The first two columns of Table 11 show an estimated cost of $366,648 for the operation of nursing education programs on the Island during the year and are, in the investigator's opinion, a reasonable guide for fiscal planning of nursing education on the Island. The value of student service may be somewhat, but not greatly understated because of the lack of data from the aforementioned program. In any event, one can safely assume that the value of student service was at least 36 cents for every dollar of the cost of operating the programs. In a nationwide study of the cost of hospital-supported nursing education in the United States, the value was only 28 cents per dollar of cost.

Should the nursing student pay for what she gets?

One question which pertains to cost and which the Island's planners for nursing education need to answer is, "Should the institution which offers the nursing program absorb the cost of all educational and non-educational functions as well?" Questionnaire responses from students revealed that nine percent of the students' fathers were not actively employed. Other responses indicated that at least three percent of the fathers were incapable of being employed. Of the fathers who were employed, 15 percent were professionals or administrators and could in all probability afford to send their daughters to university. Thirty-seven percent were skilled or trained workers providing services which required some degree of training. The remaining 48 percent of employed fathers were relatively unskilled labourers. It would be foolhardy to design a system of nursing education which because of its costs to the student would prevent those who are capable and desirous of becoming nurses from doing so. However, if nursing education is in fact education, there needs to be further justification as to why in nursing alone, students who can afford to bear at least a part of the cost of the course are not asked to do so but who are instead housed and fed at the expense of the educating institution.

CHAPTER IV

HOW DO ISLANDERS FEEL ABOUT NURSING EDUCATION?

Implications for planners

Those who plan for nursing education can be more certain that the study findings based upon questionnaires given to virtually the entire population of nurses or student nurses are fairly accurate and reliable indications of how the nurses react to a questionnaire item. Interview responses, which were by comparison less structured and which might or might not have been typical of the interviewees' group, had certain advantages over questionnaire responses. The interview permitted a latitude of responses which often brought to light facets of the picture of nursing education which the questionnaire items did not cover.

One such facet was the role of the professional nurse as it differed from other patient-care personnel. The interview responses pertaining to the role of the nurse may well indicate that planning needs to be done to help the nurse identify her role in health care and to educate others as to the meaning of professional nursing.

Planners may well be interested in the remarks of those interviewed about the Island's supply of nurses and even more interested in comments which point to the shortage of nurses with leadership ability who are so badly needed on the Island at this time. Some comments indicate that even outstanding nurses who might migrate to the province might find an inhospitable social climate.

Planners for nursing education should at least consider the convictions of those who expressed the belief that a judicious first step in planning for nursing education would be to plan for continuing the education of the nurse who has already completed her basic education.

Whatever the planners' decisions may be about such weighty problems as where the nursing education program should be placed and what should be the length of the nursing course, they will find among the opinions of the interviewees both support and contradiction. They will find, as well, both realistic and unrealistic views of the financial aspects of transition of nursing education on the Island.

In deference to the number of those interviewed who anticipated the evolution of a group to plan for the future of the province's nursing education, interviewees' suggestions for the planners have been placed as the last words in this section of the report.

What is a nurse?

A basic justification for a program of vocational or professional education is that graduates of the program can perform certain functions which those who are not graduates from the program cannot perform. If educational programs to prepare registered nurses are justified, the functions of the registered nurse must be different from the functions of the nursing assistant, for example. Furthermore, if the differences are valid, practitioners, both registered nurses and nursing assistants should be aware of the differences as should hospital administrators and physicians. Responses to the question asked of most persons interviewed: "How do the functions of the registered nurse differ from those of the nursing assistant"? were impressive and sometimes surprising.

One of the registered nurses questioned saw the difference as that of "salary differentiation". When asked as to why the differential should exist, she said: "We are better educated." Most of the registered nurses saw differing functions between the two jobs only in terms of procedures which the nursing assistant was not permitted to do. A few registered nurses pointed out that certain attitudes of the registered nurse should differ from those of the nursing assistant. One such comment was from a head nurse on a children's ward. Her initial comment was that the registered nurses' attitudes should be based upon a knowledge of psychology. However, she found in actual practice that the nursing assistant's attitude succeeded just as well as did the registered nurse's and added that she personally preferred sincerity to knowledge. Another registered nurse said that unlike the nursing assistant, the registered nurse recognized opportunities for teaching. She added, however, that "we are much too busy to use them." She concluded that even though she as a nurse saw her role as including teaching the patient to take better care of his health outside the hospital, the hospital evidently doesn't think so. A surprising large number of registered nurses saw no real differences between the two roles. Said one supervisor of many years of experience: "I don't want to be quoted but I don't see any essential differences between the better nursing assistants and the weaker registered nurses."

Two registered nurses in contrast to the foregoing gave clear and convincing demarcations between the role of the registered nurse and the nursing assistant. The first of the two, a nurse educator, explained in considerable detail the difference in depth and breadth of knowledge in the functions of persons in the two roles and how the difference of knowledge resulted in differences in observation of patients, interactions with patients and execution of procedures. The econd nurse who was employed in the care of mentally ill patients was aware of many applications which the student and registered nurse could make to the patients' mental health and which the nursing assistant could not. However, examples which she cited from charts of patients transferred from the general hospital showed that the typical registered nurse did not execute the functions which were described.

One public health nurse admitted that there may be little difference between the two job categories as practiced on the Island. The apparent similarity, she said, was due however not to overlapping roles but to "poorly prepared registered nurses" who were functioning on the Island.

Several of the nursing assistants who were interviewed saw the intimate bedside care of the patient as being the exclusive function of the nursing assistant and not of the registered nurse. When asked what the registered nurses did, they gave answers such as, "carry out the hospital routines," "keep the records," and "give the medicines." One assistant saw all registered nurses, "except students," functioning as administrators who at times "helped out" with the care of the patient.

One of the hospital administrators saw the registered nurse's role to be exclusively that of keeping "the patient and the environment clean and comfortable" whether this was done directly by her or indirectly through the assistants. The administrator took a dim view of the registered nurse contributing to the mental health of the patient in the general hospital. "She's not a psychoanalyst. Our patients are here for such a short time and didn't come here for that." Another administrator reasoned that unless the registered nurse acquired skills after she graduated from the nursing school she could do nothing that a competent nursing assistant could not do. He was confident that "every service" presently given by students could be completely and competently performed by nursing assistants.

One physician saw the major difference between registered nurses and nursing assistants as that of social class. Registered nurses were predominantly middle class and assumed the role of imposing middle class values upon the patients. One physician was convinced that nursing assistants are superior to registered nurses in the care of chronic patients. The nursing assistant is, he claimed, better able to impart a feeling of worth to the aged, chronically ill person than is the registered nurse.

One physician was, to say the least, remarkable in the amount of time, study and creative thought which he had given to nursing education. His knowledge of progress in nursing education exceeded that of most of the physicians whom the investigator has ever interviewed. It is regrettable that so few nurses on the Island were aware of this physician's intense interest in the improvement of nursing education. He perceived clearly a unique role for the professional nurse. She would differ from other nursing personnel in the types of decision making of which she would be capable. She would have education in an institution of higher learning with advanced preparation in the social sciences.

One general educator responded that he too had given considerable thought to what the role of the registered nurse could and should be during his own hospitalization. He saw the nursing assistants giving all bedside care with good intent but with poor skill, efficiency and effectiveness. He was told that using registered nurses to do paper work and to answer phones was the "trend" but the trend did not impress him. He was convinced that the public warrants a registered nurse skilled in both physical care and interpersonal relations at the patients' bedside. In his perception the unique role of the registered nurse exists. It is just unfilled.

Does Prince Edward Island have enough nurses?

The majority of persons interviewed including those with responsibility for nursing service were not particularly concerned about a shortage of registered nurses on the Island. As has been mentioned elsewhere in the report, none of the three hospitals had sufficient staff vacancies to employ all of the students who graduated from its school. Nursing service personnel remarked that many routine tasks that had previously taken the registered nurses' time were now being performed by nursing assistants. Several persons who were knowledgeable about the

nursing assistants' program were certain that an even greater number of nursing assistants could be recruited if this were necessary. Most staff nurses said they preferred to work on the Island rather than any other place. The reasons for the preference were usually related to the fact that close friends or relatives resided in the province.

Much to the contrary of the foregoing optimism about nurse supply in the province was the opinion of a member of the Board of one of the three hospitals. In his opinion the "rich supply of nurses here is overrated. We have nursing shortages increasingly." Certainly a shortage of registered nurses is apparent in the psychiatric hospital on the Island. The complete absence of registered nurses on its chronic wards was cited by the staff as evidence of the shortage. Educators there expressed concern that the nursing shortage curtails student nurses' experiences because no student gets experience with the chronic psychiatric patient. Chances are that it is the chronic not the acute psychiatric patient whom the average nurse is most apt to encounter. One of the interviewees who was not in the health field but who was concerned about the use of manpower on the Island pointed out that while there was a shortage of jobs for men in the province, no nursing positions seemed to be open to them. He wanted to know if men were being considered in plans for nursing education and if not, why not.

Do the Island's nurses need improvement?

A reaction of the investigator and of several other persons knowledgeable about nursing education who visited the province is that there are too few dynamic nurse leaders on the Island who can stimulate, inspire and initiate programs of action. It could well be that the first step toward bringing about the recommended changes in nursing education would be to secure a nurse leader who could meet the challenge of the undertaking. The study revealed that such leadership as exists among nurses at present has not succeeded in interpreting the needs of nursing education to the public.

One nursing education need that was voiced by many of the staff nurses, supervisors and nurse educators was that of opportunity for graduate nurses on the Island to continue their education. One nurse who had given much thought to the problem of upgrading the education of the Island's nurses said its solution was the "first step" in improving the status of the nurse and the quality of

nursing care. She was doubtful that any school of nursing--whether it were one of the three existing schools or a combined school--could meet the national standards for faculty unless nurses could acquire at least a part of the credits needed for a degree "here at home." Most of the staff nurses who were interviewed said that they would avail themselves of further education if it could be obtained in the province.

Is the hospital the right place for a school of nursing?

A question of major concern to the study, and, as it turned out, of major concern to most of those interviewed was , "Should nursing education on Prince Edward Island be under the jurisdiction of the hospital or under that of an educational institution?" The question elicited strong opinions both for and against the recommendation that nursing education be placed in educational institutions. Some who were opposed to the recommendation seemed to be genuinely convinced that a nursing program in an educational institution would result in poorer patient care. One supervisor commented that "as educational standards for nursing go up, more bedside nursing is given by the L.N.A's." If an educational institution took over the program, then, as she saw it, "all bedside care would have to be given by L.N.A's." One older staff nurse saw the recommendation as a threat to patient care and to her personally; not only would the college nurse be dissatisfied with anything less than a supervisory position, "but the rest of us will be at a dead end and not able to advance."

Especially nurses with some responsibility for nursing service sought to justify continuation of the hospital controlled program because it was a type of learning situation that could not be duplicated in a collegiate program. One supervisor freely admitted that students were used to meet the hospital needs and that much of their clinical experience was not a directed learning experience. But to her the result of the practice was that the student was taught to bear responsibility. She reasoned and no doubt rightly so, that no collegiate nursing program could offer such a "sink or swim" type of experience. Another nurse who had supervisory duties at times, said that practically all she ever learned she had "picked up" on the hospital wards. Nursing classes had offered "next to nothing" that was applicable to bedside nursing.

Some objections to collegiate nursing programs were based upon the nature of college education itself. Said one nurse who had herself had some college education,

"College is no place to study nursing. There are too many outside interests. Nursing requires too much time." A hospital administrator saw no relationship between "college courses" and nursing. He did not object to the nurse taking college courses as long as she realized her professional learning took place in the hospital only. He cited Dr._____ as "a historian as well as a doctor, but that does not make him a better doctor." One college professor operated on the preceding point of view. When "would-be" nurses asked him about college, he advised them to get their baccalaureate degree first and then enter a hospital school. In this way, he reasoned, "they become well-rounded persons and are also trained at the bedside."

One college administrator while admitting that all professional education should include some liberal or general education in the college setting, warns against any move to put nursing education on the Island into any educational institution at the present time. "There would not be sufficient qualified faculty to meet the existing standards. We ourselves can not recruit qualified faculty for the programs that we do have."

Responses favoring the change in the jurisdiction of nursing education from the hospital to an educational institution most often came from nursing students and young graduate nurses. Many of the students expressed the belief that they were being used for service by the hospital rather than being educated. One student said that the placement of nursing in an educational institution would result in "fairer" treatment of students. She believed it was "unfair" that the nursing service staff always compares the student with graduates which makes the hospital program a "discouraging" experience. Many students expressed the need for a broader or more liberal education than a hospital school could offer. One senior student said that as people training for other jobs are becoming more "cultured", the nurse is becoming less so. However, a number of the students were convinced that they could not get a good preparation in nursing and the type of general education which they wanted in less than four years. The consensus of one group of students was that if nursing education in an educational institution does not lead to college credits for the subjects taken, the program might just as well stay under hospital control.

Several recently graduated registered nurses expressed regrets that they had not attended a collegiate nursing program. One regretted that her affection for the Island

resulted in her attending a program in which her interests "became narrower than in high school." "Nursing became my whole life with no time for anything else; many of our patients were more cultured than we were. I had no contacts with classmates who were not nurses and we usually ended up every conversation talking about patients." One such young graduate said that she had taken a course at the local college before going into nursing and although her parents would have sent her to a collegiate nursing program outside the province, she was "afraid to leave the Island." One of the young registered nurses emphasized her regrets with the statement that nursing will never have status on the Island until there is a "degree course in nursing here." To her the hospital schools have resulted in the 'Prince Edward Island stereotype of nurse" with the three following characteristics:

(1) She takes all criticism, deserved or undeserved, without comment.

(2) She is always seen in public with the "right" people and says the "right" things.

(3) She is willing to work long hard hours with little compensation and no thanks.

Two of the college teachers interviewed were not only convinced of the value of collegiate preparation for nurses on the Island, they were also both confident that the change could take place and were enthusiastic for it to occur. One was certain that the "intellectual community of the Island supports the idea that a liberal education is an essential part of all professional education." The second professor was aware of much greater social acceptance of education on the Island today than there was "just a few years ago." However, he doubted that a two year technical program with no college credits would be well received. He is convinced furthermore that a Prince Edward Island nursing course leading to a baccalaureate degree would not only attract "better students into nursing" but would entice many graduate nurses to continue their education and get their degrees as well.

One nurse educator was of the opinion that much needs to be done on the Island to educate the public and graduate nurses to the aims of modern day collegiate programs in nursing education. "This education must take place" she said, "because the movement (into educational institutions) is inevitable. The Island must change; the rest of the world will not." The interviews elicited evidence that

misconceptions about the goals of higher education in nursing prevail in the minds of a large segment of nurses, educators and even in the Department of Education itself.

The following sample of responses includes but a part of the evidence of sincere convictions that the objectives of collegiate nursing programs are the antithesis of the written objectives of such programs. One hospital administrator said such programs seek to recruit into nursing, girls who are interested in being educated rather than in helping the sick. One supervisor saw the function of the college course as that of teaching the nurse how to avoid any "dirty work" and to equate nursing with administration and teaching only. Another supervisor who is "worried about what is happening in nursing" sees the aim of the college program to be that of making the nurse "dissatisfied" with her lot. The result is personal unhappiness of the nurse herself. A head nurse expressed the belief that colleges teach nurses to "work for the pay check rather than dedication." One college professor was convinced that the English department of the college could not possibly contribute to the goals of nursing education. The objectives of nursing, he said, are limited to the healing arts and are not related to the development of the citizen. A staff member of the Department of Education was of the opinion that use of degree granting institutions to educate nurses was justified only if the goal was to produce nurse teachers or supervisors but not bedside nurses.

Does it take three years to learn to be a nurse?

One of the changes suggested for nursing education on the Island was that of shortening the length of the diploma program. Evaluation of the worth of a shortened program requires technical knowledge of the nursing curriculum. Considerable research has been and is still being done to acquire the needed knowledge. Some findings reported elsewhere in the present study prompt one to ask, and logically so, "Is all of the time the student now spends in the diploma nursing program justified as being devoted wholly to education?" However, many persons who were quite naive as to the technical aspects of shortening the diploma course, had definite opinions about the value of such a change. Generally, those concerned with providing nursing services in the hospital opposed the change.

One hospital board member for example, was thoroughly convinced that "two years of nursing won't work here.

They'd need another year of internship and I don't see how the hospital could provide the necessary supervision." Both a physician and a hospital administrator, interviewed separately, said that a two year program would require an internship of from six months to one year following the course. Another administrator objected to the idea of a shortened program completely. "It has failed elsewhere," he said, (but did not refute the reports of many studies which demonstrate that it succeeded). "There is no reason for us to accept a failure. Even now our graduates have less responsibility for service (as students) than they did several years ago. In the two year program they would get no responsibility." He expressed reluctance to employ "young and immature two year graduates and to entrust them with patients." One older nurse supervisor saw a reduction of the length of the course as the "worst thing you could do." She said, the present course should be extended if "they are going to give all that education" so that "the student learns to love nursing." She believes that she learned to love nursing because of "all the ward time" during which she was 'important to the patients." It was obvious that those nurses who perceive nursing as an apprenticeship type of training, and many of the older nurses appear to do so, were uniformly against any reduction in the length of the program.

Comments which supported shortening the diploma program came mostly from senior students and especially from nurses who had recently graduated from the program. One of the investigator's unplanned contacts with three senior students revealed that one of them was cleaning a closet and two were making empty beds with no patients nearby. One of the senior students commented that during much of the senior year "you learn nothing." Another said she had spent "May, June, July and August just working wherever they sent me. I had no classes at all." The comments of a third student agreed with the two previous ones but did not agree that the course should be shortened. "Just arrange it so that we can have experience where we need it rather than where we are <u>needed</u>.

Several of the nurse educators interviewed had given some thought to the technicalities involved in shortening the existing diploma program. One nurse educator who believed that the program could be condensed into a duration of two years reasoned also that it would be unwise to do so "all at once." Considering the feelings of doctors and others about a two year program it would be better to aim "right now at a two-year six-month program." One college

educator said he thought that the shortened program could attract more girls to nursing and was at least worth investigating. He cited as successful a teacher preparation program presently in operation on the Island which is two years in length and which includes student teaching.

How many nursing schools does the Island need?

One of the changes in nursing education recommended for the Island met with almost complete approval. It was that the three existing small schools amalgamate and pool their physical and personnel resources. Several groups in a workshop held in connection with the study discussed amalgamation and concluded that it was a worthwhile step in the improvement of nursing education on the Island. Nor were there major objections to the step put forth by those concerned with providing nursing service in the hospital. One administrator commented that with a centralized combined program there could be more economical use of the facilities.

The nurse educators were in general agreement that the instructional part of the program should be combined into a single educational unit but they were not in complete agreement about all aspects of the students' clinical experiences in the combined program. Although one educator was of the opinion that it would be more "acceptable" to have each student "identify" with one of the three hospitals for her clinical experiences, the opinion of a second educator disagreed sharply with that of the first. The second educator said that each of the three hospitals offered some clinical experiences which were unique and which could be capitalized on by the clinical teachers assigned there. Each student should experience the best clinical teaching in each of the three hospitals, she said. The director of one program strongly recommended that in any combined program, there should be a coordination of clinical experience. It would be a mistake, she reasoned, to assign students on the basis of numbers of patients with certain conditions. Rather someone must coordinate clinical experience with an eye for potential quality of clinical education.

Only two of the persons interviewed expressed any concern about disharmony which could result from amalgamation of the three programs. Although both of the two persons predicted friction would arise from religious complications, no evidence or any objections or disharmony was noted in any of the interviews with members of the religious group about which there was concern. This

outlook, which was much more optimistic, can be illustrated by the comments of the director of one of the three existing programs. She is thoroughly convinced that the problems of amalgamation of the three Prince Edward Island nursing schools are vastly overrated. She pointed to the fact that in the last five years regionalization of the Island's secondary and elementary schools has been a success, much to the surprise of some of its critics. "No longer," said the director, "is the question, 'should we combine the three schools?' rather it is 'How?"

What do the recommendations mean in terms of money?

Two of the changes recommended for nursing education on Prince Edward Island, namely; amalgamation of the three nursing schools into a single school and shortening the length of the nursing program, were perceived by a small minority of the persons interviewed as economy measures. However, most of the interviewees reasoned, no doubt rightly so, that any of the proposed recommendations would increase rather than decrease the cost of nursing education on the Island. Shortening the program to two years in length could improve the student's economic state in that she would begin to earn wages a year earlier than she does at present. None the less, in programs which have been shortened, instructional hours and the before mentioned instructional costs have increased rather than decreased. Even though clinical experiences are shortened, the need for planning, guidance and individual instruction in the clinical area may increase in order to insure that each student experiences the clinical learnings that are essential to becoming a good bedside nurse. Although amalgamation of the three existing nursing schools may increase the quality of education per dollar spent, the cost of instructional salaries, which is the biggest item of the budget, would not decrease.

Most persons interviewed expressed concern about an aspect of financing the program different from the foregoing one, namely; the re-financing of nursing education within the educational system of the Island rather than within the health service system. The problem of re-financing nursing education came up in several discussion groups of the workshop held in connection with the study. Workshop participants saw no significant obstacle in re-financing and cited instances in which the Government was already financing other programs of vocational education.

Several persons of official capacity noted that even with some assistance from the Federal Government, the low per capita income and the high per capita tax burden in the province is a real limitation to financing additional educational programs. Other authorities already involved in development projects on the Island said it was possible to circumvent the aforementioned limitation by including nursing education in the overall Comprehensive Rural Development Plan provided for in the Agricultural Rehabilitation and Development Act.[1]

Students of nursing who were interviewed had a most unrealistic perception of the financing of nursing education presently on the Island. It is, however, a revealing perception for it shows that the student sees herself as both a learner and a source of cheap help for the hospital.

One student who appeared to have complete support of a group of her classmates gave the investigator quite a lecture on the dire consequences of "what you (the investigator, presumably) are going to do" to nursing education in the province. She accused him of trying to cut off one of the few avenues for economic opportunity open to girls in the province. She reminded him that this is a "poor country; parents here can't afford to send their girls to college." She saw the move to put nursing education in the educational system as a move to "stop the hospital from giving us free board, room and stipends."

Who should plan for nursing education and how?

When those interviewed were asked to comment on the need to plan for the future of nursing on Prince Edward Island, the majority saw the need for planning and had suggestions for the planners. A minority, but a minority which included some leaders of the community, was of the opinion that planning for nursing education for the province was unnecessary, premature or contraindicated. Interestingly, a college professor who believes in quality education for all, including nurses, suggested that the natural evolution of events and eventual closure of the Island's nursing schools could be "the best thing that ever happened." He thinks that the mere fact that nurses would have to be educated outside the Island would be a

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[1]See Provision 3, Item 35, Part VI of the Federal Provincial Rural Development Agreement of the Agricultural Rehabilitation and Development Act.

great help to the Island. "We need new ideas and new blood." In his opinion, the concern about the Island's lack of plans for transition in nursing education is unwarranted. Another college teacher also started with the premise that "going to university outside the province is highly desirable," but he thought that the best of those who leave learn to look upon the Island as "outmoded" and don't return. Especially in the case of nurses, he reasoned, "we should plan for their education in our universities here."

Some members of the staff of the Department of Education expressed reservations about planning now for nursing education, especially if the plans could include the placement of nursing under the system of general education. Said one member of the Department, "If we start to plan for the nurses' education, we will have all other vocational groups demanding that they too be included in our plans." A member of the Department said that the inclusion of nursing in existing plans for university education would be ill advised in that it would lower the existing level of faculty qualifications and that the faculty-student ratio required for nursing instruction would make the course too expensive. When asked about the possibility of including a technical nursing course similar to the two-year teachers' course in the educational system, the response was that this was not the time to plan for such a move.

Several community leaders who were interviewed advised against any planning for nursing education until a "master plan" for all education on Prince Edward Island has been devised. One physician, who is a community leader of note, said that until all higher education in the province comes under one head, plans for changes in nursing education should not be attempted. For the time being, he suggested that the existing nursing schools could meet the criteria for accreditation--namely, that of being in an educational institution--by "paper work" only. That is, a Board of Trustees for the nursing school be established and every other aspect of the education continue as it is at present.

However, other persons who were interviewed refuted every one of the preceding arguments in confirmation of the need to plan for nursing education on Prince Edward Island and to do so now. One college teacher said that his colleagues' beliefs that girls would go to nursing schools outside the Island were the result of unrealistic

thinking. His contacts with female students convinced him that the type of education they select is largely determined by the type which is available locally. One community leader said it was already "late" to begin to plan for nursing education in view of the changes which will occur when the causeway opens Prince Edward Island to millions of tourists. He concluded that nursing education on the Island will have to be made sufficiently attractive to bring students from the outside here.

One physician foresaw a need for medical services which will require that the "organization and placement" of the nursing program be upgraded. This, he reasoned, will require planning that is cognizant of total health services for the province. He and others who were interviewed, saw the need for planning for nursing education by the health service community and by the community as a whole. A number of those interviewed who had some responsibility for nursing services, pointed out that plans for the future of nursing education must include plans for maintaining the quantity and quality of nursing care. One nurse points out that because nurses must be educated to meet the needs of the community, the community should be involved in planning for nursing education. She sees an obvious lack of planning in the province to meet the nursing needs of elderly persons which make up such a large segment of the population and believes that community planning would help to prevent such unmet needs from occuring.

A number of those interviewed intimated that they themselves would like to participate in further planning or at least offer some advice to those who do plan. Said one nurse educator, "they must keep in mind that Islanders' won't stand for violent changes," rather changes should be gradual and conservative. A general educator would like to advise the planners to plan to spend money to "attract some first rate nurse educators" to the Island. Without them, planning will, in his opinion, "accomplish little." One community leader says that the planners must keep in mind that despite what nursing education may be elsewhere, on the Island it is a "way for a girl to rise in social status and economic level. This opportunity must not be taken away."

However, the most frequently offered suggestion was that much of the planning concern itself with the clinical experience portion of the nurses' education. Planning for this part of the course was termed "crucial," "critical" and "the selling point for any proposed change." One

nurse educator would like to educate all those who do the planning or who will judge the plan to the fact that so far as the nurse educators are concerned, "our sole purpose in any change in nursing education is to improve the quality of nursing care and that means care given at the bedside."

Are the Islanders compatible with change?

Many persons interviewed, among them leaders and members of the intellectual community, pointed to a social phenomenon pertinent to any changes proposed for the province: The Island is an isolated area not just in terms of geography but also in ways of thinking and in social behaviour. One person of this conviction explained that Islanders tend to evaluate the worth of an idea by the dichotomy, "Is it from the Island or is it from the outside?" Some of this group of interviewees reasoned that the years of physical isolation of the Islanders with little contact with persons from outside the Island had led to a suspicion of "outsiders," their motives and their ideas. One apparently serious student of the sociology of the province had reached the conclusion that Islanders do not accept or reject an idea as such, rather they accept or reject the personality associated with the idea. He claimed that the person need have no competence or knowledge in the area in which he propounds the idea. If the Islanders have already accepted him they will accept the idea. He concluded, "criticism of the Island by an outsider might just as well go unsaid."

There were numerous responses to interview questions which in one way or another illustrated the Islanders' reluctance to trust or accept outsiders. One such response was from a nurse who in addition to being an outsider was a graduate of a basic baccalaureate program in nursing. When asked how people reacted when she told them she was a graduate of a collegiate nursing school, she replied, "I don't tell them that. It was difficult enough to gain acceptance as an outsider let alone an outsider who graduated from a different program."

One physician interviewed saw the lack of acceptance of people and ideas not so much the result of being an island society as of being a rural society. The physician sees the rejection of new ideas as being a defense mechanism of the rural society which believes that the urban society alone is capable of progress. The rural society does not come up with ideas of its own but rather becomes pessimistic or nihilistic. The rural society has difficulty articulating its needs and has tremendous inhibitions.

An overt symptom of the inhibitions is a lack of verbalization among the members of the society. The investigator agrees most heartily with the physician, at least to an outsider, Islanders are outstanding in their lack of verbalization.

The investigator encountered both optimistic and pessimistic views as to the eventual social acceptance of the changes which had been recommended for nursing education on Prince Edward Island. One of the most pessimistic views was expressed by a nurse who admitted that she was wholeheartedly in support of the recommended changes and who possessed a wide range of knowledge of research in nursing education. However, she saw "no hope" of the recommended transition taking place on the Island in the "near future." "People here are different. You can be sure that they will resist change. If you force it upon them, they will reject it." By contrast, another nurse in an administrative position, while admitting that the Island resists change, is quite convinced that the change in nursing education "can come about if the leaders" of the community will support it. Their support, she believes, will quickly be followed by public support. A college professor shared her optimism for changes for the improvement of nursing education as well as for other desirable social changes. He pointed to the fact that each summer more and more of the Island's youth go off the Island for the holidays. When they return, he says, it is obvious that some of their insularity is gone. The professor predicts a rapid acceleration of acceptance of change once the causeway with the mainland is a reality.

CHAPTER V

HOW DO YOU LET PEOPLE KNOW ABOUT NURSING EDUCATION?

Implications for planners

The findings which follow are of limited value as an evaluation of the effectiveness of the use of the Island's communication media in winning public support for recommended changes in nursing education. None the less, findings about those who were interviewed in the attempted media evaluation provided valuable and practical information. Interview responses indicate that it will require much more effort to win acceptance of the proposed changes by those in service occupations and by women than to win acceptance by labourers, professors or by men. The responses indicate that the less factual knowledge the Islander has about nursing education, especially its financial aspects, the more likely he is to oppose changes recommended for it. A logical deduction seems to be that the more the public learns about the true status of nursing education on the Island the more likely it is to consider the possibility of change.

If one were to attempt to educate the public about nursing education in community group meetings, as has been done for other types of education, it would be prudent to make certain that the groups would include a sufficient number of men participants as well as community members with occupations in the "Professional-Managerial" category.

Social and family contacts with the Island's nurses seem to result in opposition to, rather than support of, the proposed changes. In view of the registered nurses tendency to oppose the changes, the nurse education planners would be justified in giving priority to those transitional steps which would be of benefit to the nurse who is already practising. The priority is justified if only because any measure which alienates the registered nurse group can seriously impede progress toward the realization of the recommended changes.

Can newspapers and television change people's ideas about nursing education?

Many of the findings presented throughout this report attest to the importance of educating the public about the

changes which have been recommended for nursing education on the Island and of enlisting public support for any changes which might be undertaken. The findings warn that if those who plan for transition in the province's pattern of nursing education do not arouse sufficient public concern and support, their plans may join other unimplemented proposals for development of the Island which moulder away on dusty shelves.

Today, the two most commonly used media for public communication are television and the press. One part of the study was designed to evaluate the effectiveness of the press and of television as a means of stimulating public awareness of the need for changes in nursing education. A press release on transition in the Island's pattern of nursing education and a television program on the same topic were followed up with attempts to interview 200 persons listed in the Charlottetown telephone directory. In all, 146 persons were interviewed by telephone.

Only 16 of the 146 persons interviewed could recall that they had read the article on transition in nursing education or that they had seen the television program which dealt with it. The number who could recall reading about transition equalled the number who could recall having seen the broadcast dealing with it. Specifically, only eight persons interviewed could recall one or more of the ideas presented in the press release and only eight could recall one or more ideas presented in the telecast. The small numbers do not indicate that only 8 percent of the public read the newspapers or watch television. The commercial success of either medium belies such an assumption. Both reading and viewing are selective processes. However, the selectivity of the large majority of Islanders evidently does not include newspaper items or television programs which deal with nursing education. Those who plan for the future of nursing education in the province could profitably expend some effort in trying to increase the number of persons who do select information about nursing education.

An informal comment by one of the newspaper editors was interpreted by the investigator to mean that the Island's reading public will not as a matter of course select items that deal with ideas. Rather, Islanders read only those items which deal with personalities, particularly noteworthy personalities. Even though the editor's comment was the basis for editorial policy, it is a questionable assumption in that it does not apply to other areas. Newspapers elsewhere have already demonstrated a

high degree of public interest in an article or a series of articles with the sole purpose of airing ideas pertaining to nursing and to nursing education.

In any event, the question of great value to nurse education planners is: "To what degree did those who saw the program or read the article (hereafter called the "exposed" group) support the idea presented, namely; that nurses should be educated in educational institutions"? The small number of those who were exposed to either of the two media prohibits any reliable conclusions as to the quantitative effectiveness of the press and television in communicating ideas about nursing education. However, the lack of reliability does not preclude taking notice of several characteristics of the "exposed" group, which are all the more noteworthy because they are precisely in line with findings which were discovered in a completely different aspect of the study and which are discussed elsewhere in the report.

Three-fourths or 12 of the 16 persons in the "exposed" group said that it was desirable to have nursing education undertaken by educational institutions. By comparison, less than one-third or 40 of the "unexposed" group (the 130 who had not seen the program or had not read the press release) felt that it was desirable to put nursing education in educational institutions. In light of findings elsewhere in the study, even had the number in the "exposed" group been large enough to make statistical predictions, it is doubtful that the news release and telecast were responsible for affecting opinion as to whether or not the Island's nursing education should be in educational institutions. Rather, the selection of articles and programs dealing with the future of nursing education seems to be part of a behavioural complex of those people who are already interested in nursing education and who have given some critical thought to it. Most of those who have done so are in favor of the recommendations.

<u>What sort of people want to hear about nursing education?</u>

Differences between those in the "exposed" group and the "unexposed" group revealed other factors in the behavioural complex of those who select to hear about nursing education. The occupation of the head of the household in almost one-half (7 of the 16) of the "exposed" group was in the "Administrative-Professional" category as was the case in approximately one-eighth (13 percent) of the "unexposed" group. Among the "exposed" group, those who

had nurses in the family or as close relatives, as compared with those who did not, had a much lesser tendency to give an unqualified recommendation to a career in nursing for Prince Edward Island girls. Virtually all of those in the "exposed" group with nurses as blood relatives were aware of the fact that all nursing education in the province is conducted by hospitals.

The findings indicate that ideas about changes in nursing education can be communicated by way of the press and television more readily to persons in the role of community leaders than to the average citizen. The two media are probably better used to enlist support of community leaders than to educate the public generally.

What sort of people support changes in nursing education?

Compared to the preceding findings which pertain to evaluation of the media, those findings which pertain to the public's reaction to recommended changes for nursing education included in the telephone interview items are of much greater significance. Each person interviewed reacted to the interviewer's re-statement of the recommendation that all of the Island's nursing schools should be placed under the control of educational institutions. In analyzing the reactions, those interviewed were divided into three groups on the basis of three types of reaction to the recommendation. The three groups, the number in each group as well as the precentage which the number is of the total number interviewed, were as follows:

Favourable (Believe nursing education should be placed in educational institutions)
63 persons - 43 percent.

Opposed (Believe nursing education should remain in hospitals)
52 persons - 36 percent.

Undecided (Could not or would not support or oppose the recommendation)
31 persons - 21 percent.

Whether the interviewee's reaction was favourable, opposed or undecided was related to the occupation held by the head of the household.

Table 12 gives the percentage of each of the three reaction groups by occupational category. The first line of the Table indicates that of the three reaction groups, those favourable to placing nursing education in educational institutions had by far the highest percentage of wage earners whose position placed them in the "Administrative-Professional" category. As is indicated, 32 percent of those favourable to the recommendation were in the "Administrative-Professional" category as compared with 6 percent of those opposed to the recommendation. As is shown, 70 percent of those opposed to the recommendation come from homes where the head of the household is in the "Services-Craftsmen" category of occupation. It is interesting to note that more than twice as many of those in the "Labourers-Unskilled" occupational category favoured putting nursing education in an educational institution as opposed the measure.

TABLE 12

PERCENT OF PERSONS IN EACH OF THREE GROUPS OF REACTIONS TOWARD PUTTING NURSING SCHOOLS IN EDUCATIONAL INSTITUTIONS BY OCCUPATION OF HEAD OF HOUSEHOLD

Occupational Category[1]	Reaction Group		
	Favourable (N=52)	Opposed (N=63)	Undecided (N=31)
Administrative-Professional	32%	6%	10%
Services-Craftsmen	39%	70%	51%
Labourers-Unskilled	19%	8%	16%
Retired-Unemployed	10%	16%	23%
All occupations	100%	100%	100%

[1]Categories defined elsewhere in report, page 9.

Other responses to the interviews indicated the following:

Those opposed to the recommendation were more apt to have a nurse closely related to them (sister, mother, daughter) than were those who favoured the recommendation. Those who were undecided about the recommendation were less apt to have any familial relationship to a nurse or to entertain a nurse socially in their home than were either of the other two groups. Of the three groups, those in favour of the recommended changes were most aware of the fact that the Island's nursing schools are all conducted by hospitals. Three-fourths of those who were undecided were ignorant of who conducted the schools or had erroneous ideas about how the schools are conducted. In both the favourable group and the opposed group, half of those interviewed believe that aside from tuition, the source of financial support of nursing education in the province derived from services which nursing students gave to patients.

One reason for determining the occupation of the head of the household during the interview was to be able to compare the occupational composition of those interviewed with the occupational composition of the population of the province. The comparison is made in Table 13 which shows that the sample contained proportionally somewhat more of those in the "Administrative-Professional" category, considerably more of those in the "Services-Craftsmen" category and considerably fewer of those in the "Labourer-Unskilled" category than did the labour force of the entire province. These differences are not unexpected because the telephone interviews were limited to those persons listed in the Charlottetown telephone directory. The urban labour force would be expected to include relatively more persons in service positions and relatively fewer farmers, loggers, fishermen and labourers.

TABLE 13

PERCENTAGES OF EMPLOYED HEAD OF HOUSEHOLDS IN TELEPHONE INTERVIEW SAMPLE AND OF PRINCE EDWARD ISLAND LABOUR FORCE IN EACH OF THREE OCCUPATIONAL CATEGORIES

Occupational Category	Groups	
	Prince Edward Island	Interview Sample
Administrative-Professional	14%	16%
Services-Craftsmen	47%	55%
Labourers-Unskilled	39%	29%

If indeed there is a relationship between "Services-Craftsmen" occupation and a greater-than-average tendency to oppose the placement of nursing education in educational institutions, the results of the telephone interview may overstate the general degree of reluctance to go along with the recommended change. Similarly, an overstatement could have occurred because of still another atypical aspect of the telephone interview sample. The sample contained a much higher percentage of females than exists in the entire population of the province.

In telephone interviews pertaining to press releases, the interviewer asked for the person in whose name the telephone was listed. If the person was not available the spouse of the person could be interviewed. The majority (58 percent) of persons so interviewed were males. In telephone interviews pertaining to the television program, the interviewers asked for the lady of the house because the program had been directed to women. All but three of the persons so interviewed (96 percent) were women. The total number of all 146 persons interviewed contained a considerably higher percentage of women (69 percent) than does the population of the province as a whole, which according to the 1961 census figure contained approximately equal numbers of both sexes.

Men were definitely and significantly more inclined to favour placing nursing education in educational institutions. Their inclination to do so is shown in Table 14. If the sexes were equally divided as to their opinion on the proposed changes, the probability is minor that a similarly sized sample of persons chosen at random would show differences to the degree that are shown in Table 14. As is apparent, compared with women, the men were more definite about their reactions and proportionately more than twice as many of them were in favour of the recommended change.

TABLE 14

NUMBER OF PERSONS IN EACH OF THREE REACTION GROUPS BY SEX OF PERSONS INTERVIEWED

Sex	Reaction Group		
	Favourable (N=52)	Opposed (N=63)	Undecided (N=31)
Male	27	11	8
Female	25	52	23

Interview records indicated that the tendency to make voluntary comments was significantly greater among the women who were interviewed, and much greater among the women who opposed placing nursing education in educational institutions. Women in the "opposed" group often made comments that were emotionally colored, such as, "it would be foolish," "it would be a shame," or, "you will ruin nursing." They cited their first hand contacts with nurses to substantiate their opinions. In fact all but one of the 52 women in the "opposed" category either had a nurse as a blood relative, entertained nurses socially in their homes, or both. Some of the comments state or imply an attitude elicited when the investigator interviewed persons who were opposed to the recommended changes, namely; that a nursing school conducted by a hospital is a proper place to educate a young woman and that experiences in an institution for higher learning is neither beneficial nor advisable for the typical, normal young woman. These persons seem to perceive nursing as a compassionate expression of maternal feelings and to believe that a liberal education would subvert

the process whereby, through on-the-job experience with patients, the nurse evidently through intuition develops and strengthens her compassionate maternal feelings.

As one would expect, the responses of the "opposed" group to the question, "Which of three careers, teaching, nursing or secretarial, would you recommend for young women?" included a relatively high percentage of recommendations for a career in nursing. More than two-thirds, (67 percent) of the "opposed" group made the recommendation as did approximately one-half (53 percent) of the "favourable" group. On the other hand, the "favourable" group was outstanding in the degree to which they refused to make any such recommendation or to give reasons for their refusals. Although 90 percent of the "opposed" group recommended one of the three careers, only 78 percent of the "favourable" group did so, many voicing opposition to the idea of making any generalizations about which career a girl should enter.

Does a workshop really work?

In contrast to the results of the use of the press and television to stimulate public reaction to the changes recommended for nursing education on Prince Edward Island, the results of a workshop with the same purpose were eminently successful. The workshop took place several weeks before the press release and television program and included 80 participants of whom approximately two-thirds were nurses and one-third were non-nurses. The non-nurse group included a physician, college teachers, hospital administrators, a clinical psychologist, business men, a chaplain, a guidance counselor, staff members of voluntary agencies and several housewives.

All discussion groups were observed by the investigator and 57 of the participants completed forms designed to evaluate the workshop. There was close agreement between the evaluations made by the participants and those of the investigator. Both agreed that there was a high degree of interest among the participants with considerable interaction and sharing of ideas; that most participants learned something about nursing education during the session and were anxious to learn more about it. On the basis of either evaluation, there was no doubt but that the consensus was that the workshop had made significant progress toward its objectives. By actual count, 95 percent of the total responses from the participants indicated that some degree of progress had been made and 22 percent indicated great progress had been made.

The percentages of each type of response given to evaluate each of the five recognized objectives of the workshop are shown in Table 15. The first line of the table states that 4 percent of the participants were aware of no progress being made toward the first objective during the workshop, 77 percent were aware of some degree of progress and 19 percent were aware of great progress.

TABLE 15

PERCENTAGES OF WORKSHOP PARTICIPANTS GIVING EACH OF THREE EVALUATIONS OF PROGRESS MADE TOWARD WORKSHOP OBJECTIVES

Objective	Degree of Progress		
	No Progress	Some Progress	Great Progress
1. Informing participants about the attitudes, opinions or actions of other groups of educators and/or health workers which pertain to the future of nursing education.	4%	77%	19%
2. Stimulating representatives of the various groups to exchange ideas which pertain to the future of nursing education on Prince Edward Island.	2%	77%	21%
3. Promoting better working relationships among the various groups which must reach agreements about the future of nursing education on Prince Edward Island.	2%	70%	28%
4. Clarifying the issues which pertain to transition in nursing education on Prince Edward Island.	4%	70%	26%
5. Contributing toward the beginning stages of solving the problems which face transition in nursing education on Prince Edward Island.	4%	72%	24%

Although the workshop evaluation data from nurse and non-nurse participants were processed separately, the analysis results with one exception, were identical for both groups. The exception was that all of the "no progress" responses shown in the above table were responses of nurse participants. The several nurses who gave the responses responded also with written comments which indicated that they perceive any change in the existing pattern of nursing education as antithetical to "progress". No participant, however, chose the response that no future "workshops such as this one" should be held. Rather, 70 percent of the participants indicated that future workshops should be held with the same area of discussion and the same type of group representation of participants.

No doubt the most encouraging result of the workshop evaluation was that over half, specifically 54 percent, of all participants said that one or more of their beliefs or ideas about the future of nursing education on Prince Edward Island had been changed during the workshop. Moreover, most of those who said so gave one or more specific examples which substantiated their statements. That 70 percent of the non-nurse participants admitted a change in belief about the future of educating nurses on the Island is not as surprising as that 46 percent of the nurse participants reported a change in belief.

The workshop evaluation forms elicited a much higher percentage of written comments than did any of the other questionnaire forms in the study. The majority of comments were supportive of the idea of a workshop on nursing education; some were unmistakeably enthusiastic. There were in all four comments from nurses which were critical of the workshop and which voiced opposition to the recommended changes in nursing education. The prevailing tenor of the non-nurse participants' comments was that the workshop was an effective and stimulating way to learn about nursing education and the participants wanted to learn still more about it. The comments from the majority of nurses indicated that they were pleasantly surprised that persons outside of nursing had so much to contribute to discussions about nursing education.

On the basis of the foregoing evaluations there is every reason to believe that small group discussions such as those employed in the workshop can and should be used

often in planning for the future of nursing education on the Island and in implementing the plans. The degree of nurses' resistance to change in nursing education which was evidenced in the workshop evaluation was scarcely significant when compared with the quantitatively greater resistance to change evidenced elsewhere throughout the study. The nurse's defense of her beliefs and that of her group to those outside of nursing tends to produce the type of critical thinking which is greatly needed in plotting the future of nursing education for the Island.

CHAPTER VI

HOW DO NURSES REACT TO THE PROPOSED CHANGES IN NURSING EDUCATION?

Implications for planners pertaining to graduate nurses

One of the objectives of those who plan for the future of nursing education on Prince Edward Island will be that of improving the quantity and quality of nursing care provided for the citizens of the province. If only because of this objective the following findings have many implications which the planners would be wise to consider.

To a marked degree those nurses who were certain that they would remain on the Island were in terms of family income, a secondary source of support. Practically every married nurse could conceivably give up her nursing income without denying the basic necessities of life to the family.

Regardless of organizational patterns, the group of registered nurses are united in many ways. It would be difficult to find anywhere in the modern world a group of nurses who were more similar in terms of place of origin and type of education and who were more satisfied with both. Because of their homogeneity, an action which is found to alienate a sizeable portion of the registered nurse group has a high probability of alienating the entire group. On the other hand, an action which is found to be appealing to a part of the group has a high probability of appealing to all.

Some findings indicated that there were in the registered nurse group relationships which were contrary to what one would ordinarily expect. Such findings indicate that planners should sometimes listen carefully to the nurse group and not anticipate their reactions.

Certainly it is clear that the registered nurse group does not at this point wholeheartedly support all of the changes in nursing education which are recommended for the Island. They have to a great degree a bias against the nurse who was educated in an educational institution even though practically none of the group has ever had first hand experiences with such a nurse. The average registered nurse herself needs to be educated as to the goals and methods of modern nursing education.

The findings indicate, however, that there are many avenues of approach to enlist support of the registered nurses in transition in nursing education on the Island. Those nurses who desire nursing positions above their present status, presumably potential leaders among the group, demonstrated relative receptiveness to change. Most of them indicated willingness to upgrade their educational level if they did not have to sacrifice residence on the Island in order to do so.

The registered nurses then are a group which because of the nature of their services cannot be ignored in any plans which affect nursing or nursing education on Prince Edward Island. Although they are not in complete agreement with the changes proposed for nursing education, one way in which they could be stimulated to contribute to the planning for nursing education is to include them in the plans for change.

How do older registered nurses differ from younger ones?

Two groups of persons deserve special consideration in any plans for changes in nursing education on Prince Edward Island. They are the nurses who are presently practising nursing and those who will be practising by the time any changes can be effected. Either group could conceivably perceive a change in education which differs from the way in which they were educated as a threat to them. Both groups are furthermore, an important and essential part of the health manpower and will over the next two decades comprise a substantial portion of the Island's nurses. Most of the data collected in the study which are the basis for the report originated with these two groups, registered nurses working on the Island and students enrolled in the three nursing schools located on the Island. Members of both groups were interviewed and questionnaires especially prepared for each group were administered to them.

Questionnaires were administered to 285 registered nurses which was approximately 65 percent of all registered nurses in the province and a somewhat higher percentage of all registered nurses employed by the Island's hospitals.

Questionnaire responses from groups of nurses in each agency or institution were processed separately. With one exception the pattern of response did not vary significantly from group to group. The exception was the group

of public health nurses which made up a relatively small portion of the total nursing personnel of the Island and which had a rate of inclusion higher than that of the entire nurse population. Therefore, it seems reasonably safe to assume that the findings which follow are representative of all of the registered nurses in the province.

A belief that is widely held regarding many social and occupational groups is that the older members of the group tend to be more rigid, conservative, and opposed to change than do the younger members of the group. Therefore, one hypothesis which the study was designed to investigate was that there would be a positive relationship between the age of the nurse and her resistance to the changes proposed for nursing education in the province. The possibilities of relationships of age to other characteristics were investigated as well. The distribution of ages of the registered nurses is shown in Table 16.

TABLE 16

NUMBER AND PERCENT OF REGISTERED NURSES
IN EACH OF FOUR AGE INTERVALS

Age Interval	Registered Nurses in Each Interval	
	By number	By percent
29 or younger	121	42%
30 - 39	53	19%
40 - 49	50	18%
50 or older	61	21%

For most of the analyses, the four intervals were reduced to two: (1) those nurses under 40 years of age and (2) those nurses over 40 years of age. Those under 40 years of age resembled those over 40 in that approximately half of both groups said that even though they would have been able to go to any kind of nursing school they would have chosen the type of school that they did choose, namely, a three year diploma course given by a hospital. As one

would expect compared to the group of nurses under 40 years of age, the group of nurses over 40 years of age had less desire for a nursing position other than their present position. Of the younger group, 41 percent held a goal of a nursing position which was more advanced than their present one as did only nine percent of the over 40 age group. Similarly, as one might expect, there was a higher percentage of unmarried nurses in the younger group of which 41 percent were single than in the older group of which 25 percent were single.

The least expected difference between the two age groups was that relatively fewer of the younger nurses believed it would be possible to shorten the nursing course than did the older nurses. Although 71 percent of the over-fifty nurses indicated that at least a part of the time they had spent as students in hospital work was essential to their basic education, only 63 percent of the under-forty group agreed that it would be possible to reduce the hospital work whatsoever and still have an adequate education. With respect to the recommended change in length of the nursing program, the evidence contradicted the previously stated hypothesis that the younger nurse would be more receptive to the change.

The Island's registered nurses proved to be a truly homogeneous group as to their social and educational backgrounds. Practically all, 99 percent, of them had graduated from a diploma program given by a hospital and almost as many, namely; 95 percent, had attended one of the three programs on Prince Edward Island. Exclusive of the basic nursing school, only 15 percent of the registered nurses had any educational experiences beyond grade twelve and 96 percent could offer no evidence that they were advancing their education. A more detailed accounting for responses to the previously mentioned question, "Had they been able to go to any type of nursing school, what type of school would they have chosen?" is shown in Table 17.

TABLE 17

Response Category	Registered Nurses in Each Category	
	By Number	By Percent
Hospital nursing school	139	49%
Collegiate or university nursing school	108	38%
College course other than nursing	32	11%
Other responses	6	2%

In general, the group of registered nurses indicated that had they been able to take their nursing outside the Island, they would not have done so. When asked which of all possible geographic locations they would have preferred for their basic nursing course, 81 percent responded with the same city and province in which they did take it. Only 8 percent would have preferred going to a province other than Prince Edward Island for the nursing course.

What kind of nurse believes that her education should have been different?

There was evidence that belonging to one of the two groups, those nurses who preferred the type of basic education that they did have and those who did not, was related to the type of responses given to other questionnaire items. Both groups were practically identical as to the percentage over 40 years of age and the percentage unmarried. Only one-fourth of those who preferred the basic nursing program which they did have desired a nursing position which was an advancement over their present position. By comparison, one-third of the group which would have preferred a program other than their actual basic nursing program held a goal of a more advanced position. There was convincing evidence that preference for the type of basic nursing program actually taken was related to the conviction that all of the hospital experience given in the three year diploma program is essential to nursing education. One-half, 51 percent, of the group who preferred their own type of basic program

were convinced that no reduction in hospital experience was possible. Only 18 percent of the group who preferred a basic nursing program other than their own had such convictions.

Do nurses want to rise in their profession?

When the responses were analyzed on the basis of whether or not the nurse had a goal position above her present one, there were evidences of relationships in addition to the one previously cited. Table 18 gives the number and percent of nurses who were employed in each of seven types of nursing positions.

TABLE 18

Type of Nursing Position Held	Registered Nurses in Position	
	By number	By percent
Staff (General Duty) nurse	171	60%
Head nurse	30	11%
Supervisor	42	15%
Public health nurse	17	6%
Nursing instructor	12	4%
Nursing administrator	11	4%
Other positions	2	1%

As is indicated in Table 19, relatively few of the nurses desired a position above the one they presently held.

Table 19

Type of Nursing Position Desired	Registered Nurses Desiring Position	
	By number	By percent
Present position	203	71%
Head nurse	23	8%
Supervisor	13	5%
Nursing instructor	19	7%
Nursing administrator	7	2%
Public health nurse	16	6%
Other positions	4	1%

The 82 registered nurses whose occupational goal had not yet been reached were asked to identify their reactions should it be necessary for them to obtain a college degree in order to hold the desired position. Only three percent of the goal-seeking group said that they would relinquish their goal if a degree were required. Most of them, 57 percent in fact, said they would get the required degree if they were able to do so and still live at home. A much smaller percentage, 27 percent, said that they would get the degree if given financial assistance. Relatively few, 13 percent, would be willing to attend college outside the province with their own financial resources in order to obtain the goal position.

A finding which was the converse of the one previously mentioned was that more of those who had no occupational goal beyond their present position were over forty years of age, than were those with occupational goals beyond their present positions. Fifty percent of those with no further goal were over forty as compared with 12 percent of those

with further goals. Similarly, the percentage of those with no further occupational goal who were unmarried (30 percent) was less than the percentage of those with further goals who were unmarried (49 percent). There was no obvious evidence, however, that holding further occupational goals was related to either preference for the type of basic nursing program taken or to beliefs about the degree to which the hospital experiences in the three year diploma program are essential to nursing education.

Do married nurses really need the money?

Those nurses who were married and living with their husbands were asked to indicate the most extreme results of the loss of the income they now derive from working as nurses. Practically all of them (95 percent) indicated that the family could still get along without any outside financial assistance. Approximately one-fourth of the group (24 percent) said that without the income from nursing they would have to reduce the amount of money which the family spent on items such as food, clothing, rent and services. However, the most frequent response which was given by 57 percent of the group was that loss of their salary would merely curtail the money which the family spent for recreation, vacations or education. Thirteen percent of the group said that there would be little if any noticeable financial effect upon the family from the loss of their salary.

What kind of a nurse wants to shorten the nursing course?

The most marked difference between any two categories of registered nurse occurred when the questionnaire responses were divided into those from nurses who said that all of the time they spent as students in hospital clinical units was necessary and essential to their basic education in nursing and those who said that not all of the time was necessary and essential. There was a high and positive correlation between preference for the type of basic nursing program that had been taken and the belief that all of the time spent in hospital during the program was necessary and essential. Approximately three-fourths of those who said that all of the time spent in hospital clinical units during the three year diploma program was essential said also that they did prefer and would have preferred a program conducted by a hospital to one conducted by a college. However, only one-third of those who said that the clinical time could safely be reduced said that they did prefer and would have preferred a program conducted by a hospital over all other types of programs.

What do nurses who lack a college degree think of those who have one?

Three different kinds of evidence supported one finding of the study. In three ways registered nurses who were in favour of shortening the basic nursing program were also in favour of nursing programs which were conducted by higher educational institutions rather than by a hospital. Relationship between the two preferences was apparent on responses to questionnaire items given to graduate nurses only. The same tendency was apparent in the registered nurses' responses to the questionnaire items which were given to all participants, nurse and non-nurse, and was apparent also in their responses to one section of questionnaire items which were given to both students and graduates of nursing schools. The last mentioned items were designed to measure acceptance or rejection of the nurse who had received her basic preparation for nursing in a collegiate nursing program. Five of the items criticized the collegiate nurse and five supported her. By expressing agreement or disagreement with each statement, the nurse could make as many as 10 responses supporting the collegiate nurse or she could make an equal number of responses rejecting the collegiate nurse.

The overall average number of choices which the registered nurse made in support of the collegiate nurse was 4.8 and the average number made rejecting the collegiate nurse was 5.2. The averages are based on all responses of registered nurses to all ten items. When, however, the responses to five of the ten items were analyzed separately, the percentage of rejecting and supporting responses per item varied considerably from the overall averages.

Below are the five of the ten statements which elicited responses similar in pattern to the overall average response. Each statement is followed by the percentage of the registered nurse group who in responding to the item indicated their support of the collegiate nurse.

The collegiate nurse is more apt to be awkward and clumsy in handling equipment and performing procedures - 58 percent.

The collegiate nurse has greater difficulty in establishing a warm and friendly nurse-patient relationship - 56 percent.

The nursing care given by the collegiate nurse shows better planning to meet the needs of the individual patient - 53 percent.

The collegiate nurse has a better understanding of the patients' psychological and social needs - 51 percent.

The collegiate nurse shows a better understanding of how the physician's care of the patient relates to the nursing care of the patient - 51 percent.

Below are the five statements which elicited responses which varied most from the overall response pattern. As before, the statement is followed by the percentage of the registered nurse group who in their responses indicated support of the collegiate nurse.

The collegiate nurse is more apt to impress the physician as being overly critical or uncooperative - 76 percent.

The collegiate nurse has greater difficulty in adjusting to a new clinical situation - 68 percent.

The collegiate nurse makes more rapid advancement toward becoming a skilled nurse practitioner than the hospital graduate - 32 percent.

The collegiate nurse exercises better judgment in an emergency - 24 percent.

The collegiate nurse is more apt to prefer teaching or administration to bedside nursing - 13 percent.

Generally, the registered nurse group's responses indicated a greater degree of rejection on the 10 items pertaining to the collegiate nurse than they did on the 10 items pertaining to various recommended nurse education changes which were on the questionnaire given to both nurse and non-nurse participants. On the basis of all responses given by all registered nurses, for every 10 responses which they gave in support of the collegiate nurse, they gave 10.8 responses rejecting her. However, on the questionnaire given to all participants, the registered nurses responded with only 7.0 responses rejecting the recommended changes for every 10 responses supporting them.

Implications for planners pertaining to nursing students

Those who plan for nursing education are courting disappointment if they act on the assumption that those presently enrolled in the Island's hospital schools are more favourably inclined toward the proposed changes in nursing education than are the older graduate registered nurses. The study findings indicate the reverse. Presumably much greater effort will have to be made to enlist the support of the student of nursing or of the young graduate than will need to be made to enlist the support of the older nurse with considerable nursing experience.

The marked degree of resistance to change in nursing education as demonstrated by some of the students may prompt planners to take a critical look at the type of nursing education presently operating on the Island. It is true that the nursing students generally had a higher degree of homogeneity of social and educational background than did even the highly homogeneous graduate registered nurse. But the Island's high school students seemed by contrast much more receptive to the proposed changes.

The relatively few nursing students who were either to any noticeable degree receptive to change or held ambitions to prepare for a leadership position were also the students who rejected the type of nursing program in which they were enrolled.

There are, however, other findings pertaining to nursing students which planners for the future in nursing education can put to constructive use. Students are more willing than are graduates to leave the Island for educational or work experiences. Compared to graduates, financial assistance alone should prove to be a greater incentive for the students to further their education and as a result hopefully to cause more of them to aspire to leadership positions. If the plans for nursing education wisely include provisions for continuing education for graduate nurses, then those presently in the student nurse category can make a worthy contribution to nursing for many years to come. Although students generally saw in their future both marriage and raising a family, they visualized as well their eventual return to active nursing when the children reached school age.

What sorts of families do nursing students come from?

Data which follow are based upon responses from 188, virtually all, of the students who were enrolled in September 1966 in the three Prince Edward Island hospital nursing schools. The course being three years in length, approximately one-third of the students indicated that they would graduate from the nursing course within the next year. The questionnaire responses indicated that in many aspects the student nurses were a homogeneous group, even more so than were the graduate nurses. Ninety-two percent of the students were born on the Island, whereas two percent were born outside the Maritime Provinces. They were for the most part children of parents who were also Island-born, 88 percent of the mothers and 90 percent of the fathers. Most of the nursing students enrolled in the school of nursing immediately upon graduation from high school; ninety-seven percent were under the age of 21 at the time of enrollment.

Ninety percent of the nursing students came from homes where the father was living and gainfully employed. The description of the father's occupation by the students indicated that the percentage of their fathers in the "Labourer-Unskilled" occupational category was greater than the percentage in the category in the province as a whole.

Table 20 shows comparable data pertaining to the occupation of nursing students' fathers and those of the entire labour force of the province.

Table 20

PERCENTAGE OF THE POPULATION AND OF FATHERS OF NURSING STUDENTS IN EACH OF THREE OCCUPATIONAL CATEGORIES

Occupational Category	Percentage of persons in category	
	Fathers of nursing students (N=114)	Prince Edward Island (N=33,423)
Administrative-Professional	15%	14%
Services-Craftsmen	37%	47%
Labourers-Unskilled	48%	39%

In the telephone interview portion of the study, there was an apparent relationship between "Administrative-Professional" occupational category of the head of the household and responses which supported the proposed changes in nursing education. Similarly, twelve percent of the nursing students who said that even though they had been able to attend any type of school, they would still have chosen a hospital school of nursing, described the father's occupation as being in the "Administrative-Professional" category. Twenty percent of those who responded that their choice would have been a course in a college or university responded also that their fathers were employed in the "Administrative-Professional" category of occupation.

Approximately one-fourth of the students said that their mothers were gainfully employed and relatively few, less than seven percent, indicated that their mothers had at any time enrolled in a nursing course of any sort.

The large majority of students were satisfied with their choice of a three year diploma nursing course operated by a hospital. Seventy percent of the students said that if they were able to go to any school of their choice, they would still prefer the hospital operated school. Twenty-five percent would have chosen a nursing school operated by a college or university and five percent would have chosen a college course other than nursing.

<u>How do students who are glad they went to a hospital school differ from those who regret it?</u>

One aspect of the student nurses' responses pertaining to their choice of type of basic nursing course is particularly noteworthy and significant to the present study. The degree of experience in the hospital operated school tends to diminish rather than increase the preference for it. The previously cited 70 percent of the students who expressed preference for the type of nursing course they were taking was by far and large students who had been enrolled in the school for less than two years. In fact, 83 percent of first and second year students expressed such a preference. By comparison, only 44 percent of senior students preferred the hospital operated school. However, 96 percent of the seniors still preferred nursing but 50 percent said that their first choice would have been a nursing course in a college or university. Three-fourths of the group of seniors who would have preferred

a collegiate nursing course responded that they did not believe the time for hospital experience could or should be shortened. This response as well as several comments written by members of the group of seniors indicated their preference for the collegiate course was, in reality, a preference for the college environment and not for a shorter program.

There was a somewhat greater tendency for senior students to express a preference for a program located elsewhere in Canada than there was for first and second year students to do so. Twenty-nine percent of senior students indicated that they would have preferred to attend a nursing school in some other province of Canada than the one they did attend. But only nine percent of the first and second year students expressed this preference. However, over three-fourths, actually 77 percent, of all students preferred the school to be located exactly where it was.

What are the ambitions of student nurses?

In view of future plans for nurse supply, it is important to note that of the 184 students giving comparable responses, 93 (which is more than half of the group) said the highest position they ever hoped to hold in nursing was that of the beginning practitioner, the general duty staff nurse. The absence of any occupational goal above the beginning practitioner level was correlated with one or both of two other characteristics: (1) preference for a hospital conducted nursing school and (2) having completed less than two years of the program. Although 64 percent of those who preferred the hospital-conducted nursing program held no goal above general duty staff nurse level, only 16 percent of those who preferred a collegiate nursing program limited their goal in nursing to this extent. Similarly, while 58 percent of first and second year students indicated such goal limitations, only 34 percent of senior students did so.

Only nine of ths students said that if a college degree should become necessary for them to hold their goal position, they would give up the idea. Approximately two-thirds of the group indicated that they would proceed toward the needed degree if one or two conditions were met. Thirty percent would proceed if they were given financial assistance. Twenty-nine percent would do so if they could attend college and still live at home. Twenty-seven percent said they would be willing to leave the province and use their own financial resources to obtain the needed degree.

Despite the high degree of identification with the Island shown by the students, there were many responses indicating that when the student became a graduate nurse she would like to have some professional experience elsewhere. Eighty-three percent of the students did not plan to practice nursing on the Island continuously for as long as five years. Relatively few of the students, however, planned to discontinue the practice of nursing upon marriage. Compared with the 22 percent who had such plans, 70 percent of the students said that they planned to practice nursing until they were married and had children and then planned to return to nursing when the children were grown.

Questionnaire responses gave evidence that compared to graduate nurses, student nurses were less receptive of the changes that had been recommended for nursing education on Prince Edward Island. The students showed a greater tendency than did graduate nurses to reject the graduate of a nursing school conducted by a college and to reject any reduction of the amount of practice time in the hospital which is now included in the hospital nursing school course.

<u>What do students who chose a hospital nursing school think of those nurses who chose a collegiate school?</u>

One section of the questionnaires completed by student nurses was identical to a section of the questionnaire completed by graduate nurses. The section was designed to measure acceptance or rejection of the nurse who was prepared in a collegiate nursing program. As noted in the preceding discussion, for every ten choices made by the graduate nurse group in support of the collegiate nurse there were 10.8 choices rejecting her. The degree of rejection of the collegiate nurse shown by students was significantly greater. For every 10 of the students' choices supporting the collegiate nurse there were 15.2 opposing her. The students pattern of response to the individual items comprising the section was similar to that of the graduate nurses. Generally, an item which elicited a relatively large percentage of responses indicating rejection from graduate nurses also elicited a relatively high percentage of such responses from students. However, in the case of each of the ten items which made up the section, the percentage of responses which were given by students and which rejected the collegiate nurse exceeded the percentage of rejecting responses given by graduate nurses. The difference between graduate and student nurses percentages of rejecting responses are apparent in Table 21.

TABLE 21

Questionnaire Item	Percentage of Group Giving Responses which Rejected Collegiate Nurses	
	Graduate nurses	Student nurses
The collegiate nurse has a better understanding of the patients' psychological and social needs.	49%	59%
The collegiate nurse has greater difficulty in establishing a warm and friendly nurse-patient relationship.	44%	51%
The collegiate nurse exercises better judgment in emergency.	76%	85%
The collegiate nurse is more apt to be awkward and clumsy in handling equipment and performing procedures.	42%	44%
The collegiate nurse has greater difficulty in adjusting to a new clinical situation.	32%	53%
The collegiate nurse makes more rapid advancement toward becoming a skilled nurse practitioner than the hospital graduate.	68%	70%
The collegiate nurse is more apt to prefer teaching or administration to bedside nursing.	87%	93%
The nursing care given by the collegiate nurse shows better planning to meet the needs of the individual patient.	47%	71%
The collegiate nurse shows a better understanding of how the physician's care of the patient relates to the nursing care of the patient.	49%	52%
The collegiate nurse is more apt to impress the physician as being overly critical or uncooperative.	24%	26%

Both student and graduate nurses were asked to indicate what portion of the hospital nursing school students' clinical practice time was spent in activities that are necessary and essential to the educational program. However, only those students who would graduate within the year were asked to so indicate. Of the 63 responding senior students, 43, which was 68 percent of the seniors, said that every bit of the clinical practice time was essential for learning. By comparison only 34 percent of the graduate nurses indicated that all of the clinical practice time was essential. As was observed previously, senior students were much more receptive to the proposed nurse education changes than were the other students. If the younger students had had sufficient knowledge of the clinical experience to join in the evaluation of it, they would doubtless have surpassed the seniors in degree of insistence on the indispensability of all of the existing clinical practice time.

With the exception of ten of the participating students, the students responses were analyzed for possible relationships between the students pre-entrance examination results and certain of the variables that the present study was designed to measure. With one exception there was no evidence of any noteworthy relationship between questionnaire responses and performances on the examination. The exception was worthy of note, however, and involved subgrouping of all students on the basis of three variables, which were (1) preference for a nursing program conducted by a college or conducted by a hospital; (2) willingness or unwillingness to consider working for a college degree to obtain or maintain the goal position in nursing; and (3) being or not being senior students. Among the combinations of these three variables there were two groups of students who were outstanding in their degree of flexibility toward the proposed changes in nursing education. The more flexible group was composed of first and second year students who said they would have preferred to go to a nursing school conducted by a college and that they would consider working for a degree should their goal in nursing require one. The more rigid group was also composed of first and second year students but all students in the rigid group said they preferred no other type of education over the hospital school and that if a degree were required for their goal position they would give up the goal. All but one of the students in the rigid group held no goal above general duty staff nurse level however. Approximately three of every four

of the flexible group held a goal in nursing above that of staff nurse. The most extreme difference between the two groups was the degree to which each supported the graduate of a collegiate program. As was mentioned, all students together gave 15.2 responses opposing the collegiate nurse for every ten that they gave supporting her. The rigid group gave 19 opposing responses for every 10 supporting, but the flexible group gave only 8.6 opposing for every 10 supporting. The average pre-entrance examination test score for all students together was 67.6. The average score for the rigid group was 66.0 and that for the flexible group was 70.7. None of the other groups based on combinations of the three variables varied as much from the overall pre-entrance test score average as did the rigid and flexible groups.

CHAPTER VII

HOW DO HIGH SCHOOL STUDENTS REACT TO THE PROPOSED CHANGES IN THE ISLAND'S NURSING EDUCATION?

Implications for planners

Planning for the future of nursing education is in effect making decisions about a course of events in the future. Therefore, the future students of nursing education should be of particular concern to the planners. They should take careful note of the responses of high school seniors who participated in the study, responses which indicated that the recommended changes in nursing education may necessitate recruiting into nursing, students whose ideas about education differ from those of students who are presently being recruited into nursing. The study findings showed that the present high school senior capable and motivated to develop qualities of leadership is the girl who finds little or no attraction in nursing education as it is presently offered. Doubtless, high school students, their teachers, counselors and other adults with a better than average education perceive nursing education as being best suited, as one student put it, "for girls who can't afford university or who can't get in." If the plans for the future include the changes in nursing education which have been recommended for the Island, then the study findings indicate the need to inform prospective students well in advance of their career decisions about the new approach to nursing education. Not only the student herself but her advisers, as well, need to be informed. Findings of the study indicate that when students have such information in advance of their career decisions many of the alert, energetic and promising students who presently reject nursing will become interested in it. There is every reason to believe that quality of nursing would benefit more from the student who is highly motivated, realistically oriented and anxious and able to make creative contributions than it would from the timorous and sentimentally dedicated student who often sees nursing as a way of alleviating the family's financial responsibility for her.

What sort of background has the would-be nursing student?

Responses from the 96 high school seniors selected for the study indicate that the proposed changes in

nursing education are not well suited to the attitudes and valuations of the typical twelfth-grade student who aspires to be a nurse. The girl who places greatest value on the recommended changes is the girl who has never given nursing serious consideration. The girl who comes from the socio-economic background which is most supportive of education in an educational institution does not want to enter nursing. The girl who wants to do so is likely to prefer the existing pattern of service-centered, hospital-controlled nursing education to nursing education in an educational institution. The responses show further that present methods of recruiting and counseling prospective nurses have little chance for success in recruiting the type of girl who would benefit most from the proposed changes in nursing education.

The high school seniors' responses were compiled into three groups of students according to their decisions about a career in nursing. The titles, definitions and number of students in each group were as follows:

1. Not-attracted - students who never seriously considered nursing as a career =(44)

2. No-longer-attracted - students who once wanted a career in nursing but who changed their minds about it = (26)

3. Attracted - students who are planning on a career in nursing = (26)

Although the number of students in the last two groups is admittedly small, their reactions often gave further support to findings based on responses from much larger groups. For instance, the populations of both graduate and student nurses show an outstandingly high percentage of members of either group who were born on the Island and whose parents were also Island born. Responses from student and graduate nurses along with responses from high school students support the hypothesis that those who choose a career in nursing tend to have relatively strong ties with the Island.

TABLE 22

PERCENTAGES OF STUDENTS AND PARENTS BORN ON PRINCE EDWARD ISLAND BY TYPE OF NURSING CAREER REACTION GROUP

Family member born on P.E.I.	Nursing Career Reaction		
	Attracted	No-longer-attracted	Not-attracted
Student	92%	81%	84%
Father	89%	77%	77%
Mother	81%	62%	68%

Previously reported findings about occupations of the nursing students' fathers were similar to findings about the occupations of high school students' fathers in the Attracted group. The group had a relatively large number of fathers who were in the "Labourer-Unskilled" category of occupations. Fifty-eight percent of the Attracted group's fathers were in this category as compared with 36 percent of the fathers of students in the No-longer-attracted and Not-attracted groups. The group of students with the highest percentage of fathers in the "Managerial-Professional" occupational group, the occupational group most supportive of the recommended nurse education changes, were fathers of students who were not attracted to nursing. Thirty percent of the Not-attracted group had fathers in the "Managerial-Professional" occupational category as compared with 19 percent of the Attracted group.

Furthermore, the educational preparation of the parents of the Attracted group would have caused the parents to have less first hand knowledge of education on the college level than the parents of students in the other two groups. Table 23 lists the percentages of students' parents who had completed as much as two years of college.

TABLE 23

PERCENTAGES OF PARENTS OF STUDENTS IN EACH OF THREE NURSE CAREER REACTION GROUPS WHO COMPLETED AT LEAST TWO YEARS OF COLLEGE

Nursing Career Reaction	Percentage of parents completing at least two years of college	
	Fathers	Mothers
Attracted	8%	4%
No-longer-attracted	12%	10%
Not-attracted	15%	12%

What are the educational goals of the would-be nursing student?

Much more significant to planning for nursing education, however, is the educational goal of the high school student herself. Students in the Attracted group compared with those who were not had relatively little desire for a college or university education. Even in the small sized sample the differences were impressive. Statistical tests for small samples showed the differences to be significant.

The percentages of each of the three groups who indicated an ambition to achieve a baccalaureate or higher degree were as follows:

Attracted - 15 percent
No-longer-attracted - 31 percent
Not-attracted - 52 percent

An even more pronounced difference can be shown when the groups were compared as to the percentage of students who wanted at least some education in a college or university. Although 93 percent of those who had never been attracted to nursing wanted some education in a college or university, only 38 percent of those who were attracted to nursing wanted any sort of college or university education.

Even though students in the Attracted group were more apt to have come from low-income families than were other students and were more apt to come from families in which both parents were employed (46 percent of Attracted group mothers were employed versus 19 percent of the No-longer-attracted group mothers and 25 percent of the Not-attracted group mothers,) financing the Attracted group's future education was perceived as relatively less of a problem. Approximately one-half of the Not-attracted and No-longer-attracted groups (49 percent and 50 percent respectively) indicated that in order to achieve their educational goal they would require some financial assistance to pay for tuition, room and board. Less than one-fourth (23 percent) of the Attracted group expressed any such need.

Students in each of the three groups resembled one another as to where they planned to seek employment upon completion of their education. Approximately one-fourth planned to do so in Prince Edward Island. Over fifty percent planned to seek employment in some other province of Canada. Approximately 5 percent wanted to migrate to the United States, although one-eighth (12.5 percent) wanted to work somewhere other than Canada or the United States.

At the time of questionnaire administration most (92 percent) of the Attracted group had already taken some action toward application for admission to a school of nursing and with one exception a hospital school. Of the 65 percent of students in the group who were in some stage of application to one or more of the three hospital schools on the Island, the minority (46 percent of the total group) had applied to schools outside the province as well. Although the tendency of the Not-attracted group to explore educational opportunities was not measured, many students who were interested in a career other than nursing indicated that they had contacted schools located outside of the Island.

Who or what influences girls to study nursing?

One part of the questionnaire dealt with the way in which family members, teachers and others had influenced the student's decision about a career in nursing. The findings are naturally limited to the student's perception of past conversations and should be interpreted as such. Of all persons considered, the student's mother appeared to have the most influence on the student's decision. Every one of the Attracted group perceived

her mother as encouraging her to enter nursing. Although nearly three-fourths of the students in the No-longer-attracted group reported that their mothers had encouraged them, one-sixth of the group did not recall having discussed the topic with their mothers and some (8 percent) recalled that their mothers had discouraged them from becoming a nurse. Less than one-third of the Not-attracted group recalled that their mothers had encouraged them to be nurses. Several (7 percent) reported maternal discouragement but the majority (61 percent) could not recall ever having discussed nursing with their mothers. An even greater percentage of the Not-attracted group (84 percent) said they had never discussed the topic with their fathers. Even more of the fathers of this group were said to have advised against nursing than did the mothers and only 6.8 percent of the fathers had encouraged them to become nurses. By way of contrast, the Attracted group reported that 89 percent of their fathers encouraged them, none discouraged them and 12 percent did not discuss it. In brief, some of the responses concerning persons other than the student's parents to a greater or lesser degree indicated the following:

Relatives of the No-longer-attracted group had a greater tendency to discourage the student from nursing than did the parents. School teachers were more apt to advise the No-longer-attracted group students to reject nursing than they were to advise accepting it. Several of the Attracted group reported that school teachers had advised against nursing.

Some of the students were not sure what a "counselor" was. If there are such persons in the schools, nine-tenths of the students could not recall having discussed nursing with them.

Although few persons in any of the three groups could recall discussing a nursing career with the school nurse, some of those who did indicated that the nurse discouraged them.

Approximately one-third of the Attracted group recalled discussing nursing with their clergyman who encouraged them. Practically none of the other two groups could recall such discussions.

Among the total sample of students, approximately one-half (51 percent) said that most girls go into nursing

because of moral or religious convictions to help one's fellowman. Somewhat more of the No-longer-attracted group gave this reason than did the Attracted group. The Not-attracted group, however, gave a relatively high, as compared with the other two groups, frequency of responses indicating that nursing's low entrance requirements is its greatest attraction.*

The three groups responded similarly to one another in their choice of a reason why girls reject a nursing career. Approximately two-thirds of each group thought nursing was rejected because girls were repelled by the duties entailed in the care of the sick and injured. However, for every one student in the Attracted or Not-attracted groups who perceived nurses' low salaries as the reason for rejecting nursing, there were two students in the No-longer-attracted group who perceived salaries as the reason for rejection.

Do the proposed nursing education changes appeal to high school students?

Each one of the three groups clearly differentiated itself in responses which indicated the degree to which the recommended changes in nursing education would make going into nursing more or less attractive to the responding student. Moreover, there were indications that there is a direct relationship between the degree to which one is attracted by the recommended changes and the degree to which one rejects a career in nursing. Of the five listed effects of the recommended changes, on the average, students in the Not-attracted group reacted favourably to 3.5 of the effects. The average for the No-longer-attracted group was 2.9 and that for the Attracted group was 2.1. Responses to the individual items (effects of proposed changes) are shown in Table 24 which lists the percentage of each reaction group who were favourable to each of the five recommended changes in nursing education.

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*In reality, the requirement is the same as that for admission to the colleges; junior university matriculation, with an overall average of 60 percent in college entrance examinations.

TABLE 24

PERCENTAGE OF PRINCE EDWARD ISLAND HIGH SCHOOL SENIORS IN EACH OF THREE NURSE-CAREER DECISION GROUPS WHO FAVOUR RECOMMENDED CHANGES IN NURSING EDUCATION

Recommended Changes	Nursing Career Reaction Group		
	Attracted	No-longer-attracted	Not-attracted
Reduce length of nursing course from three years to two years.	85%	89%	75%
Make all nursing courses into B.Sc. nursing courses.	46%	50%	73%
Allow student nurses to live at home.	39%	61%	77%
Include subjects such as history and art in the nursing course.	27%	50%	58%
Decrease time student spends working in hospital.	19%	42%	71%

If the sample of high school students is typical of the potential supply of nursing students in the future, there are strong indications that a nursing program in line with the recommended changes would be much more attractive to the student who finds little or no attraction in the present pattern of nursing education on the Island.

CHAPTER VIII

HOW DO PEOPLE IN GENERAL REACT TO THE PROPOSED CHANGES IN THE ISLAND'S NURSING EDUCATION?

Implications for planners

The success of any plans for nursing education on Prince Edward Island will in the long run depend upon their acceptance by the community at large. The outcome of the plan must eventually win approval of the citizens who will use nursing services and of those who must pay for health services and for education as well as those who are employed in education and health services, including nursing. One section of the study was designed to include responses from nurses, educators, students and many other categories of interested citizens in reaction to the proposed nurse education changes.

Those who plan for nursing education should take note when groups were compared with one another, the greatest value was placed on higher education by those groups who were least closely connected with nursing. The valuation was lowest among those who actually provided care of patients. Moreover, there was considerable evidence that the objection to higher education was not based primarily upon the belief that higher education for nursing would result in higher costs for nursing education. In the minds of the concerned community the contributions of educational institutions to nursing should be limited to a science course or a course of purely cultural value.

With several exceptions, which are themselves noteworthy, the responses indicated that the degree to which the group favoured the recommended changes was related directly to the educational level of the group. Generally, the groups' reactions offer the nurse education planners clues as to the relative degree of support of changes which one can expect from the groups.

Who reacted to what?

One method of investigating attitudes toward recommended changes in nursing education on Prince Edward Island was by means of a questionnaire distributed to the Island's high school students, university teachers and community leaders as well as professional and other

nursing personnel. The questionnaire consisted of ten statements. The respondent completed the questionnaire by signifying for each of the ten statements whether he agreed with it, disagreed with it or had no opinion about it. No attempt was made to prove that of all the statements that could be made about transition in nursing education, the ten selected statements which were used were the best possible indicators of one's attitudes toward transition. Each statement was selected from records of the investigator's interviews with members of the health professions, both on the Island and in the United States.* The author of each statement used it in support of his attitude for or against one of the changes in nursing education which have been recommended for the Island. Other persons who read the statement agreed that it did support the author's point of view.

After the questionnaire was administered to the respondents, interviews in some detail were conducted with persons who completed the questionnaire. Generally the subject's descriptions of his responses to the questionnaire and of his feelings for or against the changes proposed for nursing education were consistent. Further evidence of consistency was given in the form of comments about a particular statement which was written on the questionnaire and the response which was given to the statement.

In the following analysis comparisons are made among seven groups of respondents. The title, definition and number of persons(in parentheses) in each group are as follows. The combined total of all persons in the seven groups together was 826.

Community Leaders - A select group of all participants in a workshop on nursing excepting the participants who were nurses themselves. Most were professionals and held university degrees. They were admittedly an exceptional group and were by no means typical of the "average" citizen. (19)

Educators, General - Teachers of various ranks and positions in the two universities. (54)

Nurses, Registered - The large majority of all professional registered nurses who were practising in hospitals and the Public Health Department at the time of the study. (301)

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*853 persons were interviewed in connection with a study of nursing needs in New York State.

Nursing Assistants - The large majority of all licensed nursing assistants who were employed by hospitals at the time of the study. (142)

Students, Assistants - Students who were enrolled at the Central School for Nursing Assistants at the time of the study. (28)

Students, General - Four groups of senior Grade XII female students who were enrolled in three public and one private high school at the time of the study. (95)

Students, Nursing - Students in the three hospital conducted diploma nursing schools who upon graduation are eligible for licensure as professional nurses. (187)

Who says you can't learn nursing in a classroom?

Statement 1. A good nurse is someone who can sympathize with a patient and in whom a patient can confide. You don't learn to be such a person in a classroom in a college but rather at the patient's bedside in the hospital.

Persons in strong agreement with the first statement were often skeptical of the ability or competence of formal education to develop attitudes, values and skill in human relationships. Many of those who agreed, perceived nursing as an "art" to which certain personalities were better suited than others. As they saw it, in as much as it was possible to study to be a nurse, to be effective the study had to take place at the bedside and required only the student and the patient.

Table 25 gives the percentage of persons in each of the previously defined groups by each of the three types of responses. The first line of the Table says that of all persons responding to the questionnaire, 70 percent agreed with statement 1, 27 percent disagreed with it and three percent had no opinion.

TABLE 25

ANALYSIS OF RESPONSES TO STATEMENT 1

Percentage of Persons in Each Group of Respondents by Type of Responses Given			
Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	70%	27%	3%
Students, Nursing	85%	13%	2%
Nursing Assistants	84%	13%	3%
Student Assistants	71%	25%	4%
Nurses, Registered	71%	25%	4%
Students, General	68%	28%	2%
Community Leaders	37%	53%	10%
Educators, General	37%	56%	7%

Students studying to become professional nurses led all others in degree of accord with the statement. Their responses here and elsewhere indicate that the student tends to be more conservative than the practitioner and more resistant to change. The above percentages indicate also that the high school student resembles those connected with nursing more closely than she resembles the general educator in her doubts about the appropriateness of the classroom teaching to impart attitudes and skill in interpersonal relationships. The other two groups of non-nurses--the community leaders and general educators-- set themselves apart from the other respondents in their reaction to Statement 1. The responses of both groups confirmed what their interviews revealed--namely, that they were highly confident that classroom teaching could develop a desired attitude and could result in dedication to the service of others.

Who says that nurses need culture or that registered nurses should spend their hard earned money on more education?

Statement 2. Just like any other student, a nursing student should be able to take a course such as music or art in order to develop herself culturally.

Table 26 indicates that three-fourths of all respondents said they agreed with the statement which in fact elicited the highest degree of agreement of all ten statements.

TABLE 26

ANALYSIS OF RESPONSES TO STATEMENT 2

Percentage of Persons in Each Group of Respondents by Type of Response Given

Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	75%	17%	8%
Community Leaders	100%	0	0
Educators, General	91%	9%	0
Nurses, Registered	79%	13%	8%
Students, Nursing	76%	17%	7%
Students, General	66%	19%	15%
Nursing Assistants	60%	24%	16%
Students, Assistants	50%	47%	3%

Here and elsewhere the educators and community leaders wholeheartedly supported the idea that liberal education does indeed have a place in the education of the nurse. The tendency for students in professional nursing programs to support the statement was consistent with many comments made by them in group discussions. Regardless of the group represented, very few of those who were interviewed said that they disagreed with statement number 2. Of those who did, only two made comments in support of the disagreement which the investigator thought worthy of recording.

One person's disagreement was based upon the deduction that such non-nursing subjects would increase the cost of the nursing course and prevent deserving students from entering it. The other comment was that such educational embellishments should be scheduled before or after but not during the nursing course. The percentages in Table 26 are positively correlated with the average educational level achieved by each respondent group.

Statement 3. Graduate nurses receive so little money for their work that it would be unfair to require a nursing student to spend even more time and money to get a college degree in nursing.

A number of those who agreed with Statement 3 said that they were influenced by the implication that a college degree would be required for nursing more than they were influenced by the financial implications of the degree. Many who disagreed with the statement said or wrote that their response in no way disputed the fact that nurses do get much too little money for their work.

Table 27 shows that 60 percent of all respondents disagreed with the statement. It is possible that some of the 14 percent with "no opinion" also disagreed but like those previously mentioned, did not want their answer construed to mean that nurses are well paid.

TABLE 27

ANALYSIS OF RESPONSES TO STATEMENT 3

Percentage of Persons in Each Group of Respondents by Type of Response Given

Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	26%	60%	14%
Nursing Assistants	32%	35%	33%
Students, Nursing	28%	58%	14%
Students, General	27%	62%	11%
Nurses, Registered	25%	63%	12%
Educators, General	19%	78%	3%
Students, Assistants	14%	71%	15%
Community Leaders	10%	84%	6%

Considering that Statement 3 was originally given as an argument against putting nursing education in the system of general education, the relatively high percentage of college educators and community leaders who disagreed with the statement is not surprising. The relatively high percentage of students in the nursing assistants program who did so is, however, surprising and inconsistent

with other responses of the group. Interviews, records and written comments offer no satisfactory explanation for this inconsistent behaviour.

Were the community leaders misled and did censorship cause confusion?

Statement 4. Whatever plans are made for nursing education on Prince Edward Island, there should be at least two nursing schools - one for girls who want a religious education and one for girls who want a non-sectarian education.

The pattern of response by the seven groups to the above statement has many implications. It may very well indicate that the community's leaders and its educators have a serious misconception of the needs of nursing education on the Island which could result in an uneconomical and quite unnecessary duplication of nursing school facilities.

The first line of Table 28 indicates that in general for every person who agrees that there should be separate religious and non-sectarian nursing schools, there were two who disagreed. However, most of the disagreement can be accounted for by the respondents who were associated with nursing and who outnumbered the non-nurses four to one.

TABLE 28

ANALYSIS OF RESPONSES TO STATEMENT 4

Percentage of Persons in Each Group of Respondents by Type of Response Given

Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	29%	58%	13%
Community Leaders	68%	16%	16%
Educators, General	63%	33%	4%
Students, Nursing	33%	58%	9%
Students, General	31%	41%	28%
Students, Assistants	29%	50%	21%
Nursing Assistants	27%	60%	13%
Nurses, Registered	25%	66%	9%

Some of the community leaders and general educators revealed that as members of various groups they are committed to uphold the idea of separate and duplicate facilities for higher education on a "religious" basis. Interviews with the respondents indicated that holding out for separate denominational and non-sectarian programs was characteristic, not of teachers in a denominational university but in a non-sectarian one. The data upon which the third row of the above table is based reveal that for every teacher in the denominational university who agreed with the statement there were two who disagreed. Furthermore, in the non-sectarian university, for every one who disagreed, there were seven who agreed. The confidence with which some community leaders and educators assured the investigator that nurses "wouldn't stand for" a single non-sectarian school of nursing, illustrates the necessity for further education of the two groups to the needs of nursing education.

Responses to both questionnaire statements 5 and 6 were of limited value in making comparisons among the seven groups as they reacted to each individual statement. The responses were of some value in an overall reaction to the proposed changes in nursing education. Both statements 5 and 6 as originally expressed had certain terms for types of nursing programs which, while they are common in nursing literature, are taboo to certain nurses on the Island. The terms "technical" and "professional" nurses would, according to many of the Island's nurses, engender such strong feelings as to confuse the response. The words which were substituted according to both interview and questionnaire responses were themselves confusing. There was considerable evidence that many of those who had "no opinion" and a few of those who disagreed with statement 5 did so solely because of their reaction to the words substituted for "technical program". Similar confusion resulted from the substitution of the word "degree" for "professional" nurse in statement number 6. However, comments and interview records indicate that objections to the two words were consistent if coincidentally so, with disagreement to a statement with which the respondent would have disagreed had the terminology not been changed.

The two statements, 5 and 6, and the percentages of those agreeing with or disagreeing with them, follow. The column headed "No Opinion" has been deliberately omitted from Tables 29 and 30. Some respondents who checked "No Opinion" did indeed have an opinion but refused to express either agreement or disagreement because of the terminology used.

Statement 5. Considering (1) that experts say that Prince Edward Island is best suited to educating diploma nurses and (2) that the need for diploma nurses is three times as great as the need for degree nurses, we should aim to have 2 year diploma programs here and let the other provinces provide degree programs for nurses.

TABLE 29

ANALYSIS OF RESPONSES TO STATEMENT 5

Percentage of Persons in Each Group of Respondents by Type of Response Given		
Respondent Group	Type of Response	
	Agree	Disagree
All Respondents	32%	61%
Educators, General	61%	26%
Students, Assistants	47%	43%
Community Leaders	37%	47%
Students, General	36%	54%
Nursing Assistants	30%	59%
Nurses, Registered	29%	65%
Students, Nursing	22%	73%

Statement 6. The degree nurse who will plan the nursing care for each patient has a responsibility as great as do people in other professions. Like them, this nurse should have a university education.

TABLE 30

ANALYSIS OF RESPONSES TO STATEMENT 6

Percentage of Persons in Each Group of Respondents by Type of Response Given		
Respondent Group	Type of Response	
	Agree	Disagree
All Respondents	69%	20%
Community Leaders	95%	0
Nurses, Registered	76%	19%
Students, Nursing	69%	29%
Educators, General	67%	9%
Students, General	59%	27%
Nursing Assistants	56%	35%
Students, Assistants	54%	47%

Should the Island copy the U.S.A.?

Statement 7. Our decisions about the future of nursing education on Prince Edward Island should not be influenced by what nursing education is like in the United States. The more our nursing education differs from their's, the more we are likely to keep the nurses who graduate from our nursing schools.

In a survey preliminary to the present study, several persons predicted that much of the resistance to the proposed nursing education would be related to the facts that (1) similar changes had already begun in the United States and (2) that Canada contributed to the education of many nurses who spend their productive years in the United States. Responses to statement 7 do not show any great degree of fulfillment of the prediction. In all only 23 percent agreed with the statement, almost three times as many disagreed. No significant references to the statements were made in interviews, however, the nationality of the investigator may have been an inhibiting factor.

It is noteworthy that the percentages in Table 31 (which could be positively related to ethnocentricity) are inversely related to the average educational level of the group.

TABLE 31

ANALYSIS OF RESPONSES TO STATEMENT 7

Percentage of Persons in Each Group of Respondents by Type of Response Given			
Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	23%	63%	14%
Nursing Assistants	42%	47%	11%
Students, Assistants	25%	47%	28%
Students, General	24%	55%	21%
Students, Nursing	21%	64%	15%
Nurses, Registered	17%	72%	11%
Community Leaders	16%	68%	16%
Educators, General	15%	74%	11%

Should all or just a part of nursing be taught in educational institutions?

Statement 8. The educational institutions can do a better job of educating the nurse than can the hospital. Any additional tax money that would have to be spent to put nursing education in educational institutions would be a sound investment.

Comments related to the above statement often resembled those made to Statement 1. Both statements deal with the appropriateness of educational institutions to conduct nursing programs. In Statement 8 there is the additional factor of justification of the use of tax funds to put nursing education into educational institutions. There is no reference to the affective aspects of learning to be a nurse as there was in Statement 1. When the overall response as is shown in Table 32 is compared with that for Statement 1, the evidence indicates that there was a much lesser degree of resistance to putting nursing education in an educational institution when the idea was associated with its financial aspects than when it was associated with developing the appreciations and attitudes associated with nursing.

TABLE 32

ANALYSIS OF RESPONSES TO STATEMENT 8

Percentage of Persons in Each Group of Respondents by Type of Response Given			
Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	43%	40%	17%
Educators, General	69%	22%	9%
Community Leaders	63%	26%	11%
Nurses, Registered	47%	34%	19%
Students, General	39%	41%	20%
Nursing Assistants	37%	48%	15%
Students, Nursing	34%	50%	16%
Students, Assistants	32%	40%	28%

In comparing the above response pattern with that elicited by the first statement one must keep in mind that agreement with Statement 1 opposed nursing in educational institutions and is therefore equivalent with disagreement with the above statement.

Statement 9. Medicine is advancing so rapidly that what the nurse learns in hospital today is apt to become outdated in just a few years. Therefore, it is important that all nurses study the basic underlying principles of science at the college or university level.

As the first row of Table 33 indicates, all respondents combined show a high degree of agreement with the idea that the college is an appropriate place for basic science instruction in the nursing program.

TABLE 33

ANALYSIS OF RESPONSES TO STATEMENT 9

Percentage of Persons in Each Group of Respondents by Type of Response Given			
Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	70%	24%	6%
Educators, General	83%	15%	2%
Community Leaders	79%	16%	5%
Students, General	78%	16%	6%
Nurses, Registered	67%	28%	5%
Students, Nursing	67%	28%	5%
Students, Assistants	57%	25%	19%
Nursing Assistants	53%	50%	17%

Although the majority of each of the above groups agrees that basic principles of science should be taught to nurses in the college, the agreement is not as great as was that with Statement 2 which confirmed the right of the nursing student to some higher education of cultural value only and presumably not in the areas of basic science. One educator remarked in connection with Statement 9 that nursing students who were getting science instruction in the university got as well a very distorted picture of the whole college setting. Although he expressed disagreement, he would have agreed if the statement specified that all instruction including science instruction was given in the university setting.

Who says the Island girls won't come back home?

Statement 10. If Prince Edward Island girls who want to study at the degree level in nursing would have to leave the province in order to do so, few of them would return here after they are graduated from the nursing course.

The above statement relates to a concern expressed by many of those interviewed preliminary to the study and during the data collection for the study. The responses in general indicate that in line with the expressed concern the majority of respondents believed that if it became necessary for the Island to rely on outside educational programs solely for its supply of nurses, it

would indeed experience a shortage of nurses and would as a consequence lose many of its potentially desirable citizens. As Table 34 indicates, the pattern of response shows little inter-group variation, the group with the highest percentage of agreement does not differ from the one with the least percentage to the degree that high and low groups did on previous statements.

TABLE 34

ANALYSIS OF RESPONSES TO STATEMENT 10

Percentage of Persons in Each Group of Respondents by Type of Response Given

Respondent Group	Type of Response		
	Agree	Disagree	No Opinion
All Respondents	62%	28%	10%
Students, General	77%	19%	4%
Community Leaders	74%	26%	0
Nurses, Registered	67%	22%	11%
Students, Assistants	64%	29%	7%
Students, Nursing	63%	30%	7%
Nursing Assistants	62%	27%	11%
Educators, General	54%	37%	9%

The following comparisons among the seven groups are based upon the total responses made by all members of a group in support of the recommended changes in nursing education for Prince Edward Island. A respondent could respond to each of the ten statements in such a way as to support change. If he did so his total supportive responses would be 10. Similarly each member of each group could make as many as ten supportive responses. Thus, the total number of supportive responses possible for a group would be ten times the number of persons in the group. For instance, there were 95 persons in the group of high school students which is referred to here as "Students, General". The highest possible number of responses supportive of change which could have been made by the group was 950. The group as a whole gave 462 supportive responses or 49 percent of all possible supportive responses.

The seven groups are listed below in order of diminishing support of the new recommended changes in nursing education as measured by the sum of the questionnaire responses. After the name of each group is the percentage of all possible supportive responses that it could have made, which it did in fact make.

Community Leaders	-	67%
Educators, General	-	65%
Nurses, Registered	-	57%
Students, General	-	49%
Students, Nursing	-	48%
Students, Assistants	-	46%
Nursing Assistants	-	42%

By way of comparison, the total questionnaire respondents who could have made as many as 8,260 responses supportive to the changes did in fact make 4,287 such responses, which was 52 percent of the possible supportive responses.

To the degree that the questionnaire measured attitudes favourable toward the proposed changes in nursing education, community leaders and university educators are highly supportive of the changes. Although less supportive than the leaders and educators, registered nurses are much more supportive than are students in high school or in either of the two types of nursing programs or than are nursing assistants.

CHAPTER IX

IS NURSING EDUCATION ON PRINCE EDWARD ISLAND NECESSARY?

Implications for planners

Much of the following findings are more than implications for planners and are, indeed, facts and figures with which planners must work. The figures are necessarily flexible. The maximum number of prospective students, for example, is twice as great as the minimum. Social and economic changes now and in the future undoubtedly will invalidate some of the following predictions of nursing need and supply. However, the true justification of an ongoing group to plan for nursing and nurse education needs is not that of insuring a certain quantity of nurses but of insuring the public of a certain quality of nursing care. When the quality of the Island's nursing schools is measured with widely accepted criteria, it is found to be wanting. Something ought to be done to improve the quality and with concerted efforts for creative planning, it can be done.

How many girls will want to study nursing in 1975?

It would be injudicious, to say the least, to attempt to include in the report the number of nurses who should be graduated from Prince Edward Island nursing programs a decade from now. Such goals should be set by those persons and groups on the Island who will play a part in achieving the goals. The interaction of the persons, the organizations and the institutions which will help to educate the nurse and/or use her services will affect and in a large measure determine the number of nurses who can and should be graduated.

Moreover, often unforeseen economic and social changes can and do invalidate the most scientifically derived predictions of manpower needs. Could one have foreseen in 1941, when the Island employed one registered nurse for every 772 persons and when Canada as a whole employed one nurse for every 456 persons, that in 1960 the Island would employ one registered nurse for every 182 persons and Canada would employ one registered nurse for every 260 persons? Can one predict with precision the demands that proposed expanded medical care coverage will place upon the nurse supply or the effects of the proposed causeway upon seasonal demands for nursing services? Although there is a need for

long-term overall planning cognizant of the possible effects of the proposed changes, there is a need equally as great at least for ongoing planning by those who will educate and use the services of the nurse.

One of the limitations which any group which plans for nursing education on the Island will have to face, however, is the number of qualified high school graduates who could enroll in a nursing school if they wished to do so. The investigator and many of the persons interviewed in the study think it highly unlikely that within the next ten years Prince Edward Island's nursing programs will attract a significant number of students from outside the province.

Barring unforeseen events, one would not expect an overall increase in Prince Edward Island's population of more than 11 percent during the next decade. A rough approximation of the annual rate of population increase can be obtained from annual population estimates released in August 1966 by the Dominion Bureau of Statistics. The annual rate of increase for both Canada and Prince Edward Island as estimated are shown in Table 35.

TABLE 35

PERCENTAGE OF INCREASE IN POPULATION
OVER PREVIOUS YEAR

Year	Canada	Prince Edward Island
1962	+ 1.8%	+ 1.0%
1963	+ 1.8%	+ 1.0%
1964	+ 1.8%	(none)*
1965	+ 1.7%	+ 1.0%
1966	+ 1.8%	+ 1.0%

*The Dominion statistics describe populations to the nearest thousand. According to this source, Prince Edward Island had a population of 107,000 for both years 1963 and 1964.

The projection of the population of Prince Edward Island in 1976 which follows was computed by a private research organization and takes into account one statistic of significance to the province, namely, the migration from the Island as well as the natural increase of population. The projection is that by 1976 the population of the Island will have increased to 120,200, which is an increase of 10.8 percent over the 1966 population. During the last decade increases in total population in the province have tended to parallel increases in the number of 15-19 year olds, the age group interval upon which nursing schools draw. However, statistics issued over the last five years show an upward trend in that portion of the total population of Prince Edward Island who remain in school long enough to be counted as grade XII students. The trend is apparent in Table 36 which is based on Dominion Bureau of Statistics population estimates 1960-1965 and the Prince Edward Island Department of Education reports of grade XII enrollments during the same years, respectively.

TABLE 36

School Year	Number Enrolled in Grade XII per 10,000 population P.E.I.	Percentage of Grade XII Students who were Female
1960-61	62	59.6%
1961-62	61	54.5%
1962-63	64	54.9%
1963-64	67	51.0%
1964-65	88	54.0%

Table 36 indicates that in the five year period the number of persons in the province going as far as the twelfth grade of school has increased proportionately more than has the population of the province as a whole. Although the apparent spurt in Grade XII attendance in 1964-65 is in part due to the accelerated birth rate following World War II, indications are that the Island's educational facilities up through Grade XII will be used by a larger segment of the eligible population than they have been used in the past.

The above table indicates as well that it is relatively safe to assume that at least half of the increased use of Grade XII facilities will be traceable to an increased number of girls reaching the Grade XII status. On the basis of Grade XII enrollments alone, the source of potential nurse students seems to be increasing. However, two additional criteria limit the number of twelfth grade students who can be expected to enter nursing, namely, the achievement of junior matriculation status and the desire to enter a program of nursing education. Typically, fewer than one-half of those enrolled in Grade XII complete the grade and pass the matriculation examination. Although somewhat greater than half (a rough estimate is 60 percent) of those achieving matriculation status are girls, the attractiveness of Prince Edward Island nursing schools to eligible girls, appears to be diminishing. The diminishing attractiveness is apparent in Table 37 based upon statistics and estimated statistics for the years 1962 through 1966.

The first and last lines of the table could be stated as follows: In 1962 for every 10,000 persons in Prince Edward Island there were 22 persons graduated from high school with matriculation status - fourteen of these were girls, seven of whom enrolled in one of the three Prince Edward Island nursing schools. By 1966 the number of high school graduates had risen to 39 per 10,000 and although 24 of the 39 were girls, only seven girls enrolled in one of the three nursing schools.

TABLE 37

NUMBER OF PRINCE EDWARD ISLAND GRADE XII STUDENTS WHO ACHIEVED JUNIOR MATRICULATION PER 10,000 INHABITANTS AS TO SEX AND CHOICE OF NURSING

Year	Boys and Girls	Girls only	Entered a Prince Edward Island Nursing School
1962	22	14	7
1963	26	17	7
1964	28	16	6
1965	35	22	7
1966	39	24	7

The dwindling attractiveness of nursing to the eligible Prince Edward Island girl is even more impressive when the statistics on which the above table was based are used to compute the percentage of eligible (junior matriculation status) Prince Edward Island females who enrolled in a Prince Edward Island nursing school during the five years. The results are as follows:

Year	Percentage of Eligibles Enrolling in Nursing Program
1962	50.0%
1963	40.6%
1964	36.9%
1965	35.9%
1966	27.8%

If one were to look upon the resulting percentages as a yard stick of attractiveness, one could say that the Island's nursing programs are about half as attractive to eligible students as they were five years ago.

On the basis of the foregoing statistics and projections only, a reasonable expectation for the number of Prince Edward Island girls who will graduate from Grade XII in 1976 with junior matriculation status is 300. The trends shown here and other evidences of increased use of the Island's educational facilities which appear in the Prince Edward Island Department of Education's Annual Reports from 1961-1965 indicated that if the prediction errs it does so by understating the number of girls who can by then be expected to achieve matriculation status. Whether of the 300 girls with junior matriculation status one should expect as many or more than 150 to enter nursing or as few or fewer than 75, can be judged best by those who plan for nursing education because their plans or the lack of them will surely affect the number. The previously cited statistical trends and findings described elsewhere in the report indicate that if the community fails to be concerned about and to plan for the future of nursing education on the Island, 1976 could well see fewer girls choosing to study nursing in the province than the number who made such a choice in 1966.

How many nurses will the province need in 1975?

A second consideration that must be made by those who plan for nursing education is: "What number of nurses will be needed by 1975?" In preparing guidelines for discussions on the future of nursing on Prince Edward Island, the C.N.A. statistical unit noted that the Island in 1965 was the third best served of all provinces as regards the ratio of active practising nurses to population. The Island had one practising registered nurse for each 193 persons, Saskatchewan had one for each 182 and Ontario had one for each 139. Canada as a whole had one for every 188 persons.

Should Prince Edward Island try by 1970 to raise its registered nurse population ratio to 1 to 182 or greater? The arbitrary selection of a numerical ratio without considering many pertinent factors could be an oversimplification which would show the lack of overall planning for health in the province. Practically all nurses today are employed by hospitals, other agencies and physicians. The hospitals' need for nurses is to a great degree determined by the number of acutely ill patients treated and the degree of use of students and non-professionals in patient care. The public health agency's need for nurses depends to a great degree on the extent of public health services. Physicians use of nurses depends among other things on the supply of physicians per unit of population.

The majority of patients cared for in Prince Edward Island hospitals are residents of the province. Medical centers with renowned reputation for the diagnosis and treatment of certain conditions are located elsewhere in Canada. The Island could be made to appear comparatively even better supplied with nurses by weighting the population of each province by the average daily census of acutely ill patients. The relatively high proportion of the Island's ill persons are elderly persons who are more apt to be chronically ill and who, fairly or unfairly, are apt to receive more of their care from someone less skilled than the registered nurse. The Island is admittedly far behind other areas of Canada in provisions for public health nursing in the form of home care and visiting nursing service. In terms of all health personnel per unit of population, Prince Edward Island has a much greater shortage of physicians than it has of nurses. In Canada as a whole, there is one active physician for every 881 persons, but on Prince Edward Island there is only one per 1,218 persons. Although Nova Scotia has 27 more persons per

active registered nurse than Prince Edward Island, it has 206 fewer persons per physician than does the Island.

The administrator and/or nursing service director of each of the three Island hospitals with schools of nursing stated that they did not have positions on the professional nurse staff for all of the current graduates of the school. The tendency of graduate nurses to migrate from the Island to seek employment elsewhere is not unique to the occupation of nursing. In the past 15 years migration from Prince Edward Island was as great as a sizeable portion of the net natural increase in population as Table 38 indicates.

TABLE 38

AVERAGE ANNUAL NET MIGRATION AND NET NATURAL POPULATION INCREASE FOR PRINCE EDWARD ISLAND FOR THREE FIVE-YEAR INTERVALS FROM 1951-1965

Interval	Net Migration	Net Natural Increase
1951 - 56	1,600 per year	1,800 per year
1956 - 61	600 per year	1,700 per year
1961 - 65	1,100 per year	1,800 per year

The need for migration of Prince Edward Island nursing graduates is also apparent in comparison of the number of actively employed registered nurses in a given year with the number graduating from nursing schools during the year. In 1965 the number of Prince Edward Island graduates from nursing schools was 10.8 percent of the total number of active registered nurses in the province. In 1964 it was 11.1 percent. Other studies have shown that normally no more than five percent of the active registered nurse force becomes inactive per year. On the Island this is much more apt to be less than five percent because of the tendency for Prince Edward Island nurses to remain active at a more advanced age. Comparatively, approximately twice as many (8.4 percent) of the Island's active nurse force in 1965 was over 60 years of age as compared with 4.9 percent for Canada as a whole.

If one is willing to make certain assumptions, the Island's nurse supply in 1976 can be predicted to be as good as it is in 1966 even though the existing pattern of nursing education persists. The necessary assumptions are, however, open to question. One assumption is that the previously cited trend for nursing to become increasingly unattractive to qualified Prince Edward Island high school graduates will in some way reverse itself. A second questionable assumption is that the existing ratio of registered nurse to population will meet the health needs of the province a decade hence. Within the confines of the assumptions, only 68 more registered nurses will be needed in 1976 and the increase can easily be accomplished by retaining a few more graduates who ordinarily migrate each year.

Even if the above approach to planning were not based upon questionable assumptions, it represents a type of planning unworthy of recommendation in that its perspective is limited to the quantitative aspects of nurse supply. What Prince Edward Island needs most is to look critically at the qualitative aspects of its nursing education and nurse supply. The first step in this direction is to lay to rest a misconception of the quality of the Island's nursing education that was repeatedly vouched for by nurses, physicians, administrators and other Islanders, during the study. The misconception is that the graduates of the Island's three nursing programs are of outstanding merit which is recognized within and far outside the province.

Is the Island's nursing education all that it is said to be?

In each instance when an Islander tried to substantiate his claim of the superiority of the Island's nursing programs, he cited isolated and subjective opinions, which can not be used as an operational basis. Here as in other areas objective evidence acceptable to all must be used. The best evidence available is the scores of graduates of Prince Edward Island nursing schools on qualifying examinations.

The scores achieved by graduates of Prince Edward Island nursing students on licensing examinations are, and for some time have been, inferior to the scores achieved by students in practically any other area of the country. Anyone with access to the results of the qualifying examination would have to admit to the relatively low standing of the Island's graduates. In 1960 the

average score for each of the three Prince Edward Island nursing schools in each of the five content areas tested was below the national average and excepting the performance of students from one of the three schools in one subject, namely, obstetric nursing, far below the average. That year test results were compiled for 54 different geographic areas. On the coded list of average scores for each area listed in descending value, Prince Edward Island is so near the bottom of the list as to be outstanding. In medical and surgical nursing, 95 percent of all geographic areas surpassed the Prince Edward Island graduates. In nursing of children and psychiatric nursing, 96 percent surpassed them. The Island's showing in obstetric nursing was somewhat better but still below that of 75 percent of all geographic areas. Although during the last five years the relative standing of the Island's graduates has risen in the areas of obstetric and psychiatric nursing, the relative standing of Prince Edward Island graduates in 1965 in areas of medical nursing, surgical nursing and nursing of children was still practically at the bottom of the list. One picture of the 1964-65 licensing examination results that should be of concern to anyone interested in nursing education on the Island is when the 59 geographic jurisdictions were compared as to the percentage of candidates who met or exceeded specified standard scores, Prince Edward Island ranked next to the lowest of the 59 areas.

What is the future of nursing education on Prince Edward Island?

The above described level of performance on the examination which qualifies the nurse to practice is sufficient grounds for one to question the ability of the service agency, the hospital, to meet modern standards for nursing education. When the planned program of national accreditation of nursing schools is implemented, there is no reason to believe that any of the existing hospital controlled Island's nursing schools will satisfy the C.N.A.'s 1964 definition of an educational program in nursing. Lack of quality in the form of lack of accreditation could well limit the quantity of nurses who should be graduated if institutions in the other provinces to which graduates migrate require graduation from an accredited school of nursing.

Moreover, if the nursing education in the province is transformed into a truly educational program, the change would markedly affect the nurse supply. If, as the C.N.A.

recommends, the school of nursing administers and controls "the complete educational experience of the student" education will take precedence over service. The time the student now spends in service above and beyond clinical learning experiences will have to be taken over by other nursing personnel. Relieving the more advanced student, especially of her purely service obligations, requires additional registered nurses.

If by 1975 the Northumberland Strait Causeway is completed and the tourist population reaches the predicted number of 3 million per year, not only will there be a tremendous demand for increased quantity of nursing services but in all probability for increased quality of nursing services. If tourists come from any other province of Canada, they come from an area which in 1965 exceeded Prince Edward Island in the ratio of highly prepared nurses (that is, with a baccalaureate degree) to nurses holding only a diploma.

In the event of escalating demands for health services, such as the construction of the causeway could produce, planning for nursing in isolation from other aspects of health services could well be a useless activity. There must be concerted and coordinated planning for all aspects of health care. Plans must include not only physical facilities but include medical and non-professional health personnel as well as nursing. Such planning is currently needed for Prince Edward Island by the residents of the Island. If planning is delayed until legislative measures implement the recommended expanded medical services for the citizens or until the previously described and highly probable developments occur, the lack of planning could well result in chaos.

Any findings of value in the foregoing section of the report do not include a prediction, perhaps prophecy would be a better term, of the number of nurses who should be educated in Prince Edward Island's nursing schools in 1975. The finding of most value is the acute need at the present time for an active planning group representing the community and others involved in health services as well as nurses to plan for health facilities and health manpower in the light of what Prince Edward Island needs and wants. It is regrettable that the past pattern of nursing education on the Island has offered the professional nurse so little skill in communicating with those in other groups. The lack of skill will no doubt limit their actual contributions in the overall health planning. Whether or not the

foregoing findings will be of value is contingent upon whether or not the planning group becomes a reality. If it does there are, in summary, certain facts presented here which should be of value to the planners.

Trends indicate that the percentage of girls on the Island who graduate from high school and achieve junior matriculation will continue to increase. There is, however, just as noticeable a trend for the girl who passes matriculation examinations to do something other than enroll in one of the Island's nursing schools. Barring significant socio-enonomic developments, the Island should compare favourably with other provinces in quantity of registered nurses but the province already suffers from comparatively low quality of its nursing. Developments planned for or already underway seemed destined to alter the present needs for nursing education and nursing services on the Island. In order to prepare for the altered needs there must be short and long term planning for nursing organized in coordination with plans in many other health areas.

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APPENDIXES

APPENDIX A

DIRECTIONS FOR COMPLETING THE DATA FORM FOR 1966 APPLICATIONS

Directions for completing the DATA FORM FOR 1966 APPLICATIONS

1. Which applicants should be included?

Only those about whom the school had all information to make a decision on acceptance or rejection of the applicant. Include every such applicant who was considered for the fall 1966 class.

2. How should data be recorded?

With the exception of the column headed "Comment" make some notation in every blank following the applicant's name. If the required information is unknown, mark DK(Don't know) in the blank. Except for "Father's Occupation" which should be written out, one of the following symbols should be used to complete the blanks under the other column headings up to "Comment."

COLUMN HEADING	SYMBOL AND MEANING
Religion	RC = Roman Catholic P = Protestant O = Other than Roman Catholic or Protestant
Birthplace	PEI = Prince Edward Island MP = Maritime Province, but not P.E.I. CA = Canada but not MP FO = Foreign (Outside Canada)
Test Score (College entrance examination score)	(P.W.H.S.E.)* (A.P.E.B.E.)**
School Standing (high school)	L = Lowest (Lowest $\frac{1}{4}$ graduating class) F = Fair (Bottom $\frac{1}{2}$ class but not L) G = Good (Top $\frac{1}{2}$ class but not upper $\frac{1}{4}$) E = Excellent (Upper $\frac{1}{4}$ class)
Outcome (of application)	AE = Accepted and enrolled AN = Notified of acceptance but did not enroll RJ = Rejected
Reason (for previously noted outcome) Limit to the main reason only	NOTE: "Reason" symbol depends on previous "Outcome" symbol. If previous symbol was AE, repeat AE as "Reason" If previous symbol was AN, use one of these: MR = Marriage NU = In another nursing school(R.N. but not B.S.) NC = In collegiate (B.S.) nursing school NA = In nursing assistants school CO = Above don't apply, reason under "Comment" If previous symbol was RJ, use one of these: TS = Low test scores SS = Low school standing PT = Undesirable personality traits PH = Poor health CP = School's capacity reached CO = Above don't apply, reason under "Comment."

*Score on Prince of Wales High School examinations.

**Score on Atlantic Provinces Examining Board examinations.

APPENDIX B

DATA FORM FOR 1966 APPLICANTS

DATA FORM FOR 1966 APPLICANTS

Page____

_____(School)

Applicant's Name (Last, first)	Religion	Birth-place: Applicant	Birth-place: Father	Birth-place: Mother	Father's Occupation	Nursing School Application: Test Score: A.P.E.B.E.	Nursing School Application: Test Score: P.W.H.S.E.	Nursing School Application: School Standing	Nursing School Application: Outcome	Nursing School Application: Reason	Comment

APPENDIX C

DATA FORM - SCHOOL OF NURSING

DATA FORM - SCHOOL OF NURSING

1. Complete the following table giving the total numbers of admissions, withdrawals, graduations and enrollments for the last five academic years.

Year	Admissions	Withdrawals	Graduations	Enrollment*
1961-62				
1962-63				
1963-64				
1964-65				
1965-66				

* As of the first day of class, fall semester.

2. During which year of the course do the largest number of the above withdrawals occur?

---------year.

3. How many of the above admissions were either married, widowed or divorced?

---

4. Account for as many of the above withdrawals as you can according to the major reason for withdrawal

Major Reason	Number of withdrawals during academic year					
	61-62	62-63	63-64	64-65	65-66	
Failed Nursing subjects						
Failed biologic or social sciences						
Marriage or pregnancy						
Undesirable personal characteristics						
Poor physical health						
Reason other than above						
Reason unknown to us						

5. Account for the present occupations of your most recent graduating class.

Occupation	Number of graduates so occupied
Nursing in this hospital	
Nursing elsewhere in P.E.I.	
Nursing in Canada, not P.E.I.	
Employed but not in nursing	
Not employed	
Occupation not known to us	

6. In addition to the licensing examinations, do your students take any other standarized achievement test, the result of which could be used for comparisons with students elsewhere? If no, state this. If yes, give a brief analysis of the test results.

7. List below the planned clock hours of classroom instruction in the entire program by year of the course according to content areas;

Content Area	Clock Hours per Year of Course		
	First Year	Second Year	Third Year
Nursing (Classroom instruction)			
Basic Science* (Classroom)			
Basic Science* (Laboratory)			
Other (Specify)			

*=Anatomy, physiology, microbiology, chemistry, psychology, sociology

8. Account again for the above total hours of basic science instruction by type of instruction;

Type of Instruction	Clock Hours
Nurse Instructor	
Non-nurse Instructor at Hospital School	
Non-nurse Instructor in college or university	

9. Describe any credits that each student receives for college or university instruction which is part of the nursing program. Explain also what if any future use the student can make of the credit.

10. Complete the following table giving the total number of weeks of clinical experience per student for each year of the course by time of experience.

Time of Experience	Weeks of clinical experience per year		
	First	Second	Third
Days			
Evenings			
Nights			

11. Give the requested information for each hospital in which your students receive any clinical experience.

Name of Hospital	Total Bed Capacity	Total Average Daily Census*	Bed Capacity All areas used for your students	Bed Capacity All areas suitable for student experience

*=Most recent available

12. Describe the method by which instruction in (A) Basic Science and (B) Psychiatric Nursing is coordinated with the rest of the program.

(A)

(B)

13. For each item below list the current charges to the student by the time at which the student pays the charge.

Item	Time of payment			
	Pre-entrance	1st Year	2nd Year	3rd Year
Nursing School Tuition				
College Tuition				
Books				
Uniforms				
Room and Board				
Fees for registration & graduation				
Other (specify)				

14. Describe and/or give the value of benefits which the student receives at the expense of the hospital or some other institution. Include stipends.

15. List below the initials and title of each person who is responsible for teaching one or more subject area courses to the nursing students, the number of years of formal teaching experience she has had and the highest academic degree which she holds. If the person is a full-time teacher in the school of nursing write "1" under the heading, "full-time teaching equivalent"; if part-time write a fraction (as $\frac{1}{2}$ or $\frac{1}{4}$) to indicate the part of a full-time schedule she spends teaching students in the school of nursing. In the last column indicate the main occupation of the part-time teacher when she is not teaching your students -- for example, "housewife" or "nursing service".

Initials and Title	Years Teaching Experience	Highest Degree Held	Full-time Teaching Equivalent	Occupation outside the school of Nursing

16. List below the initials and title of each person other than the above listed faculty who is employed more than half-time by the school of nursing and whose employment is essential to conducting the school (e.g. counselor, librarian, health director). Give the number of years of experience the person has had in the position and any sort of formal preparation that the person has had for the position.

Initials and Title	Years of Experience	Preparation for Position

17. Using the statistics collected previously for cost study allocations, list the square footage of each instructional area (by room), the percentage of use by students - both of which were determined previously - and rate the physical condition of the area using the following guide:

Rate each room for the three following qualities:

U = Utilities (the manner in which the room is provided with heat, light and ventilation.)

F = Functional Efficiency (suitability for the purpose of conducting a class.)

S = Structural Soundness (newness or state of repair.)

Give each quality one of the three following ratings:

0 = Unsatisfactory

1 = Adequate

2 = Good

Area (Room)	Square Footage	% time used by nursing school	Physical Condition (Use above scale)		
			U	F	S

18. A. Ideally, how many students should be accommodated in the students' residence building?

_____

B. Using the same guide as in #17, what rating would you give the residence for:

Utilities ----------

Functional Efficiency ----------

Structural Soundness ----------

19. A. Ideally, how many students can use the library simultaneously?

_____

B. As in #18, rate the library for:

Utilities ----------

Functional Efficiency ----------

Structural Soundness ----------

C. How would you rate the library's nursing collection (0, 1, or 2) on its:

Scope (breadth or completeness) ----------

Timeliness (up-to-dateness) ----------

APPENDIX D

Questionnaires pertaining to cost study data were those used in A Study on Cost of Nursing Education. Part I - Cost of Basic Diploma Programs. Published by The National League for Nursing - 1964.

APPENDIX E

TELEPHONE INTERVIEW INFORMATION FOR INTERVIEWEES

NOTE:

For the telephone interview related to the <u>television</u> program, paragraph one, page three, was changed to read as follows:

> If the telephone is listed under the name of the husband, ask to speak to the woman of the household, as presumably the husband would not have listened to the "Day at Home" program.

THE ASSOCIATION OF NURSES
OF
PRINCE EDWARD ISLAND

STUDY OF TRANSITION IN NURSE EDUCATION IN PRINCE EDWARD ISLAND

Telephone Interview Information

TO THE NURSE INTERVIEWER:

In General:

A nurse is necessarily familiar with the technique of interviewing. Each time you get information about a patient's condition, his feelings and his family, you are interviewing the parient. When the information is to be entered in the patient's chart, history, or progress record or when you are consciously seeking information needed by you or the doctor to plan the patient's care, the interview is to some degree structured.

The interviews you are about to conduct, however, differ to some degree from your usual patient interviews, in that the people whom you telephone will not be as dependent upon you as the patient and will have different motives for answering the questions. None the less, there is no reason why once rapport has been established, that the well person should be less responsive than the ill patient. Your past experience in establishing rapport will in all probability be of greater value to you in conducting the interview than will any of the following suggestions.

The telephone interviews must of necessity be highly structured - that is, you must ask for specific information in a rather prescribed fashion. The necessity is the result of the limitations of the research project itself. In order to compare the responses to the interview questions in a manner that is in keeping with a research approach, it is important that each person is questioned in much the same way and that the ideas presented to each person being interviewed, be presented in the same sequence. You will no doubt agree that this becomes quite important when there are so many interviewers. The form on which you will record the answers lists almost word for word what you should say to the person being interviewed. It should be followed as closely as possible. However, if it is obviously read in a monotone, robot-like fashion, the person being interviewed may very well lose interest before the desired information is obtained.

Although the interview is structured, the person being interviewed can still be made to feel that you are interested in him and in what he has to say. Comments from the interviewer such as, "really", "how interesting", or merely repeating a part of the response such as, "You think it ought to be done"? are effective tools even for the most structured interview. In the event that you have met the person chosen for your interview or if you had a patient who lives nearby, a comment to this effect may be in order to foster rapport.

The persons who prepared the interview structure were very much aware that no instructions or "program", no matter how detailed, can anticipate all the possible interactions between the interviewer and the person being interviewed. As a nurse, you have developed a sort of sensitivity as to whether or not you are speaking on the patient's level of understanding - his language, so to speak. You may well have to translate the words of the interview structure into words that are more common to the person interviewed. In addition, many people find it more difficult to understand certain words spoken over the telephone than to understand them in a face to face conversation. When you suspect that a word is not clearly understood, offer synonymns. For example, "relatives", you know, like your sister, your aunt or your niece".

Whom to Call:

You will be given a list of three names, addresses and telephone numbers chosen at random from the Charlottetown directory. The first two persons listed are the persons you are supposed to call. The third person is an alternate and should be called only in the event that one of the first two persons must be eliminated. It will be necessary to eliminate a name only if one of the following conditions exist:

1. The phone is not answered on two attempts to call, at least 30 minutes apart.

2. The person listed or the spouse of the person listed are away and will not be able to answer the phone for a period of 48 hours or more.

3. You are notified by the operator that the number has been discontinued.

Do not use the alternate, however, if the person sought is available but refuses to answer the questions. Instead, report the refusal on the sheet for comments.

When to Call:

Try to place your call at a time of day that would seem to be convenient for most families - probably after the evening meal. When the person called is told that it will take about 4 or 5 minutes to answer the questions, he may ask that you call back later. If so, be sure to arrange for a specific time when the call will be completed. At all costs, do not allow the interview to be interrupted after you have begun to question the subject.

Getting Ready to Call:

Before you make any calls, read the interview forms through several times to make sure that you understand the questions, yourself. Before placing a call, make sure that you have the interview forms, two writing implements (pencil or pen - one may fail to work) and a surface on which to write.

On the top of each form write the phone number and the name of the person interviewed. If the telephone is listed under the name of the husband and the wife is available for interview only, she may be interviewed, but change the heading of form to indicate "Mrs" instead of "Mr."

In addition to the interview form, there is a sheet for comments. Try to limit the comments to those which are absolutely necessary in order to understand the person's responses and to as few words as possible. When possible, quote the subject directly.

The interview form is set up so that what you will say to the subject is <u>underlined</u> and on the left side of the page. The responses from the subject will be checked or written on the right side of the page. Each question is numbered. Before writing any comment on the comment sheet, write the number of the question to which it refers.

APPENDIX F

TELEPHONE INTERVIEW QUESTIONNAIRE

NOTE:

The wording in the telephone interview questionnaire relative to the television program was changed as follows:

Question eleven on page two

Today at 2:30 P.M. on Mrs. Herring's "Day At Home" Program on T.V., Sister Mary Hermina, President of the P.E.I. Nurses' Association was interviewed concerning Nursing Education on P.E.I. Did you see today's program?

Questions twelve, thirteen and fourteen on page two

Every reference to the newspaper article was changed to refer to the television program.

TELEPHONE INTERVIEW FORM

1.	Hello. May I speak with (Name of subject) Mr(Mrs) -------? My name is(Your name) and I am a registered nurse at (Where you work.) I am calling you on behalf of the Nurses' Association of P.E.I. We want you to answer a few questions for a research project we are doing. It should take about four or five minutes.	Number_____ 1(Name)_____
2.	First, we want to learn something about you. Are you married or single?	2.(Check) ____Married _____Single, ___Widowed Other(describe)_____
3.	Do you live alone or with your family?	3.(Check) _____Alone _____ With family
4.	IF SINGLE OR ALONE ONLY: What is your occupation?	4.Job(Write)_____ (Check) ____Retired,____Student ____Unemployed,Other___
5.	IF NEITHER SINGLE NOR ALONE: What is the occupation of the head of the household?	5.Job(Write)_____ (Check) ____Unemployed, ____Retired,____Other
6.	Are any members of your family or any relatives of yours a nurse- or were they ever a nurse? If so, what was the relationship?	6.(Check) ____Wife ____Sister,____Daughter ____Mother,____Aunt ____Niece, ____Cousin Other(write)_____
7.	Do you know any nurse - not related to you- well enough to call on her socially or to entertain her in your home?	7.(Check)____Yes,___No
8.	In your opinion, which of these three careers would be the best choice for a girl who is about to graduate from the 12th grade of school on the Island? A teacher? a secretary? or a nurse?	8.(Check) ____Teacher ____Secretary,___Nurse
9.	There are 3 schools of nursing on the Island. To the best of your knowledge who operates the nursing schools here?	9.(Check)____Hospitals ____Another answer
10.	Compared with other types of education, it costs a girl very little to go to one of the Island's three nursing schools at the present time. Why - do you imagine - does it cost so little to study nursing as compared with other educational programs?	10.(Check)____Student pays by working. ____Hospital or Health Insurance pays. Other(Write)_____

11.	On Thursday, October 6th there was an article about Nursing Education on Prince Edward Island in the local papers. Did you have a chance to see the paper on that day?	11. (Check)---Yes, ---No
12.	Did you read the article about nursing education?	12. (Check)---Yes, ---No
13.	ONLY IF YES TO #12 Can you now recall anything the article said? IF "YES" What do you remember?	13. IN INTERVIEWER'S OPINION: Could subject recall anything? (Check)---Yes, ---No
14.	The newspaper article on nursing education pointed out that many groups such as our own P.E.I. Nursing School Advisory Committee recommend that we stop having our hospitals conduct the schools of nursing and that instead we put nursing education along with other types of education in our technical schools and colleges. They recommend that the student nurse's hospital experience be limited to what she needs to learn and that no student nurse should have to work in the hospital in order to repay the cost of her training. As you see it, would the move to take the training of nurses out of hospitals and to put all nursing education under the control of colleges or technical schools be a wise move or would it be a bad or foolish move? That is, would it be desirable or undesirable to take the education of nurses out from under the control of hospitals, in your opinion?	14. (Check) --- Desirable --- Undesirable --- Can't say
15.	ONLY IF "DESIRABLE" FOR # 14 If in order to take nursing education from under the control of hospitals, it will be necessary to increase the amount of money which the Province must spend on education, would you still go along with the idea?	15. (Check)---Yes, ---No

TELEPHONE INTERVIEW COMMENTS

APPENDIX G

WORKSHOP PARTICIPANT EVALUATION QUESTIONNAIRE

Number on Tg Form----

THE ASSOCIATION OF NURSES
OF
PRINCE EDWARD ISLAND

WORKSHOP ON TRANSITION IN NURSING EDUCATION

Participants Evaluation

A. After each of the five listed possible outcomes of the workshop, indicate with a check the degree of progress, which in your opinion, was made toward the outcome.

1. Informing you about the attitudes, opinions or actions of other froups of educators and/or health workers which pertain to the future of nursing education.
   Check one (✓).
   ----No progress, ----Some progress, ----Great progress.

2. Stimulating representatives of the various groups to exchange ideas which pertain to the future of nursing education on Prince Edward Island.

   ----No progress, ----Some progress, ----Great progress.

3. Promoting better working relationships among the various groups which must reach agreements about the future of nursing education on Prince Edward Island.

   ----No progress, ----Some progress, ----Great progress.

4. Clarifying the issues which pertain to transition in nursing education on Prince Edward Island.

   ----No progress, ----Some progress, ----Great progress.

5. Contributing toward the beginning stages of solving the problems which face transition in nursing education on Prince Edward Island.

   ----No progress, ----Some progress, ----Great progress.

B. Should additional workshops such as this one be held in the future? Check (✓) one answer.

   ----No

   ----Yes, with the same area of discussion and the same type of group representation of participants.

   ----Yes, with the same area of discussion but with different group representation of participants.

-----Yes, with the same type of group representation of participants but with a different area of discussion.

-----Yes, but with a different area of discussion and a different type of group representation of participants.

C. Were one or more of the beliefs or ideas about the future of nursing education on Prince Edward Island, which you held before attending the workshop, changed during the workshop?

If No, check here: -----No

If Yes, explain here:

Additional comments you would like to make:

APPENDIX H

FORM Trn - QUESTIONNAIRE FOR REGISTERED NURSES

QUESTIONNAIRE FORM Trn

1. Place a check (✓) in front of the time interval that includes your date of birth:

A.----Sept. 1, 1936 - Aug. 31, 1946

B.----Sept. 1, 1926 - Aug. 31, 1936

C.----Sept. 1, 1916 - Aug. 31, 1926

D.----Before Sept. 1, 1916.

2. Place a check (✓) in front of the phrase which describes your place of birth:

A.----Prince Edward Island

B.----An Atlantic Province but not Prince Edward Island (Newfoundland, Nova Scotia, New Brunswick)

C.----Canada, but not an Atlantic Province

D.----North America but not Canada

E.----Outside North America

3. Place a check (✓) in front of the phrase which describes your basic or initial preparation in nursing:

A.----School for Nursing Assistants

B.----Hospital School of Nursing (leading to R.N.)

C.----College or University School of Nursing.

4. Place a check (✓) in front of the phrase which shows the geographic relationship of the school of nursing which you attended to your family's place of residence at the time:

A.----In the same town

B.----In different towns but in the same Province

C.----In different provinces but in the same country

D.----In different countries.

5. Indicate with a check (✓) the type of basic education you would have preferred if you had had the financial means to go to any kind of school, anywhere:

A.---School for Nursing Assistants

B.----Hospital School of Nursing (R.N.)

C.___ College or University School of Nursing:

D.___ College or University Course but not in nursing;

E.___ Other than these.

6. Indicate with a check (✓) where you would have preferred to have had your basic education if you had had the financial means to do so:

A.___ In a different city or town in the Province;

B.___ In a different Province;

C.___ In a different country;

D.___ In the same place in which you had it.

7. Excluding your basic nursing course, indicate by a check (✓) the phrase which best describes your <u>most advanced</u> educational accomplishment:

A.___ Graduated from Grade VIII;

B.___ Graduated from Grade XII;

C.___ Graduated from a one year post-basic diploma course;

D.___ Graduated from college with a baccalaureate degree;

E.___ Graduated from college or university with a Master's degree.

8. Are you presently enrolled in a nursing course in a college or university as a candidate for any of the following? If you are, check the level of the course:

A.___ Yes, Certificate:

B.___ Yes, Baccalaureate Degree;

C.___ Yes, Master's Degree;

D.___ No.

9. Check the position which best describes your activities in nursing at present:

A.___ Staff Nursing Assistant (L.N.A.);

B.___ Charge of Unit-Nursing Assistant (L.N.A.);

C.___ Staff Nurse (R.N.);

D.___ Head Nurse (R.N.);

E.___ Supervisor;

F.___ Public Health Nurse;

G.___ Nurse Instructor;

H.___ Nurse Administrator;

I.___ Other (describe).

10. If your goal is to hold one of the following positions which you do not hold at present, check the position you would like to hold. If you prefer to stay in your present position, check "present position".

A.___ Nurse Administrator;

B.___ Nurse Instructor;

C.___ Public Health Nurse;

D.___ Supervisor;

E.___ Head Nurse;

F.___ Present Position;

G.___ Other (describe)_____

11. If you checked "present position" above, go on to question 12. If it is now or becomes necessary for you to obtain a college degree to hold the position which you checked in question 10 above, which <u>one</u> of the following statements best describes your reaction. Check <u>one</u> statement only.

A.___You would give up the idea;

B.___You would get the required degree if you could receive financial assistance;

C.___You would obtain the required degree if you could do so and still live at home;

D.___You would be willing to leave the Province and use your own financial resources to obtain the required degree.

12. Place a check (✓) in front of the phrase that describes your marital status:

A.___ Single;

B.___ Married;

C.___ Widowed;

D.___ Separated or Divorced.

13. Indicate by a check (✓) your dependents:

A.___ None;

B.___ Parent (s) only;

C.___ Children only;

D.___ Husband only;

E.___ Parent (s) and Husband only;

F.___ Parent (s) and Children only;

G.___ Children and Husband only;

H.___ Parent (s) Children and Husband;

I.___ Dependents not listed above.

14. If you are married and your husband is working, answer this question. Otherwise go on to question 15.
If you were to stop nursing, which one of the following statements would best describe the most extreme result of your loss of income?

A.___ Your family could not get along without some outside financial assistance;

B.___ Your family would have to reduce the amount of money it now spends on living expenses (the cost of food, clothing, rent and services);

C.___ Your family would have to reduce the amount of money it now uses for recreation, vacations, education, and/or savings;

D.___ There would be little noticeable financial effect upon the family.

15. In each of the ten following statements, the term "collegiate nurse" refers to a nurse who studied nursing in a college or university where she received a degree in nursing. About half of the required college credits were in nursing. Part of the nursing credits were for classwork and part were for nursing laboratory--that is, for clinical nursing experiences in a hospital or health agency. In each of the ten statements, the collegiate nurse is being compared with an (R.N.) graduate of a hospital nursing school. Whether your opinion is based upon first-hand experience, upon what you have heard, or just upon common sense, indicate after each statement whether or not you agree with it. Check (✓).

A. The collegiate nurse has a better understanding of the patients' psychological and social needs. Agree___ Disagree___.

B. The collegiate nurse has greater difficulty in establishing a warm and friendly nurse-patient relationship. Agree___ Disagree___

C. The collegiate nurse exercises better judgment in emergency.
Agree____ Disagree____

D. The collegiate nurse is more apt to be awkward and clumsy in handling equipment and performing procedures.
Agree____ Disagree____

E. The collegiate nurse has greater difficulty in adjusting to a new clinical situation.
Agree____ Disagree____

F. The collegiate nurse makes more rapid advancement toward becoming a skilled nurse practitioner than the hospital graduate.
Agree____ Disagree____

G. The collegiate nurse is more apt to prefer teaching or administration to bedside nursing.
Agree____ Disagree____

H. The nursing care given by the collegiate nurse shows better planning to meet the needs of the individual patient.
Agree____ Disagree____

I. The collegiate nurse shows a better understanding of how the physician's care of the patient relates to the nursing care of the patient.
Agree____ Disagree____

J. The collegiate nurse is more apt to impress the physician as being overly critical or uncooperative.
Agree____ Disagree____

16. <u>Answer this question only if you are an R.N. graduate of a hospital nursing school.</u>

In your opinion, what part of the time that you as a student in the hospital nursing school spent in the hospital clinical units was necessary and essential to your basic education in nursing?

Check one of the following:

A.____All of it;

B.____Not all, but at least 75 percent of it;

C.____Less than 75 percent, but at least one-half of it;

D.____Approximately one-half of it;

E.____Less than one-half of it.

APPENDIX I

FORM Tsn - QUESTIONNAIRE FOR NURSING STUDENTS

QUESTIONNAIRE FORM Tsn

1. Place a check (✓) in front of one of the following statements to indicate how old you were on the first day that you attended classes in the school of nursing.

   A.---Under 18 years of age

   B.---18 or 19 years of age

   C.---20 or 21 years of age

   D.---Over 21 years of age

2. Place a check (✓) in front of the phrase which describes your place of birth:

   A.---Prince Edward Island

   B.---An Atlantic Province but not Prince Edward Island (Newfoundland, New Brunswick, Nova Scotia)

   C.---Canada, but not an Atlantic Province

   D.---North America but not Canada

   E.---Outside North America

3. Place a check (✓) in front of the phrase which describes your father's place of birth.

   A.---Prince Edward Island

   B.---An Atlantic Province but not Prince Edward Island (Newfoundland, New Brunswick, Nova Scotia)

   C.---Canada, but not an Atlantic Province

   D.---North America but not Canada

   E.---Outside North America

4. A. If your father is living and working, describe the kind of work that he is doing and the type of business he is in. For example, one answer might be ---"Truck Driver - Transportation".

   Write here;_____

   B. If your father is not living, write "deceased". If he is not working because he is physically unable to do so, write "unable to work". If he is able to work but is not employed, write "unemployed".

   Write here;_____

5. Place a check (✓) in front of the phrase which describes your father's highest educational achievement:

A.---No formal education

B.---Attended school but did not graduate from grade VIII

C.---Graduated from grade VIII

D.---Attended high school (from grade IX onward) but did not graduate from grade XII

E.---Graduated from grade XII

F.---Attended but did not graduate from a college or university

G.---Graduated from a 2 year college

H.---Graduated from a 4 year college or university.

6. Place a check (✓) in front of the phrase which describes your mother's place of birth:

A.---Prince Edward Island

B.---An Atlantic Province other than Prince Edward Island (Newfoundland, New Brunswick, Nova Scotia)

C.---Canada, but not an Atlantic Province

D.---North America but not Canada

E.---Outside North America

7. A. If your mother is living and working outside of the home, describe what she does and the type of business that she is in.

Write here:_____

B. If your mother is not living, write "deceased". If she has no employment outside of the home, write "housewife".

Write here:_____

8. Check the phrase (✓) which best describes your mother's highest educational achievement:

A.---No formal education

B.---Attended school but did not graduate from grade VIII

C.---Graduated from grade VIII

D.---Attended high school (grade IX onward) but did not graduate from grade XII

E.---Graduated from grade XII

F.---Attended but did not graduate from college

G.---Graduated from a 2 year college

H.---Graduated from a 4 year college or university

9. Did your mother ever study to become a nurse? Check one --Yes--No.

10. Indicate with a check (✓) the type of school which you would prefer to be in if you were able to go to any school of your choice:

A.---School for Nursing Assistants

B.---Hospital School of Nursing (R.N.)

C.---College or University Nursing Course

D.---College or University Program other than in nursing

E.---Other, describe_____

11. Indicate with a check (✓) where you would like best to be attending school if you had the financial means to do so:

A.---In a different city in the Province

B.---In a different Province

C.---In a different country

D.---In the same place where you are presently attending

12. Check the highest position which you hope to hold in nursing:

A.---Staff Nursing Assistant

B.---Charge of unit - Nursing Assistant (L.N.A.)

C.---Staff nurse (R.N.)

D.---Head Nurse

E.---Supervisor

F.---Public Health Nurse

G.---Nurse Instructor

H.---Nurse Administrator

I.---Other

(describe)_____

13. If it is now or if it becomes necessary for you to obtain a college degree in order to hold the position which you checked in question 12 above, which one of the following statements best describes your reaction? Check one only.

A.---You would give up the idea

B.---You would get the required degree if you received financial assistance

C.---You would obtain the required degree if you could do so and still live at home

D.---You would be willing to leave the Province and use your own financial resources in order to obtain the required degree.

14. Indicate with a check (✓) the length of time (not necessarily one continuous period of time) that you want to work as a nurse on Prince Edward Island after you graduate from nursing school.

A.---No time

B.---Several months but less than one year

C.---At least one year but less than five years

D.---Longer than five years.

15. Check the phrase (✓) which best indicates how long you would like to remain active in nursing:

A.---Until you reach retirement age

B.---Until but not after you marry or marry and have children

C.---Until you marry and have children and then return to active nursing after the children are grown.

16. In each of the ten following statements, the term "collegiate nurse" refers to a nurse who studied nursing in a college or university where she received a degree in nursing. About half of the required college credits were in nursing. Part of the nursing credits were for classwork and part were for nursing laboratory - that is, for clinical nursing experience in a hospital or health agency. In each of the ten statements, the collegiate nurse is being compared with an (R.N.) graduate of a hospital nursing school.

Whether your opinion is based upon first-hand experience, upon what you have heard, or just upon common sense, indicate after each statement whether or not you agree with it. Check (✓).

A. The collegiate nurse has a better understanding of patients' psychological and social needs.
Agree---- Disagree----

B. The collegiate nurse exercises better judgment in emergency situations.
Agree---- Disagree----

C. The collegiate nurse has greater difficulty in establishing a warm and friendly nurse-patient relationship.
Agree---- Disagree----

D. The collegiate nurse is more apt to be awkward and clumsy in handling equipment and performing procedures.
Agree---- Disagree----

E. The collegiate nurse has more difficulty adjusting to a new clinical situation.
Agree---- Disagree----

F. The collegiate nurse makes more rapid advancement toward becoming a skilled nurse practitioner.
Agree---- Disagree----

G. The collegiate nurse is more apt to prefer teaching or administration to bedside nursing.
Agree---- Disagree----

H. The nursing care given by the collegiate nurse shows better planning to meet the needs of the individual patient.
Agree---- Disagree----

I. The collegiate nurse shows a better understanding of how the physician's care of the patient relates to the nursing care of the patient.
Agree---- Disagree----

J. The collegiate nurse is more apt to impress the physician as being overly critical or uncooperative.
Agree---- Disagree----

17. <u>Answer only if you are going to graduate from the school of nursing within one year</u>.

Some nurse educators claim that the nursing course such as you are now taking could be shortened appreciably without lessening its educational value. Check to indicate whether or not you agree or disagree with these nurse educators
Agree---- Disagree----

If you checked agree, state as briefly as possible how in your opinion the course could be shortened.

Write here_____

_____

APPENDIX J

FORM Tss - QUESTIONNAIRE FOR HIGH SCHOOL SENIORS

QUESTIONNAIRE FORM Tss

1. Place a check in front of the phrase which describes your place of birth.

A.----Prince Edward Island

B.----Newfoundland, New Brunswick or Nova Scotia

C.----Somewhere else in Canada

D.----The United States

E.----Somewhere other than the places listed above.

2. Place a check in front of the phrase which is your father's place of birth.

A.----Prince Edward Island

B.----Newfoundland, New Brunswick or Nova Scotia

C.----Somewhere else in Canada

D.----The United States

E.----Somewhere other than the places listed above.

3. If your father is alive and working, write on the line below the kind of work he is in and what he does. For instance, someone's answer may be, "Foreman in a food processing plant". In case your father is not employed, write "unemployed". If he is physically unable to work, write "unable to work". If your father is dead, write "deceased".

Write here: _____

4. Place a check in front of the phrase which describes the highest type of education that your father has ever had.

A.----No schooling of any kind

B.----Attended grade school

C.----Graduated from grade VIII

D.----Attended high school from grade IX onward

E.----Graduated from grade XII

F.----Attended college

G.----Graduated from a 2 year college

H.----Graduated from a 4 year college or university

5. Place a check in front of the phrase which is your mother's place of birth.

A.----Prince Edward Island

B.----Newfoundland, New Brunswick or Nova Scotia

C.----In Canada, other than above

D.----The United States

E.----None of the places listed here.

6. If your mother is alive and works outside the home, write on the line below the kind of work she is in and what she does. If your mother has no employment outside the home, write "housewife". If your mother is dead, write "deceased".

Write here: _____

7. Place a check in front of the phrase which describes the highest type of education that your mother has ever had.

A.----No schooling of any kind

B.----Attended grade school

C.----Graduated from grade VIII

D.----Attended high school from grade IX onward

E.----Graduated from grade XII

F.----Attended college

G.----Graduated from a 2 year college

H.----Graduated from a 4 year college or university

8. Did your mother ever attend a school of nursing? ---Yes ---No.

9. Place a check in front of the phrase which describes your highest educational goal.

A.----Graduation from grade XII

B.----Graduation from a vocational school (Technical institute)

C.----Qualify for Teacher's license

D.----Completing first two years of college

E.----Graduating from college with a bachelor's degree

F.----Graduating from university with a Master's or a Doctor's degree.

10. If you checked answer "A" in question 9, skip to question 11. If you checked your goal to be "B", "C", "D" or "E", which of the following would you need most in order to achieve your goal?

If you would not need any of the first four things listed, then check the last answer, "none of the above".

A.----Money to pay your tuition, room and board

B.----Money to support your family

C.----A school nearer to your home

D.----A school with easier entrance requirements.

E.----None of the above

11. If you plan to work after you have reached your educational goal, check one of the first four following places to indicate where you would most prefer to be employed. If you plan to be a housewife only with no outside job, check the last answer, "Do not plan to seek employment."

A.---Prince Edward Island

B.---Elsewhere in Canada

C.---United States

D.---Some place other than Canada or the U.S.

E.---Do not plan to seek employment.

12. Check the one of the following phrases which best describes your reaction toward a career in nursing.

A.---You never seriously considered nursing as a career.

B.---You once wanted a career in nursing but changed your mind about it.

C.---You want a career in nursing.

If you checked "C" and you have applied to one or more schools of nursing, write below the name and location of each nursing school to which you applied.

_____

_____

13. How in your opinion have certain people influenced your decision about a career in nursing? If you discussed a nursing career with the person and they encouraged you to become a nurse, check after the type of person "encouraged". If they advised against going into nursing, check "Discouraged." If they did not discuss a career in nursing with you, check "Didn't discuss."

A. Your mother	--- Encouraged	---Discouraged	---Didn't discuss
B. Your father	--- Encouraged	---Discouraged	---Didn't discuss
C. Other relatives	--- Encouraged	---Discouraged	---Didn't discuss
D. School teachers	--- Encouraged	---Discouraged	---Didn't discuss
E. School counselors	--- Encouraged	---Discouraged	---Didn't discuss
F. School nurse	--- Encouraged	---Discouraged	---Didn't discuss
G. Priest or minister	--- Encouraged	---Discouraged	---Didn't discuss

14. On the basis of what you know or have heard about why girls go into nursing, indicate with a check the one of the following reasons which is the most common reason for a girl to choose a career in nursing. Check one only.

A.---A nursing course is an inexpensive type of education with room and board provided by the hospital.

B.---The nursing school is located close to where the student nurse's family lives.

C.---Nursing is a means by which a girl with deep religious or moral convictions can help her fellowman.

D.---Nursing is a good preparation for marriage.

E.---The entrance requirements for nursing schools are not as high as entrance requirements for other professions.

F.---Nursing is one career in which women are not dominated by men.

15. Many girls, however, consider nursing as a career and decide against it. Check the one of the reasons below which in your opinion is the most common reason for a girl to decide against a career in nursing.

A.---It takes too strong a stomach to work with sick and injured people.

B.---Nursing requires too much hard, physical work.

C.---Graduate nurses usually are not very cultured and have few interests outside of nursing.

D.---Nurses receive too little money for the work that they do.

16. Whether or not you have decided to become a nurse, imagine that you are in the process of making a decision. After each one of the following conditions check to indicate whether it would make a career in nursing more or less attractive to you.

A.	Reduce the length of the nursing course from three years to two years.	---More attractive ---Less attractive
B.	Make all nursing courses into university courses leading to a baccalaureate degree.	---More attractive ---Less attractive
C.	Allow student nurses to live at home or in a sorority house.	---More attractive ---Less attractive
D.	Include in the nursing course subjects such as history, art and philosophy.	---More attractive ---Less attractive
E.	Decrease the amount of time the student nurse spends working in the hospital.	---More attractive ---Less attractive

Which of the above conditions A,B,C,D, or E would in your opinion make a career in nursing most attractive? Place a check (✓) in front of the letters A,B,C,D, or E to signify this.

APPENDIX K

FORM Tg - QUESTIONNAIRE FOR ALL CATEGORIES IN THE POPULATION

FORM Tg

W H A T D O Y O U T H I N K

ABOUT CHANGES THAT HAVE BEEN RECOMMENDED FOR NURSING EDUCATION ON PRINCE EDWARD ISLAND?

The following information is important to YOU. Read it with care. In all probability you will sometime during your life require some sort of health services which include the care of a registered nurse. What sort of care the nurse gives you will depend directly on the way she has been trained or educated. At this moment the Island's Nurses' Association is considering plans for changing the way in which nurses are educated here. The experts who recommended the changes think that they will improve nursing on the Island. The Nurses' Association wants to know: What do you think?

In order for you to react to the recommended changes you must first know the answers to two questions:

1. How is nursing education conducted here at present?
2. What changes have been recommended?

Therefore, before you are asked to say whether or not you agree with aspects of the recommended changes, you will be given broad, general answers to the two questions. Along with the answers are groups of statements which you will check as being either "true" or "false" in light of what you have just read. The checking will help you to make certain that you understand the answers.

QUESTION: How is nursing education conducted on Prince Edward Island at present?

ANSWER: As you may already know, girls who are presently studying in a school of nursing on the Island are enrolled in one of three hospital nursing schools. Each school is both conducted and financially supported by the hospital. In each school the nurse teachers are all hospital employees. Throughout the three years of the nursing course, the nursing students live in a residence on the hospital grounds. As the nursing course progresses, the nursing student gives more and more care to patients in the hospital. In fact some studies have shown that about one-third of all care given in a hospital was given by nursing students. It is thought that in this way the nursing student helps to repay the hospital for some of the cost of her education.

On the basis of what you have just read, check each statement as "true" or "false".

A. true---false--- The three P.E.I. nursing schools are conducted by hospitals.

B. true---false--- Nurses who teach in the three schools are employed by the Department of Education of Prince Edward Island.

C. true--- false--- It has been shown that at least one third of the nursing care in a hospital may be given by nursing students.

(You should have checked "true" for A and C and "false" for B)

QUESTION: What changes in nursing education have been recommended for Prince Edward Island?

ANSWER: Two changes that are particularly significant:

1. that all nursing courses be conducted by educational institutions and not by hospitals
2. that two kinds of nursing courses be established to replace the present nursing courses.

Virtually all experts in nursing education now agree that nursing courses should be taken out of hospitals and placed under the control of educational institutions. The experts point out that the main business of the hospital is as it should be to take care of patients. Therefore, operating a school of nursing can not be the main purpose of a hospital. The experts claim that the hospital becomes so concerned about providing the best care possible for its patients that it is apt to think of the nursing student primarily as a source of help in patient care. As a result, there is the danger of losing sight of education of the nursing student. The experts say that the way to remedy the situation is to take nursing education out from under the control of the hospital and establish nursing courses in colleges, universities or technical institutes only.

On the basis of what you have just read, check each statement as "true" or "false".

D. true---false--- Experts say that the main business of a hospital is education.

E. true---false--- The more the hospitals rely on nursing students to care for patients, the more the hospitals think about education.

F. true---false--- The experts believe that the main purpose of the hospital should be to give care to patients.

(You should have checked D and E as "false" and F as "true").

Many experts agree on the second recommended change - establish two kinds of nursing courses. One course would be a four year college program granting a degree to the graduate. The other course would be a two year diploma program. Eventually the four year degree and the two year diploma programs would replace the three year diploma programs.

The degree nurse would be the nurse who would make the final decisions on the type of nursing care that a patient would get. Working in line with the doctors overall plan of treatment, the degree nurse would plan the nursing care of all patients.

Preparation of the degree nurse would resemble preparation for members of any profession. The degree nursing course would be given in a university.

The experts recommend that several (probably three) 2 year diploma nurses work under the direction of one degree nurse. In order to be able to assist in carrying out the degree nurse's plan of care, the 2 year diploma nurse would have to be skilled in nursing procedures and in the use of certain kinds of medical equipment. Although not all experts are in complete agreement about the details of how the 2 year diploma nurse of the future should be educated, they do agree on two main points. The first point is that the 2 year diploma nursing course should be under the control of an educational institution, such as a junior college or a technical institute and should not be under the control of a hospital. The second point is that the 2 year diploma nursing student should not have to defray the cost of her education by working in the hospital. The cost of the nursing course would be part of the total cost of operating the college or institute.

On the basis of what you have just read, check each statement as "true" or "false".

G. true---false--- The experts recommend that two different kinds of courses replace the present hospital school nursing courses.

H. true---false--- It is recommended that 2 year diploma nurses plan the nursing care for all patients.

I. true---false--- The 2 year diploma nurse would pay for much of the cost of her education by giving nursing care in the hospital.

(You should have checked "true" for G and "false" for H and I.)

At least one expert has recommended that Prince Edward Island should not attempt to offer both types of nursing courses. The expert says that nursing education on the Island should be limited to diploma nursing courses only. This would mean that any P.E.I. girl who wanted to prepare for nursing at the degree level would have to do so at some university outside of the Province.

On the basis of what you have just read, check each statement as "true" or "false".

J. true---false--- Prince Edward Island already has a university course designed to grant a degree in nursing.

K. true---false--- One expert says that the Island should educate diploma nurses only.

(You should have checked "false" for J and "true" for K.)

The next ten statements you read represent the opinions of various people about the future of nursing education on Prince Edward Island. Read each one of them carefully. Then if you agree with the opinion expressed in the statement, check "agree". If you do not agree with it, check "disagree". If you have no opinion about it, check "no opinion".

Statements

1. A good nurse is someone who can sympathize with a patient and in whom a patient can confide. You don't learn to be such a person in a classroom in a college but rather at the patient's bedside in the hospital.

   Agree----- Disagree----- No opinion-----

2. Just like any other student, a nursing student should be able to take a course such as music or art in order to develop herself culturally.

   Agree----- Disagree----- No opinion-----

3. Graduate nurses receive so little money for their work that it would be unfair to require a nursing student to spend even more time and money to get a college degree in nursing.

   Agree----- Disagree----- No opinion-----

4. Whatever plans are made for nursing education on Prince Edward Island, there should be at least two nursing schools - one for girls who want a religious education and one for girls who want a nonsectarian education.

   Agree----- Disagree----- No opinion-----

5. Considering (1) that experts say that Prince Edward Island is best suited to educating diploma nurses and (2) that the need for diploma nurses is three times as great as the need for degree nurses, we should aim to have only 2 year diploma programs here and let the other provinces provide degree programs for nurses.

   Agree----- Disagree----- No opinion-----

6. The degree nurse who will plan the nursing care for each patient has a responsibility as great as do people in other professions. Like them, this nurse should have a university education.

Agree----- Disagree-----No opinion-----

7. Our decisions about the future of nursing education on Prince Edward Island should not be influenced by what nursing education is like in the United States. The more our nursing education differs from their's, the more we are likely to keep the nurses who graduate from our nursing schools.

Agree----- Disagree-----No opinion-----

8. The educational institutions can do a better job of educating the nurse than can the hospital. Any additional tax money that would have to be spent to put nursing education in educational institutions would be a sound investment.

Agree----- Disagree----- No opinion-----

9. Medicine is advancing so rapidly that what the nurse learns in hospital today is apt to become outdated in just a few years. Therefore, it is important that all nurses study the basic underlying principles of science at the college or university level.

Agree----- Disagree----- No opinion-----

10. If P.E.I. girls who want to study at the degree level in nursing would have to leave the Province in order to do so, few of them would return here after they are graduated from the nursing course.

Agree----- Disagree----- No opinion-----

VT 011 936
Connor, Thomas R.
Evaluation of an Attempt to Alter the Training and Opportunity Structure for Lower Level Health Personnel.

Prince Edward Island NewStart, Inc., Montague (Canada).
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ABSTRACT - Two replications of an Institutional Attendant's Training Project were conducted with 12 female and seven male rural residents of kings County, Prince Edward Island in an attempt to improve labor market experience of the participants, open up new training and employment opportunities, and improve the quality of service available in health institutions. Prior to the training course, the participants were enrolled in preemployment training which consisted of 6 weeks of basic education and social development and an orientation program to business skills and institutional attendants training. The occupational training component was composed of 172 hours of program time consisting of basic nursing procedures, orientation to the hospital, and basic anatomy and physiology. Analysis of test scores before and after instruction revealed that gains were made in the instructional components, but there was much less success in placing female participants than males in the type of employment for which they had trained. (SB)

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Prince Edward Island NewStart, Inc.

EVALUATION OF AN ATTEMPT TO ALTER THE TRAINING AND OPPORTUNITY STRUCTURE FOR LOWER LEVEL HEALTH PERSONNEL

by

Thomas R. Connor

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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EVALUATION OF AN ATTEMPT TO ALTER THE TRAINING AND OPPORTUNITY STRUCTURE FOR LOWER LEVEL HEALTH PERSONNEL

by

Thomas R. Connor

Prince Edward Island NewStart,
Incorporated

Montague, Prince Edward Island

September, 1970

ABSTRACT

Two replications of an Institutional Attendant's Training project were conducted with twelve female rural residents of Kings County, Prince Edward Island and seven similar males. The first replication began in November 1969 and concluded in March 1970. The sixteen week program consisted of the same three major components as the previous course. The second replication ran only twelve weeks in Spring of 1970, but was similar in most other respects.

Project objectives, treatments, and study methods were similar to the first course. That is, through a participatory training program and cooperation with the employer to open up the occupational opportunity structure, and effect improved labor market status of the trainees.

Test scores before and after instruction were analyzed to evaluate outcomes of the three components. Analysis concluded that significant gains were made in all of the components, but there was much less success in placing female participants in the type of employment for which they had trained, than for males.

THE PROGRAM FOR FEMALES

INTRODUCTION:

An increasingly serious problem in today's modern hospitals is the impersonalization of patient care, which results from the employment of specialists to cope with the complexity of modern medical advances. The institutional attendant is in the position, through day to day contact with the patient, to establish a cooperative, rewarding relationship, which may contribute importantly to the patient's satisfactory recovery. In addition, the institutional attendant may be required to assume greater responsibility for therapy, under the direction of professional personnel. Therefore, the preparation of the institutional attendant in the art of bedside nursing is becoming increasingly important.

In Prince Edward Island there are six government supported institutions utilizing institutional attendants who, in the past, have been employed without previous training. The hiring of untrained people in this particular occupation has resulted in a low level of work efficiency, a high turn-over of staff, and difficulty in attracting recruits to meet the increasing demand for staff.

For the past nine years there has been a licensed nursing assistants' training program for females with Grade 10 education, but no such course is available for males, and no training has been available for the lower level attendants.

In Kings County, Prince Edward Island, there is a high rate of unemployment, due in part to lack of education and motivation to seek em-

ployment in other areas. Traditionally, persons in Kings County are engaged in seasonal employment at the local fish and sea food plants or in primary industries.[1] Consequently, it was felt that the program of training institutional attendants would have the following beneficial effects: It would improve the labor market attachment of participants, open up new training and employment opportunities in the Province and improve the quality of service available in health institutions.

Prince Edward Island NewStart felt there was a further need for trained personnel in this field, and arrangements were made with the Provincial Civil Service Commission to cooperate in the operation of a pilot project for training health institutional attendants, and to place program graduates.

Female Institutional Attendants in Prince Edward Island, just as males have been, are still hired without any training. However, unlike males, female attendants remain in employment longer than males so, there is not the problem of high turnover of staff. Therefore, NewStart felt it would be more difficult to find jobs for female graduates of the program.

PROGRAM ORIENTATION:

In general, this program corresponded to the Economic Council of Canada's view of poverty programs in that it hoped to embrace the fourfold categories of "manpower training, individual improvement programs,

community betterment programs and income maintenance programs."[2] To a varying degree, all of these aspects were present in the institutional attendants course.

Initially, the participants were enrolled only in pre-employment training, but after taking part for six weeks in basic education and social development it was felt that they shoud have the choice of taking part in an orientation program to business skills and institutional attendants training. After the orientation to both occupations, participants could decide between them for training. Twelve females decided to take advantage of the institutional attendants program simply because, according to reports of their counsellors and instructors, it was the least unattractive alternative available. This caused some concern on the part of instructors, since a majority of the participants showed a definite lack of interest as the course proceeded.

TARGET POPULATION AND RECRUITMENT:

As noted above, individuals recruited into this program were females who had been previously enrolled in more general and basic NewStart courses. They had originally been identified as disadvantaged educationally or by labor market experience through the NewStart Human Resources Survey. Females so identified who were also eligible for Occupational Training Allowances were contacted personally by the NewStart Recruitment Officer and invited to enroll for training. They were placed in basic

education and pre-employment skills training, but the choice of occupational training was left open to them.

TABLE 1-1

LABOR MARKET STATUS OF PARTICIPANTS PRIOR TO ENTERING TRAINING

Subject Number	Employment Status	Last or Present Position
1	unemployed 2 mos.	labourer
2	unemployed 3 mos.	labourer
3	unemployed	clerk
4	unemployed 3 mos.	labourer
5	unemployed 14 mos.	machine operator
6	unemployed 15 mos.	labourer
7	employed	Nursing Attendant
8	unemployed 10 mos.	labourer
9	unemployed 3 mos.	labourer
10	unemployed 3 mos.	labourer
11	unemployed 2 years	labourer
12	employed	waitress

PROGRAM DESCRIPTION:

The following describes only the occupational training component, since the other two components are described in an earlier paper,[3] and will be evaluated in subsequent reports.

As before, the occupational training component was composed of 172 hours of program time. Initially, the participants were divided into two groups according to their range of intelligence and basic education achievement. Each group took nursing skills training only one hour per day initially. After completion of six weeks the time spent on the occupational component was increased to three hours per day and social development was phased out. This routine was followed until the final two weeks of the program, which were devoted entirely to practicing nursing procedures.

Twelve hours were given over to orientation, which was comprised of a general introduction to life in a hospital, ethical responsibilities of an institutional attendant, and physical and emotional needs of the patient. This segment was taught by lectures, followed by discussions in which trainees were encouraged to participate. Instructors found this to be very difficult, especially with the slower group, who seemed to find it difficult to offer anything in the way of discussion. Also, because they were a slower group, it was reportedly necessary at times to repeat the previous day's assignment.

Thirty hours were spent in learning Body Structure and Functions. This section caused problems for both groups. The Instructors attributed this to the novelty of the concepts and the difficult spelling and pronunciation of many medical terms. To help make these learnings easier, the words were also given as part of the spelling lessons in the language section of basic education. With considerable repetition they were able to acquire the knowledge and understanding that was felt necessary.

The Registered Nurses who taught the course felt that the audio-visual aids which were used throughout were of great value to the trainees. Comprehension seemed much better than when only lecture methods were used. Closed circuit T.V. - a recommendation which was put into effect following the previous course - was used to assist in learning some nursing procedures, and was felt to be quite helpful.

The field trips to local institutions which were also used previously, were modified, becoming in fact very much like two weeks of on-the-job-training under the supervision of the two instructors. As before, the reality situation proved very useful in understanding more clearly the actual role of an institutional attendant.

The instructors reported that the course content was satisfactory, with the exception of the problem encountered in learning body structure and function. To overcome this problem, more time was devoted to this portion. These learnings are felt to be essential since attendants must differentiate between health and serious ill-health.

Table 1-2 presents the results of examinations of course content of the twelve participants.

TABLE 1-2

BASIC NURSING PROCEDURES: RESULTS OF EXAMINATIONS

Subject Number	Orientation	Body Functions Mean Score	All Materials	Final Theory	Final Practice
1	96%	97.4	56%	73.5%	60%
2	91%	82.2	56%	72%	70%
3	86%	67.7	76%	66.5%	68%
4	96%	84.4	50.5%	76.5%	70%
5	88%	70.2	Left Course	---	---
6	90%	91	66%	81.5%	78%
7	92%	89.6	58%	74.5%	69%
8	95%	87.6	53%	69%	65%
9	75%	72.2	56%	Left Course	---
10	70%	66	50%	53.5%	Failed
11	90%	55.4	40.5%	71%	60%
12	90%	67.4	54%	62%	Failed

RESULTS:

Only one of the twelve trainees who started the course actually expressed an interest in employment as an institutional attendant. She was in fact so employed at the time. The others had no such experience and prior to this were ineligible for it since they had left school at grade 6 or grade 7. This lack of interest, experience and formal basic preparation presented difficulties to the instructors and the trainees. Consequently, the instructional period lasted four weeks longer than the previous course.

Two participants dropped out; one because of personal problems, one because she decided she would not be satisfied in that type of employment. Two others failed the examinations, and could not be recommended for employment.

The seven previously unemployed participants who successfully completed the course were interviewed and accepted for employment. None of them accepted it however, since they stated it would not be possible for them to commute to the jobs, due to family responsibilities. After three months, one did accept employment as an attendant in an institution in her home town.

Since the difficulty of commuting was given as the reason for not accepting employment, NewStart made efforts to place graduates as clerks and housekeepers. Three positions were offered, but none were

filled by members of this group. The labor market status of these seven after six months was as follows: one successfully employed as an institutional attendant, one receptionist (seasonal), two grocery clerks, three unemployed.

CONCLUSION:

This program of training for institutional attendants was conducted for twelve unemployed, undereducated females in an attempt to improve their labor market experience. The participants soon proved to be uninterested in the training and subsequently in employment. This disinterest resulted in difficult learning and a one month longer course than had been experienced previously. The successful recruitment effort, and low dropout rate can only be attributed to the granting of the training allowance.

The extreme disinterest in subsequent employment points to a need both for upgrading the image and remuneration of the institutional attendant's position, and for increased selectivity by the training agency.

One further point should be made about this project in comparison to its very similar fore runner for males. The group of females averaged approximately two grade levels lower than the male group on standard achievement tests before training. Yet, with one more month of training, and revisions primarily in the form of repetitive drills, they did satisfactorily complete the course and qualify for employment. It seems clear that a very brief training program can obviate the established grade level

requirement of the Provincial Civil Service Commission for institutional attendants.

THE SECOND PROGRAM FOR MALES

INTRODUCTION:

The second replication of the institutional attendants training program was conducted as a component of the comprehensive manpower development system of Prince Edward Island NewStart. As such, it attempted to answer certain questions of recruitment and selection, and was the final attempt to alter the structure of training and employment opportunities for lower level health personnel in Prince Edward Island.

The twelve week project began on April 27, 1970 and concluded on July 10, 1970. The program consisted of three major components: Occupational Training, Basic Education and Pre-employment Skills Training. It aimed to improve the employment level and stability of the participants by supplementing their existing knowledge in basic education and social skills, and improving their occupational skills.

Test scores before and after instruction were analyzed to evaluate outcome of the three components. The analysis led to the conclusion that significant gains were made in all of the components involved and six of the seven participants were employed as institutional attendants following training.

TARGET POPULATION AND RECRUITMENT:

The target population of the comprehensive Manpower Development System is all residents of Kings County, Prince Edward Island, who are underemployed or unemployed, have less than Grade 10 education and are

between the ages of eighteen and thirty five. To enter the institutional attendants training, further requirements were: male, in good health, with emotional maturity and good communications skills, and over grade eight education.

In conformity with the spirit and the operation of NewStart's Manpower System, applicants were acquired through several means. The NewStart Human Resources Survey (1968) yielded one name, but the individual had left the area. One applicant was contacted through the NewStart operated Community Service Centers, an outreach unit in an outlying area. Ten applications were received in response to a newspaper ad. One individual made a general application for training, and two applied for transfer from another NewStart course. Finally, one application was received from a school principal in behalf of a pupil who was performing poorly but expressed interest in this type of training and employment.

In all, fifteen applicants were contacted personally by the NewStart Recruitment Officer; twelve of these were also called for interviews by the Provincial Civil Service Commission. Two applicants were rejected since they were outside of NewStart's target area, and the individual still in school was advised that he would do better to remain there. Three of the twelve failed to come for the interview. Of the remaining nine, six were found satisfactory and were offered employment contingent upon successfully completing the program. Since it was learned that the Civil

Service Commission does not control all job openings for this occupation in the province, those who were rejected by them were also offered the training opportunity. Only one accepted. Consequently, seven young men began the training.

PROGRAM DESCRIPTION:

The basic nursing skills component was composed of 172 hours of program time. Initially the trainees were instructed in nursing skills for three hours per day while the remainder of their time was spent on basic education and pre-employment skills. After a five week period pre-employment skills training was completed and the nursing program time was increased to four hours per day.

Nineteen hours were spent on orientation, fifteen hours of which were at various government health institutions where trainees observed what attendants did in a typical working day. This seemed to be an effective method to help the participant decide if he wished to continue in the program. It had the additional advantage that instructors had a chance to observe the participants and get to know them before having them in a classroom setting.

Thirty-eight hours were spent on basic anatomy and physiology which are essential to the institutional attendant since he must know the terms used by the doctor and other members of the medical team, and understand the normal functions of the body in order to recognize deviations from the normal. Reliance was place on audio-visual aids to supple-

ment lectures and considerable review was imperative.

Seventy hours were spent learning the basic nursing procedures which the trainee had to perform in order to successfully complete the course. This time was centered in the simulated hospital ward as before. Instructors felt fortunate in that they could obtain a filmstrip or film on almost all procedures. Following the showing of filmstrips, the instructors demonstrated the procedures and then had the trainees practice it. Repetition was essential since some experienced difficulty acquiring requisite skills in some procedures.

As the trainees became more knowledgeable and competent in the various procedures, they again were taken on field trips to various institutions for the aged and mentally ill. Here trainees actually practiced some procedures under the eye of their instructors in the clinical setting as did the previous two groups trained. The reality aspects of this activity were again felt to be particularly advantageous by instructors and trainees alike.

A series of teacher devised examinations was used to evaluate trainee achievement of the theoretical and general learning aspects of the course, which were both minor parts of the course and of the evaluation. The examination on procedures was considered more important since nursing procedures form the basic requirements of institutional attendants employment. Examination of skill development in procedures was conducted in the simulated ward using the format used previously. That is,

each trainee was required to successfully demonstrate four nursing procedures, and to achieve a passing score of eleven of a possible fifteen points on each. The results of all examinations are shown in table 2-1.

TABLE 2-1

NURSING COMPONENT - RESULTS OF EXAMINATIONS

Subject Number	Orientation Exam No. 1	Body Function Mean	All Materials	Final Examination Theory	Final Examination Practice
1	80%	60.5	58.5%	61%	80%
2	55%	40	60.5%	49.5%	Failed
3	85%	76	74.5%	67%	80%
4	86%	73	70.5%	74.5%	85%
5	87%	91.7	57.5%	82.5%	85%
6	41%	41.2	35%	55%	Failed
7	71%	79.2	66.5%	69.5%	80%

EVALUATION:

Subjective reports recorded by the instructors indicate that the trainees showed great perseverance in their attempts to understand the course content but that the section dealing with body structure and function proved to be difficult for most trainees. As in the previous courses, they responded enthusiastically to the section on nursing procedures and practices. Instructors also reported that group participation was generally strong throughout the Occupational Training Component.

The nurse-instructors also stated that film and filmstrip presentations greatly enhanced the purpose and contributed to the success of the course. In addition, the field trips proved extremely valuable as they provided more insight into the actual role of an institutional attendant than a simulated hospital setting could hope to provide.

Course content was reportedly satisfactory and any revisions should depend on the intelligence, experience and other attributes of the participants.

At the end of the twelve week training period, five of the seven trainees had sufficiently increased their knowledge and skill in basic nursing procedures to be able to perform adequately as institutional attendants. Two of the trainees who had great difficulty in comprehending the course content also failed their final exams. They were not recommended for employment. One of these was accepted nevertheless, since the employer decided that simply having been exposed to the course made him

more acceptable than some other casual applicant, who would definitely be an unknown quantity.*

The final, unsuccessful, participant gained employment as a store clerk.

TABLE 2-2

LABOUR MARKET ACTIVITY OF THE TRAINEES

Subject Number	Pre-Course Employment Status	Last Previous Position	Post-Course Employment
1	Seasonal employment	Fish Plant	Institutional Attendant
2	Seasonal employment	Fish Plant	Store Clerk
3	Unemployed 2 years	Bus Driver	Institutional Attendant
4	Unemployed 3 mos.	Labourer	Institutional Attendant
5	Unemployed 6 mos.	Labourer	Institutional Attendant
6	Never Employed	Never Employed	Institutional Attendant
7	Employed	Farm Labourer	Institutional Attendant

Follow-up after two months found that the five successfully placed institutional attendants were all still employed at the same institutions as was the one who completed the course but failed to pass the final examinations. These trainees were all started at a higher salary than the trainees

from the preceding courses as the Civil Service Commission decided to give them recognition for having taken the course.

CONCLUSIONS:

The second replication of the NewStart Institutional Attendants Training course lasted twelve weeks and resulted in successful placement of six of the seven participants, though only five passed the course. Another important result was the recognition given to it by the fact that placement of participants was made on the second step of the salary schedule for this occupation.

Unfortunately, there was no evidence of change which would lead to opening up the health occupational ladder so that males can train and become employed as Licensed Nursing Assistants or Registered Nurses in Prince Edward Island. Subsequent to this final replication, however, investigation was initiated by the Provincial Department of Vocational Education into the possibility of that agency conducting this course in the future. As of this writing, the investigation is still progressing, but no decision has been made.

RECOMMENDATIONS:

1. After careful selection, an individual should be employed, then spend one week on a ward prior to entering the training. This should result in improved learning and even more greatly reduced staff turnover.

2. If Provincial departments take over operation of this program, they should look on it as training, not only for institutional attendants, but as entry to the health occupations career ladder, at least to the Registered Nurse level, for both males and females.

3. Grade level requirements for initial employment of institutional attendants appear to be set needlessly high. In so far as persons who successfully complete this program are concerned at least, grade level requirements should be dropped two grades. Alternatively, they could be dropped altogether, making successful completion of this course the only academic requirement.

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ABSTRACT - Vocational education seminars at Florida State University are aimed at assisting advanced graduate level students in investigating timely problems and projects in the field. This particular seminar investigated new and evolving services. Presentations or papers presented in this document include: (1) "Trends in Traditional Services" by Rice, (2) "Exploratory and Introductory Vocational Education (K-14)" by John Shufflebarger, (3) "Industrial Arts as Vocational Education in Florida" by Robert Hertz, (4) "Interrelationships, Interdisciplinary and Cluster Concepts" by Frank Kral, (5) "Cooperative Education" by William Wilkinson, (6) "Vocational Education for the Disadvantaged" by Wanda Olson, (7) "Contracting Services in Vocational Education" by Richard Respess, (8) "Vocational Guidance and Vocational Counseling" by Rodgers, Ripley, and Franklin, (9) "Teacher Education Services" by Josef Weiss, (10) "Public Information Services" by Tom Markin, and (11) "Evaluative Principles of Vocational Education" by Thomas Shortridge. (JS)

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EVOLVING

SERVICES

in

Vocational Education

A SEMINAR REPORT

Summer 1970

VOCATIONAL EDUCATION DIVISION

904 Wildwood Drive

Florida State University
Tallahassee, Florida
32306

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TRENDS IN VOCATIONAL SERVICES

VEN 519 - SEMINAR

THE FINAL REPORT

SUMMER QUARTER

1970

COLLEGE OF EDUCATION
THE FLORIDA STATE UNIVERSITY
DEPARTMENT OF VOCATIONAL EDUCATION
904 WILDWOOD DRIVE
TALLAHASSEE, FLORIDA 32306

AUGUST 14, 1970

REPORT BY:
R. O. GALLINGTON &
CHARLES HOPPER

PREFACE

Within recent years there has been a continuing erosion of the "old" or traditional services in vocational education. Legislation has considerable effect on this process. For example, the Vocational Education Act of 1963 and the subsequent "Amendments" to it in 1968 have virtually eliminated terms such as agricultural education, home economics education and industrial education. These vocational areas were the original "services" as specified in the Smith Hughes Act of 1917 and it subsequent amendments.

Vocational Education Seminars at Florida State University are aimed at assisting advanced graduate level students to investigate timely problems and projects in the field. The current seminar was no exception. The question to the traditional services in vocational education?" An attempt was made this quarter (summer session) to answer this question and many related ones. Some new and evolving services were investigated. No attempt was made to include all facets of such a topic. Only those of special interest to the class enrolled were investigated.

Those participating in the 1970 summer session seminar were:

Angus H. Franklin	Chattahoochee, Florida
Frank A. Kral	Orange County, Florida
Tom Markin	Tallahassee, Florida
Robert D. Mertz	Pompano Beach, Florida
Barbara Jeanette Miller	Knoxville, Tennessee
Wanda L. Olson	Tallahassee, Florida
Richard D. Respess	Duval County, Florida
William K. Ripley	Tallahassee, Florida
Doris W. Rodgers	Tallahassee, Florida
Thomas D. Shortridge	Tallahassee, Florida
John H. Shufflebarger	Venice, Florida
Josef G. Weiss	Dade County, Florida
William E. Wilkinson	Tallahassee, Florida
Charles Hopper	Memphis, Tennessee

Mr. Charles H. Hopper was a research associate in the project with Dr. Gallington.

It is hoped that this presentation will be of value: first to those who developed it; second, to those in advanced vocational education studies at Florida State University who follow; and third, to those whose interests are in Florida State University, particularly educators in the State of Florida.

Ralph O. Gallington, Professor
And Director of Vocational Education

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INTRODUCTION

Miller

Rationale For Vocational Education

Vocational education, as a part of the American public education system, grew out of social and economic need. During the last quarter of the nineteenth and the first quarter of the twentieth centuries industry expanded; one farmer developed the ability to do the work previously done by many; the population became urbanized with a new type of family life for young and old with greater independence of family members on each other; technology contributed to the interdependence of families in relation to health, sanitation and social affairs; and woman suffrage and labor saving devices for the home directed women away from the home into the labor market. Preparation for wage earning in industry became a matter of national concern and governmental investigations which resulted in the first vocational education legislation began. (7:2-3)

Socio-Economic Justification

A principle argument in favor of vocational education is that it is a social and economic necessity. It discourages a person's economic dependence upon society and enables him to become an independent and productive member. It assists him

in adapting to changes so that he remains economically independent. Such an individual not only is not a liability upon society, but is an asset in that he contributes to a raised standard of living.

Vocational education is also seen as an economic aid in that it conserves human and material resources. Human resources are conserved by conserving human effort and promoting morale and intelligence. By conserving human effort and promoting, disseminating and transmitting skills, knowledge, and the results of invention, it conserves material resources. (13:62)

The nature of the contemporary social and economic scene serves as the motivation for change and as the justification for vocational education. Trends which are discernable today and which have implications for vocational education are a continuing population increase; a growing interdependence of areas and states; expanded and improved communications systems; increased mobility and urbanization; increased labor efficiency; increased participation by women in the labor force; increased leisure; increased unemployment and production; fewer employment opportunities for unskilled workers; reduction in employment opportunities for farm labor; an increased supply of qualified manpower, particularly at the skilled, technical, and professional levels; and increased complexity of social relationships resulting primarily from integration. Two major problems resulting from these trends are poverty and unemployment and discrimination. (5:27)

The social environment of the 1960's has been charged with emotion, but vocational education was somewhat prepared for this because of its longstanding recognition of social concern. Since its earliest beginnings in the public education system, it has been committed to all of the people. This was reaffirmed in the Vocational Education Act of 1963, and the Vocational Education Amendments of 1968, which stated that vocational education was for "all people of all ages in all communities." Nevertheless, the social environment of the sixties motivated vocational education to become more alert to the vocational needs of all of the people in relation to a larger segment of the occupational world, including the handicapped and disadvantaged. (2:30)

A person's occupation is the most time-consuming of all of his activities. It sets the tone for social relationships, influences family solidarity, and controls the quantity and quality of civic responsibility and participation. Thus, providing vocational education that is relevant is a definite social advantage. (2:30)

Safeguards For Socio-Economic Objectives

The socio-economic provisions of vocational education are safeguarded through various provisions of the 1968 Amendments. Narrow consideration of the social and occupational needs of the people is prevented through the establishment of advisory councils representing a broad spectrum of American life, broad and inclusive rather than limiting definitions, the inclusion of special needs of youth in research provisions,

state plans intended to keep the program functional at the state level, residential schools which alleviate the problem of drop-outs and youth unemployment, and cooperative programs designed to eliminate the artificial barriers between industry and education. (2:31)

Philosophy of Vocational Education

The need to justify the existence of vocational education is a result of lingering ideas of status and of misunderstanding of the concept of vocational education by the American public. In our society, the baccalaureate and advanced degrees are accorded status; non-college bound programs do not receive the same distinction as college bound. Education was accorded status quite early because usually only men of means could afford it and they participated in it out of desire, not the need to earn a living. Work has traditionally been regarded as something that one must undertake in order to acquire and/or maintain a certain standard of living, and thus has not been given the same status. Many people fail to realize that higher education is now vocational in nature. Colleges and universities are vocational institutions which train people for vocations such as teachers, engineers, scientists, doctors and so forth. (5:24)

An indication of ideas of status is often suggested by the different patterns followed in secondary schools by the academically talented and the slow students. The academically talented are steered away from the vocational subjects while slow students are directed toward vocational subjects. (17:21)

There are some signs that the public's acceptance of vocational education is changing, perhaps because of increased understanding of the needs of society and of the role of vocational education in meeting these needs. Federal legislation has been instrumental in changing public opinion, as have the professional organizations which support vocational education.

Improved understanding also is lowering the differences which have existed between general and vocational education. Instead of isolated subject matter, greater integration is occurring. (9:19) It is recognized that both are phases of a single education program designed to guide the individual toward self-realization. (5:31) Previously, Federal legislation kept them apart through its direction toward subject areas, but examination of the Vocational Education Act of 1963 reveals that it is directed toward people, not subject areas or occupations. (9:21)

General education and vocational education do differ, but are not opposed to one another. General education is needed by all persons. Vocational education differs from one vocation to another and has general education as its foundation. (8:23)

The emphasis of current legislation on meeting the needs of people rather than industry or occupations reflects the current social environment. It is a reflection of a philosophy that is flexible and that can change with the changes taking place now and in the future within the society. It is realized that the student must be equipped with skills that will give him flexibility and independence, skills such as problem-solving and decision-making. (9:21)

Federal Legislation and Current Emphases

Relationship Of Legislation To Socio-Economic Conditions

The Smith-Hughes Act, passed in 1917, grew out of the socio-economic conditions enumerated earlier. It was passed because the apprenticeship system was inadequate for vocational preparation. Between World Wars I and II, three short term supplementary acts were passed with distributive occupations being added. The Great Depression which occurred during this time made the expenditure of large sums of money impossible. The economic situation improved after World War II and in 1946, funds were greatly increased by the George-Barden Act. Funds for guidance, teacher training and research were also authorized. The coming of Sputnik in 1957, resulted in the National Defense Education Act of 1958, providing area vocational education programs and the Area Redevelopment Act. (15:113) Increased unemployment and the environment of social concern in the sixties resulted in the passage of the Manpower Development and Training Act of 1962, the Vocational Education Act of 1963, and the Vocational Educational Amendments of 1968.

Current Emphases

Social needs are reflected throughout the 1968, legislation. Emphasis on the people's needs is strengthened by provision for cooperative programs, exemplary programs, citizenry involvement through advisory boards, and programs for the handicapped and disadvantaged. These emphases should be examined in light of current socio-economic trends. (10:14)

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CHAPTER I

TRENDS IN TRADITIONAL SERVICES

Rice

Background

There are indications that the vocational-general education bi-polarization that has existed in the secondary schools will diminish. The interrelatedness of all areas of knowledge and skill is being recognized and provided for in the elementary and secondary curricula.

Consistent with this trend is a trend toward a change in emphasis in vocational education at the secondary level. Secondary programs will probably change from their present emphasis on preparation for specific jobs to an emphasis on skill development. There seems to be increasing sentiment for the position that elementary and secondary education needs to include provision for development of psychomotor and manipulative skills as well as cognitive skills. The secondary program will be structured so that an individual who leaves the program (either by drop-out or completion) will have attained levels of skill that can be related to specific jobs. (10:226-7)

There are several services encompassed in vocational education. Three of the most important services are agricultural education, home economics education, and industrial

and technical education. These services are an important part of the school program and in very much demand by the institutions of society.

Agriculture Education

Agricultural education objectives are to develop abilities in beginning and advancing in the field of agriculture, producing farm commodities efficiently, marketing them advantageously, conserving soil and other resources, managing the farm business, and maintaining a favorable environment.

Byrl R. Shoemaker proposes the following series of guidelines for the development of sound curriculum material for new agriculture programs:

(1) have reasonable basis in authority

(2) be accurate technically

(3) be adequate in scope to cover the learning unit

(4) written at educational level of students

(5) organized for individual uses

(6) divided into simple learning units

(7) provide for individual student responses and learning evaluation

(8) contain an easy procedure for checking student achievement

(9) be attractive in appearance. (14:61)

The most fundamental cause for curriculum changes was in the primary emphasis of the vocational amendment of 1968 on

groups of people, not occupational areas. Emphasis was on flexible, imaginative approaches to meeting occupational preparation needs. Included in the implications for vocational agriculture are the preparation for specialized jobs in agriculture complex; the need for more effort to improve teaching programs in agriculture; facilities for new program should be flexible; must assume larger responsibility for occupational training of disadvantaged youths; and agriculture education must play an important role in bridging gap between technical advances in agriculture and social change in community. (13:16)

There is a great demand for skilled agricultural workers presently and this demand will continue. (13:17)

Some of the major issues facing agricultural education are in policies. They need to be developed to define the role of agricultural education at each level, i.e., elementary, secondary and post-secondary. Policy decisions need to establish the priorities of services to be offered as well as objectives to be attained. The "total systems approach" should be used in planning agriculture education. Since agriculture education must relate to other elements of vocational education, perhaps it may be better described as a subsystem. The system should provide a means for identifying training needs and employment opportunities for all groups to be served. (11:15)

Home Economics Education

The subject matter areas comprising the field of home economics include: child development and family relationships; food and nutrition; clothing and textiles; family economics and home management; housing and home furnishings; and family health.

Since 1950, there has been a growing need for services of qualified persons to help maintain, strengthen, and safeguard the family during time of crisis. These persons are trained by Home Economics as homemaker and are designated as home-health aids. (1:43)

The State of Michigan designed a program for girls whose record and attitude indicate classic signs of potential drop-out. This program suggested the development of junior high school vocational home economics courses to prevent high school drop-outs from being failures in life. The idea was to provide instruction in fields related to home economics which would be saleable in today's market. This type of program would decrease welfare numbers because the girl is capable of employment as waitress, food preparation assistant, housekeeper, motel-hotel maid, florist assistant, and other similar jobs. (12:39) Since the passage of the 1963 Vocational Education Act, a number of states have developed two-year home economics programs that improve technical training in fields faced with manpower shortages, namely service occupations. These new curriculums serve all people--young and old, men and women.

Industrial and Technical Education

Industrial education is all types of education related to industry, including general industrial education (industrial arts education), and vocational industrial education (trade and industrial education). Technical education is a post-high school program designed to train technicians who represent a classification of workers having responsibilities in such areas as testing development, research, design, production, maintenance, sales, and supervision. "Technical" is defined as that top level of skills and knowledge which is a part of a total occupational area. Preparation for technical occupation requires an understanding of, and ability to apply, those levels of mathematics and science appropriate to the occupation. (3:23)

In Memphis, Tennessee, testing showed an alarming number of high school seniors who read on the sixth grade level or below. A special needs program was then initiated for those students who showed poor reading ability, difficulty with math, and a poor self-image. The age group was 14-17 years. The objectives set up were: (1) to motivate the study to improve his related reading and math skills; (2) to improve ability to use related math and verbal skills; (3) to demonstrate they can achieve better academically when correlating both manipulative and academic subject areas; (4) to develop improved self-image; (5) to help students understand role as productive citizens at work, in the community, and as worthy members of their family; and, (6)

to improve potential employability. All aimed to correct the educational deficiencies of these particular students.

At the end of the first year, the established goals were reached and the program became a necessary part of the curriculum.

The future of vocational education sees an enrollment of over 14 million students in the next decade. An estimated $2,500,000,000 will be spent by both state and federal governments. Training is changing with the times, and a continuing investment in people has become the prime function of the educational establishment. (8:10)

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CHAPTER II

EXPLORATORY AND INTRODUCTORY VOCATIONAL EDUCATION (K-14)

Shufflebarger

Origins and Definitions

The advisory Council on Vocational Education, 1968, "was emphatic in its stand that youth, early in their educational careers, should begin to become acquainted with the world of work." (7:51) This acquaintance with the world of work for the early youth, from the age of five through twelve, can be called exploratory based on, "a commonly accepted idea that young children are curious about everything that is within sight, sound, or reach." (4:91) The reason for limiting exploration to age 12 is because, "as children grow older, their eager reaching out for experience seems to decrease, ... they usually limit and channel their curiosity." (4:91) Therefore, the youth of age 11 through 16, as his curiosity becomes channeled, should have introductory experiences to the world of work. The age range for exploratory and introductory experiences to the world of work does not preclude a student entering the programs at any grade level or age. "The critical matter is not chronological age, but the needs and readiness for the learning involved." (10:74) The youth

of age 16 through 18 years of age are normally found in high school, where they are hopefully beginning to establish a vocational choice.

> As far a vocational choice is concerned there are two broad stages of development, namely, the exploratory stage and the establishment stage. An individual begins crystallizing a vocational preference somewhere between the ages of 18-21. ... The selection of a vocation is essentially a cognitive process, and the typical ninth-grade boy has not reached the stage at which wisdom of vocational preference can be expected. (2:24)

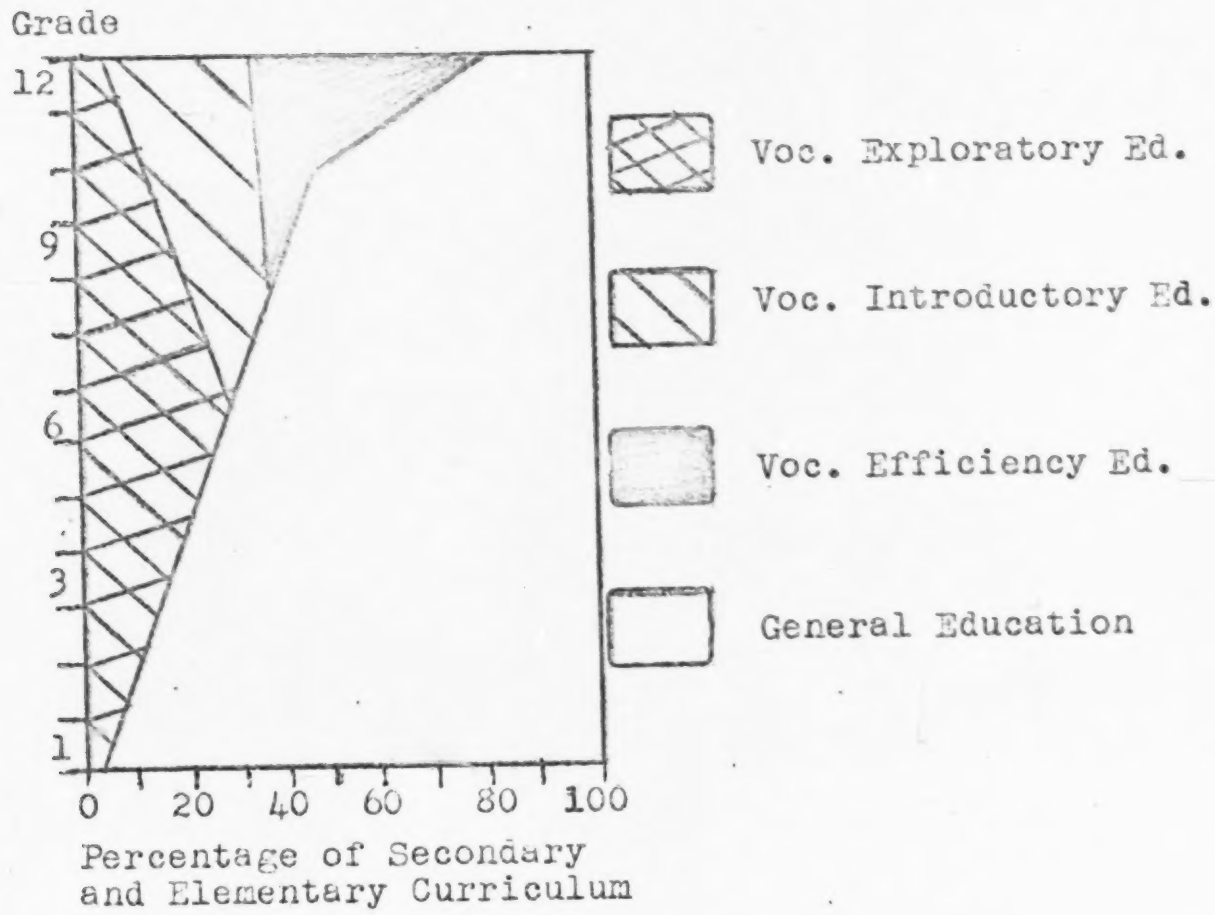
If a youth has been exposed to exploratory and introductory vocational education, he should have the opportunity to complete this crystallization of a vocational preference. This could be accomplished by an in-school cluster program (Chapter IV), cooperative education (Chapter V), a work study program, a work experience program, vocational-technical programs (Chapter I), or a combination of any or all of the above. "The challenge is to develop, implement, and manage programs which have the flexibility to serve the individual needs of each student." (5:115) Figure No. 1 on the next page gives a graphic summary of the program levels K through 12.

Funding

The Exemplary Programs and Project part of the Vocational Education Ammendment of 1968, provide funds for occupational orientation programs:

> (A) those designed to familiarize elementary and secondary school students with the broad range of occupations for which special skills are required and the requisites for careers in such occupations. (13:18)

Figure 1 Proposed Program Levels



Behavorial Objectives

The next consideration must be the setting of the desired educational outcomes based on the three domains which are: cognitive, affective, and psychomotor. In the exploratory program, through grade six, the majority of the objectives fall in the affective domain, that is, changes in student interests, attitudes, and values, and the development of appreciations and adequate adjustments. As the student progresses into the introductory program, an equal share of all three domains is necessary. Finally, as the student begins vocational efficiency education the psychomotor domain must be weighted heavily. (14:7)

Elementary Exploratory Program

There are two methods of introducing the world of work exploratory program into the elementary school:

> First - The kindergarten, primary, and elementary teacher can be used to gradually introduce media and text books which are "world of work" oriented, but are just as usable as reading, writing and arithmetic books now used. Some devices, toys, and impediments used by the teacher could be replaced with "world of work" toys, devices, and equipment which would do the same thing. A coordinator for elementary school vocational education could be appointed to assist, advise, supply, and arrange for inservice training for the participating teachers.
>
> Second - Vocational elementary teachers could be trained and certified to teach around the school core program, meeting with each class at least once a week in a world of work laboratory.

The formal introduction of a world of work program into early child education will void this charge. "Grammar schools have often been charged with being divorced from life and society." (1:29) Headmaster Coggins gives the following guides to remain relevant:

> Both the theory and practice of education should start at ground level -- with man emerging as a tool-using animal. ... We learn by being curious and when we cease to be curious, we cease to be human... Children learn best when they are happy, and projects, which are often like games or puzzles, will help us to achieve Vittorino de Feltre's ideal of the school as "The Joyful House." (1:28,29)

Junior High School

Industrial Arts (Chapter III), has extended into elementary and junior high schools, and could well be expanded from exploratory programs in the limited industrial world to the complete world of work. Where industrial arts programs exist, the efforts should not be duplicated. The program should be intergrated, or a vocational exploratory

or introductory program, less industrial emphasis, should run parallel.

> The jobs for which vocational education is concerned includes all occupations, except those which can be identified as professional and which require a baccalaureate or higher degree as a basic part of vocational preparation. (7:58)

High School

At present, students normally enter the traditional vocational education in the eleventh or twelth grade. Except for introductory courses taken in industrial arts, which all students entering vocational do not take, little or no introductory experience is available.

It is proposed that if students have not articulated through at least one year of the proposed exploratory courses in junior high school, that before entering vocational education, they complete at least one year of exploratory courses. This could be either in grade 10 or 11. Pre-cooperative education courses would meet the requirement for cooperative occupational education courses.

Junior College

The public Florida Junior Colleges, twenty-seven in number, offered 746 vocational courses last year and served almost 60,000 vocational students. (11:1-4)

The terms occupational, semiprofessional, and technical are used in the junior college to denote vocational education for the purpose of gaining "prestige," "brownie points," and leaving the impression that "by selecting the best, they turn out the best." (6:33)

> By 1980 at least 60 percent of all young people in the 18-21 age group will be attending college. ... A recent survey revealed that 81 percent of the 18-21 age group in California enrolled for at least one term in college. (6:33)

An exploratory or introductory program for vocational education in the junior college is needed as, "lack of student interest in a growing occupation may simply reflect a lack of information available to a student." (8:98) About half of the students enrolling in junior college have not made a vocational choice, nor can they relate to occupational opportunities. (9:258) The minimum requirement for these students would be a course surveying the occupational families and directed individual studies in chosen occupations. A desirable program would include this survey course, individual counseling, and a sampling of introductory courses offered by the junior college in selected occupations.

Elementary Vocational Education In The Field

Home economics in Florida is now taught in the elementary schools. There is a sewing program for sixth grade girls in Dade County, and a home improvement course for deprived children in Lafayette County. Mrs. Kitty Funderburk, Consultant for Home Economics Curriculum Development for the State of Florida, described two methods of elementary home economics instruction in Dade County: one method uses a mobile unit, the teacher taking it from one classroom to another; the other has the children traveling to the teacher and a fully equipped laboratory. At the present time Mrs. Funderburk's office is completing a home economics curriculum guide for grades K through 9. This guide contains

behavorial objectives for all four subject matter areas. (3)

Summary

This limited treatment of exploratory and introductory vocational education, from kindergarten through junior college, at least points up it need, and gives some ways and means to plan such a program. It must raise questions to anyone considering expanding their vocational education program "upward" or "downward." Hopefully it shows a need for such a program to be flexible to needs and readiness, rather than cronological age; indicates that the real crystallization of an occupational choice normally comes after the completion of secondary education; and that the individual is the prime consideration. Finally, it is necessary that cautious tenacity be exercised as these new programs are considered, developed and introduced.

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CHAPTER III

INDUSTRIAL ARTS AS VOCATIONAL EDUCATION IN FLORIDA

Mertz

General

In the modern technological society men have special talents and skills that the rapidly changing industrial complex needs. The need is greater today because of the vast increase in the number of new vocations. This places a great demand for more viable trained workers. But without special training, these skills and abilities may never be fully developed or may lie fallow creating a great waste of human potential. Fortunately this need has been recognized by both the Federal and State governments. In essence a nation has awakened to the dearth of well trained personnel to man the jobs being created by the growing and changing technological society. To meet this challenge, the Federal government has proposed many laws to promote vocational education. In 1970 the Florida State Legislature has passed a House Bill 3897 to create a kindergarten to Junior College vocational program which was a culmination of many bills to meet this challenge on the state level.

The Changing View - Legislation

Massachusetts was the first state to attempt to create a program for vocational education. In 1905, the Douglas Committee prepared a report of educational needs for different grades of skill and responsibility in the industries of the state. In 1906, this report was the result of a bill creating a dual system of education. One was for general education under the State Board of Education and another for industrial schools operated by independent local boards. (4:15)

The Federal government in 1862, with the Morrill Act, established land grants to states for agriculture and the mechanic arts. Many acts followed increasing land grant allocations until 1914 with the Smith-Lever Bill. This bill enabled the federal government to match dollar for dollar with each state for training in agriculture and home economics and provided for extension training.

The increasing demands for trained workers led to the passage of the Smith-Hughes Act in 1917. This act promoted industrial and vocational education in all states. The act unified the the states in the new vocational educational trend.

It also provided funds to the states to develop and finance this new concept. Most important, this act safeguarded federal funds by establishing the same minimum standards for all of the states. Florida qualified and was approved for funds in 1917.

Most of the original policies of the Smith-Hughes Act were in effect until 1947, although many amendments were made increasing aid to the states and adding more territories. From 1947 to 1970, several bills were passed by Congress for aid to vocational education. One, the National Defense Education Act of 1958, appropriated $15,000,000 annually for area vocational programs until 1962. Another bill, titled the Manpower Development and Training Act of 1962, established a three year program to provide training for the unemployed and provide skills for shifting employment needs. The Department of Health, Education and Welfare, provided the entire cost of training the unemployed workers for two years and the various states paid the costs of the last and terminal year. (4:49-93).

The National Defense Education Act provided additional funds for vocational education under the Vocational Educational Amendment of 1968. This council, composed of twenty-one persons from labor, education and management advised the Commissioner of Education of the operation of vocational education programs, made recommendations concerning such programs, and made annual reports to the Secretary of Health, Education and Welfare for transmittal to Congress. (4:94-100)

The passage of the Elementary and Secondary Education Act of 1964 and allocations provided by the Educational Professions Development Act of 1968 have provided much stimulus to the advancement of vocational education. These acts coupled with the Ford Foundation provided many grants for

research in the vocational-industrial arts areas which produced many new innovative educational programs from kindergarten to junior college. (1:16-17)

Florida has:

> ...in its 1970 session redefined vocational education, provided for the establishment of minimum requirements for a comprehensive vocational program in Florida, including the evaluation of educational output and employment performance,...created the Vocational Improvement Fund ... included instruction in exploratory courses designed to familiarize persons with the world of work and motivating them to pursue courses in vocational education. Also included instructions in industrial arts. (3:1)

Implications

The general trend in federal legislation beginning with the Douglas Act in 1905 to the Federal Amendments of 1968 show a marked awareness of the need for vocational education. At first the emphasis was toward an industrial agrarian approach with hand to eye related skills. But the new emphasis is toward a more innovative specialization with a behavioral objective approach to vocational education.

The Florida Legislators have indicated in their new bill that they are not satisfied with the high school level of vocational education. They want a comprehensive vocational educational program that begins in kindergarten and extends into junior college. This would have presented a tremendous challenge to the vocational education department. Realizing this, the vocational education department and the legislators included industrial arts into the bill because new innovative programs had already been formulated and introduced into the

elementary level by industrial arts. This could fill the gap between kindergarten and seventh grade where students can make a more logical decision as to a program aimed at job or college aspirations. In essence, the student can decide whether he wishes a vocational or college level type of program with a deeper understanding of technology and his place in it when he enters seventh or eighth grade.

Limiting Factors

In Florida, some of the problems existing between the two departments are: different and separate goals, different accreditation standards, disparity of available money and equipment, and a lack of rapport between the two.

There is and may always be separation between the two departments because of the different goals attached to their objectives. Industrial Arts in the past, as part of general education, was charged with the responsibility of associating the students with as many vocations as possible. Under the new Florida Plan, industrial arts is still a part of general education, but the concept and program has been changed. The new program, under the Florida Plan, is a more structured, progressive and innovative plan to encompass all grades. The Florida Plan would not create a unified, industrial arts and vocational education program but would create a closer rapport between the two areas, satisfy the requirements of House Bill 3897, and most important, enable the

students to make a more logical choice of a vocational-college course of study at an earlier age. (See Fig. 2)

Industrial arts teachers, as part of general education must meet much more rigid requirements for accreditation than vocational educators. But, here again the defined goals and requirements are different because of the two diverse approaches to the education of the s tudent - college or vocational orientation. Trained general education teachers are needed in elementary and college programs. Skilled technicians are needed in vocational programs.

Another problem was that because of the increased money allocated to vocational education by federal and state agencies made the industrial arts teachers feel like poor relatives. The vocational laboratories were always more modern and better equipped. Now with more money promised by the legislature the industrial arts laboratories can be modernized. This in itself should reduce professional jealousy between the two departments.

The lack of rapport between the two departments should decrease markedly if the Florida Plan is implemented statewide. The vocational education department should then feel that they are a part of the state educational structure instead of an entity to themselves. Industrial arts should feel that they are contributing to the education of the entire s tudent body, i.e. college or vocationally bound students.

Implementation

The American Industry Project has appropriately established a criterion for transitional subjects between general and vocational education. Their goal here is:

> "...to provide experiences that assist the individual to make wise vocational choices, to understand his chosen role in our complex industrial society, and to be a productive member of society. (5:2)

This realistic goal could not be attained without a planned, structured, progressive approach to vocational, industrial arts education. This goal is closely followed by the Florida Plan that Dr. Ralph V. Steeb, State Industrial Arts Consultant, has formulated.

No educational plan could ever succeed if it is not properly planned, directed, implemented, and evaluated. This delineates the course of responsibility for implementing a program in Florida that meets the needs of our students and the requirements of House Bill 3897.

The State Department of Education should initiate a planned program (Florida Plan) that meets the needs of our college or vocationally bound students. After the program has been field tested, a feedback program should be established so that corrections can be made. The changing world of industry, needs of students, new vocations, etc., demand a program that is flexible. A well planned feedback or evaluation program will exemplify the

> ...quality of the instructional materials, abilities and interests of the students, characteristics of the

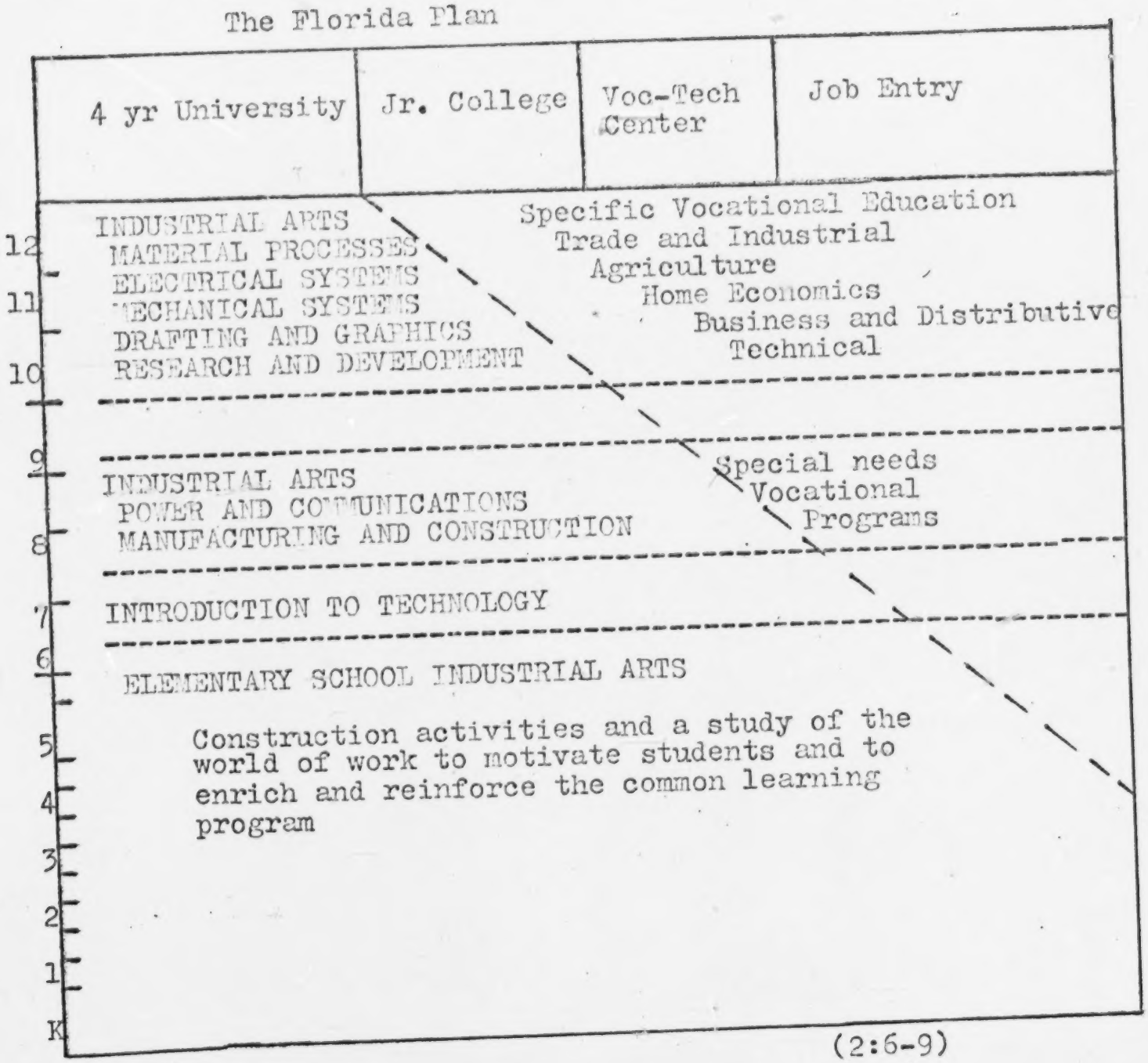
> participatory teachers, and the intellectual climate of the school and the community. (5:5)

The colleges should train their prospective teachers to be able to infuse the concepts of the program into the students. Also they should start a program to acquaint the teachers in the field with the program. The teachers in the classrooms and laboratories should accept and follow as closely as possible the basic criteria of the plan.

No planned program that involves more than one department can operate and attain its primary goals if there is not a cooperative rapport between them.

Figure 2

The Florida Plan



(2:6-9)

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CHAPTER IV

INTERRELATIONSHIPS, INTERDISCIPLINARY AND CLUSTER CONCEPTS

Kral

General Education and its Vocational Responsibility

Heretofore unequaled, Technological change--Population explosion,--add to this an array of Supreme Court decisions which set a timetable to free all individuals from convention and here then are the sociologic ingredients as the decade of the 1970's was ushered in. Because of technology the lawn mower is no longer pushed, shirts do not need ironing, there are two or more cars in a family and it is no longer considered a luxury for the individual or the family group to dine out. The under 25 age group will comprise one-fourth of our work force and women will continue their dual role as mothers and wage earners.(14:7-9) Decline of Disciplines based on traditional foundations is best evidenced by the fact that the Pledge of Allegiance is no longer mandatory nor can a set pattern of dress or grooming be prescribed.

In their wake, these changes have compounded a new group of "side effects" and together they beset our present

societal structure. There is a general decline of demand for unskilled labor and conversely a sharp increase of demand for the semi-skilled, and at the same time industry still requires its employees to adhere to traditional disciplines and attitudes. In the home, the family members each go in different directions throughout the day and in the evening there is very little in common interest or specific household tasks to bind the family unit. In bygone times youth assisted, learned and were assigned household vocational tasks. In fulfillment of these tasks, more beneficial was the exposure to parental attitudes, habits and mores. Gone for the most part is this environment and in replacement, youth now strive for peer acceptance by adhering to the self-evolved foundations of that peer group. Herein lie some of the factors for dissent, unrest and rising crime-rates which tend to upset our sociologic equilibrium.

Thrust into this maelstrom of sociologic activity are the educational institutions whose entrusted task is to prepare youth for assimilation into our adult society. Attacked from within and from without for its stand on traditional disciplines, and the non-too-happy marriage to vocational responsibilities, the school systems have responded with varied degrees of readjustment. As schools educate youth for the entire spectrum of societal vocations, most

of these schools have weighted their curricula for preparation into vocations generally regarded as Professional.

Vocational Education has been generally regarded as the stepchild of formalized education, as many administrators and guidance personnel have deemed this type of training as suitable to the vested interests of the mal-adjusted and low achievement groups of the student population. Yet, these same people who go to their family physician with total confidence that he will cure their bodily ailments, likewise consult the telephone directory for a plumber or electrician (not categorily listed as superior, mediocre or poor) with full expectation that the service will be efficiently performed.

Needs to be met

It becomes apparent that a shift of the weighted curriculum is necessary when considering the educational background requisites of a successful welding craftsman to fall within the upper two-thirds plateaus of intelligence rating data. (17:4) For, to provide an education without a vocation or to provide a vocation without a flexible academic background makes the school remiss of its prime purpose, to prepare the youth for the adult world.

Table I

36% College bound	15% Voc. Ed.	49% No preparatory training

In examining the above table, it is evident that one of every two students will seek a vocation after the culmination of his formalized schooling and this does not take into consideration the college drop-outs or those who professed college bound desires, but never initiated the venture.

Purposeful Planning

An altered educational philosophy which would permeate into administration, guidance, academics, industrial arts and vocational education should be adopted so that one unified and concerted effort may be made to provide vocational training for 64% of the student population and thereby assist in proportionately reducing our sociologic ills. On the surface this would pose such monumental problems as the following:

1. A vast building program
2. Expanded course offerings
3. Additional equipment
4. Vocational educators would have to actively seek additional enrollment
5. Guidance would have to concentrate individual guidance in this direction and group guidance for those already oriented.
6. Reorientation of teachers to the new philosophy
7. Additional staffing and associated services
8. Toward what age groups should this effort be directed
9. How should it be structured
10. Systematic evaluation of all services

Closer inspection shows that such an undertaking is not as unrealistically attainable as one might surmise. Existing programs could be modified with some additional equipment, change (to some degree) of curriculum within tne same facility. Although these programs differ in name, specific curriculum, and the department that offers these programs, there are many significant relationships. Some of these programs are:

> General Shop, the student has the opportunity to work with materials of industry and become familiar with talents and skills required as a basis for vocational selection.(8:37)
>
> Exploratory, the student is exposed to many diversified occupations and their allied skills and competencies. (4:49)
>
> Clusters, the student is exposed to a group or family of skills closely associated to an occupational field or several occupational fields.
>
> Interdisciplinary, the laboratory experiences from any of the above(or from a group occupational training programs are correlated with one another and sometimes with English, mathematics and science.(4:48-49)
>
> Interrelationships, experiences resulting from the interaction of two or more areas within the interdisciplinary domain.

The interdisciplinary situations come into light by pretesting or when the Instructor or Student or both acknowledge that the student is in need of additional associated academic knowledge before he can continue to successfully pursue his laboratory activities. The shop instructor and

the related subject teachers may interrelate the needs within a block unit or special curriculums may be written and offered (paralleling the vocational needs) by the individual academic areas. That these exploratory programs are stimulating student interest at all levels is attested by Benham when he states "But somewhat to our surprise a large proportion of juniors and seniors, many of them previously college prep students, enrolled in the pre-vocational program".(1:42) Glaringly missing is any mention of 'the seriousness of purpose' so vital to the correlation of general education and vocational training to the world of work. Assignments which the student likes to do should be interlaced with some unpleasant tasks of occupational reality.

Table II	Occupational Pursuit	Travel Meals Hygenic Needs	Extra Curricular Activities	Rest

The above graph is used to denote the average amount of time an individual would devote to his daily activities (exclusive of weekends). Any additional vocational advancement or earning power would in all probability be taken out of his Extra Curricular time. Past experiences of this writer have shown that students are receptive to realistic associations. Would it not be realistic for a student in an academic classroom to be required to outline procedures for

an occupational task, or in a Math(laboratory type) test to be required to weigh out so much sand, measure to the closest 1/64", or to pull on a seam or hit a weld with a sledge to show durability to abuse?

Organization and Administration

To provide vocational training opportunities to more students within the same facilities, and a more diverse course offering tailored to meet the needs of the students and the community, the following curriculum is recommended:

7 and 8 grades; Exploratory concept type of offering on one period basis.

9 and 10 grades; Semi-skilled occupations on a one period basis.

10 and 11 grades; Cooperative education on a three period basis and at least a summer of employment before.

11 and 12 grades; Full occupational training offered on a two and three period basis respectively.

In addition, the following supportive services would be made available to each vocational unit:

1. Interdisciplinary courses in English, Mathematics and science.
2. High School to act as base station with feeder Junior High Schools as field stations.
3. Interrelated occupational skills from all Base Vocational units to be incorporated into Field unit curriculums.
4. Base unit to provide mobile units with equipment that is costly and used occaisionally, with instructor to Field station. During this period the Field station instructor will schedule study hall students for pre-vocational training.
5. All laboratory units to be operated on ten period daily schedule with two instructors for each lab.

6. Students within walking distance to be scheduled outside of bussing schedule
7. Semi-skilled occupational training to be scheduled periods 1-5 at base unit.
8. First year of full occupational offering to be scheduled periods 6-7.
9. Final year of full occupational offering to be scheduled periods 8-10.
10. A coordinating supervisor not only responsible for the functioning program, but also to sell vocational with inception of student assemblies, open house nights and thorough news-media and civic organization exposure.

This suggested approach could draw an additional 30% of the student population into vocational training and once in the mainstream could become the mode as the thing to do instead of just serving the remedial few. As far as Interrelationships, Interdisciplines, and Cluster concepts (sometimes under the guise of other names) they have been or should have been an integral facet of educational objectives since time immemorial. Is it possible that we have, as a society, PHILOSOPHIZED ourselves away from those objectives and painted a picture of what we would like to see instead of the way it really is?

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CHAPTER V

COOPERATIVE EDUCATION

Wilkinson

Definition

Cooperative Education is an arrangement for bringing relevancy to formal instruction through alternating employment in the community with classroom instruction. The legal definition includes three criteria for cooperative vocational education:

(1) The student must receive instruction in school, related to the job he holds.

(2) These experiences must be planned and supervised by the school and employer so that each contributes to the education and employability of the student.

(3) The work periods and school attendance will be determined by school and employers. (11:67)

History

Cooperative Education is not a new idea. As far back as 2500 B.C., the Code of Hammurabi endorsed the cooperative plan or "apprenticeship" by stating that an "artisan adopted a boy as his own and then taught him his art."

The early Jews had a form of Cooperative Education. The Jewish boys would go to the church school in the mornings and study under a Rabbi, and in the afternoon the boy would

learn the skills of his father's trade. (9:35)

Advantages Over Other Vocational Programs

There are several distinct advantages of Cooperative Education over other types of vocational programs. (14:2)

(1) Cooperative Vocational Education is designed to help a student solve his occupational problems with classroom instruction.

(2) Cooperative Vocational Education offers an immediate try-out of learnings in real-life work situations.

(3) Cooperative Vocational Education provides a balanced vocational program that includes manipulative and technical skills.

(4) Cooperative Vocational Education offers wide varieties of abilities and interests. The only limitation is the number of available training stations.

(5) Training an over abundance of workers for a particular field is not possible in cooperative education as number of trainees is limited by number of available training stations.

(6) Close community relations is a natural result of a Cooperative Vocational Education program since the community is such an important part of the program.

Other Advantages

The Cooperative Education program is advantageous to the student in that the program enables the student: (10:8-9)

(1) To evaluate his interests, aptitudes and abilities.

(2) To develop an understanding of the "work-a-day world."

(3) To help him financially, and to stay in school.

(4) To realize the importance of general education.

(5) To establish desirable work habits and attitudes.

(6) To develop salable skills in a chosen occupation.

(7) To participate in activities designed to greaten leadership characteristics.

(8) To develop an interest in his own community as a good place to work and live.

(9) To grow up emotionally, through his having to work with, and get along with adults.

The businessmen of the community profit from a Cooperative Education program as it: (10:9)

(1) Lets him discover suitable future personnel.

(2) Lets him supervise the training of his future full-time employees.

(3) Lets him obtain, at a reduced cost, a through and intensively trained future employee.

(4) Puts him back into the school-community relationship that has prevailed in our country since its beginning.

The school also gains from the Cooperative Education program in that it enables the school: (14:2)

(1) To reach students not met by the traditional vocational programs.

(2) To meet the needs of the community, for which the schools have long been held responsible.

(3) To meet the job-training needs of its students who must enter employment after graduation.

(4) To provide a complete academic study course, sugmented by work experience.

(5) To help keep students in school until graduation.

(6) To keep abreast of community happenings through their community relations with the cooperative program.

Common Criteria For Cooperative Programs

All Cooperative Education programs are alike to some degree. They all have the following common criteria: (7:93-95)

(1) They use the community's business establishments as their work laboratory.

(2) They have instruction in school directly related to their occupational experience, and generally related to their "work of work."

(3) They have training stations with supervision of the student on the job by someone appointed, or delegated by the employer.

(4) There is a step-by-step plan for classroom instruction based on what the student is actually doing on the job. This plan is drawn up by the coordinator and supervisor together.

(5) The trainee's on the job work is evaluated by his supervisor and becomes part of his school grade.

(6) Student get school credit toward graduation from their work experience.

(7) Each program has an advisory committee.

Difference Between Cooperative Education And Work Experience

The main differences in Work Experience programs and the Cooperative Education programs is that in Work Experience there is no classroom study directly related to the student's work station; there is no on-the-job supervision by employer or coordinator; there is no employer evaluation; there is no school credit for work experience; trainees are not necessarily paid; and the students do not have a career objective. (10:10-12)

Types of Cooperative Programs

Although there are various Cooperative Education programs found in our public school systems today, they differ

only in the types of training given to their students. (7:28-39)

Distributive Education (DE)

This is cooperative program having all its students working in areas of distribution. They may be working as salesmen, cashiers, stock clerks, shipping clerks, display or advertising workers, etc.

Agri-Business

This is cooperative education program under the direction of the Agriculture Department at the school. These students are "co-oped" in fields relating to the broad field of agriculture, such as feed salesmen, fertilizer and livestock salemen, farm equipment mechanics, farm managers, etc.

Cooperative Industrial Education

This is a program in which the students are placed in industrial types of work experience such as auto mechanics, machinists, electricians, television repair, etc.

Diversified Cooperative Training (DCT)

All types of occupations are represented and any career objective can be accepted in the program. The only limitation as to the type of job the student wishes to learn is the availability of training ststions in that particular field.

Higher Education

Junior College Middle-Management programs are Distributive Education programs on a Junior College level with career objectives at the Middle-management level. Senior

College cooperative programs are usually based on the Antioch plan of a student working a semester and attending school a semester, taking five years to complete his college work.

Deterrents

The Cooperative Programs are not without their problems. There are many students that could take advantage of the program but because of one restriction or another, are unable to participate. Some of these restrictions are school oriented; some are federal and some are state restrictions. There are also restrictions caused by Union regulations and others caused by social handicaps.

As of this writing, a Cooperative Education student must be at least 16 years of age, and a junior or senior in high school with a passing grade average. These restrictions are based on the fact that most workers have to be 16 years of age to work in most places, and the student must be a junior or senior in high school so he can get all his required subjects in for graduation. The Federal government restricts the type of work a student can do, the hours he can work, the wages he can earn, and others too numerous to mention.

The school imposes restrictions with graduation requirements that leave little room for a student to take elective vocational subjects. (13:26) Many individual schools set these graduation restrictions far above the State requirments for graduation.

In some cases, Union requirements, as to membership of

its workers, and apprenticeship requirements, tend to cut down on the types and availabilities of job openings in a community.

Summary

Cooperative Education, while not being the final perfect Vocational Education program, does offer vocational education at a cost that even the smallest school system can afford. The Cooperative Education programs can in one way or another take care of most career objectives the students might have.

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CHAPTER VI

VOCATIONAL EDUCATION FOR THE DISADVANTAGED AND HANDICAPPED

Olson

Introduction

Definitions

The declaration of purpose given in the "Vocational Education Admendment Act" states that vocational education shall be available for ".....those with special educational handicaps....." For the purpose of this chapter, the following definitions will be used to identify those with special educational needs.

> Disadvantaged persons.- "Those with special needs whose personal limitations make it impossible for them to benefit from regular vocational-technical instruction. These needs may result from economic lacks, social or educational retardation, or motivational deficiencies. (25:29)
>
> Handicapped persons.- "Are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, crippled or having other health impairments, who, by reason thereof, require special education attention and related services." (25:31)

Identification and Needs Determined

Disadvantaged

The disadvantaged may be found in any geographial area in the United States. Basically they are the poor, the unskilled, the welfare recipient, the illiterate and,

frequently, the unwanted. (9:245)

The educationally disadvantaged are usually under-achievers, poorly motivated in school, may have different values, and are the students most likely to become dropouts.

The socio-economically disadvantaged have different problems. Parents struggling to provide housing and food for the family have little time to encourage the student in school. These students have not had the experiences taken for granted by those from a "middle class" culture.

A successful curriculum for the disadvantaged must be "person-oriented as well as craft or trade-oriented..... with stress on understanding the individual....." (21:43) Thses students must be provided with experiences they do not receive in their home environment. They need job programs, community service experiences, work and health centers, and in-staff studies conducted by public agencies. (6:7)

Handicapped

Physical handicaps vary from those who have severe limitations to those that require no special adjustments.

The auditory handicapped.- May be totally deaf or hard of hearing. He may be able to speak, or his hearing defect may have interfered with language development. The hard of hearing child should attend a regular class room, and with supplementary help, maintain adequate educational standards. The deaf child will need a specialized curriculum that includes speech development, speech (lip)

reading and auditory training, language development, and reading. (16:181)

The visually handicapped.- Range from those that can be corrected, to complete blindness. The individual may have been blind from birth and have no concept of his environment, or his loss of sight may have occurred later.

The educational needs of this student will be met by providing concrete learning examples, since his knowledge is gained through hearing and touch. (16:233)

Oral communications.- A lack of ability to speak will prevent the individual from relating to his environment. The first need of this student is to be accepted. The teacher must understand all of the factors that might cause a speech defect, if a speech correction program is to be successful. (5:428)

Skeletal handicaps.- Will include numerous types of problems. This student may need special orthopedic aids, such as braces, crutches or wheel chairs. The school system will meet the needs of these students by providing special physical facilities.

Mental handicaps

Education for the mentally retarded is concerned with those individuals who may be educated or trained to be at least partly independent. Each child must be evaluated to determine individual needs.

Discovering Ways and Means

Teaching strategy must emphasize the selection of

learning material geared to the learner's readiness, mastery of on-going learning tasks before new ones are introduced, and the use of structured learning materials organized to facilitate sequential learning. (9:237-238)

Students having difficulty with the regular curriculum need specialized programs in which they are interested and should be permitted to advance as far as possible in this area. (2:38)

Many disadvantaged youths have a practical knowledge in many areas of living. Their interests are more concerned with daily living rather than academic proficiency. (25:49) Programs developed to take advantage of this knowledge would provide motivation for these students.

Exposure to various vocational classes, and interviews with counselors will assist the student in determining the vocation he desires. (4:54) Also recognizing that vocational programs must consider competency in basic language, the Manpower Development and Training Program has been amended to provide for basic education classes. (17:374)

Each child with a physical handicap must be identified, and the nature of his handicap determined before the curriculum is determined. (19:391)

Automation has created a need for trained technicians, but there remains repetitive tasks that are part of industry. These are the tasks for which handicapped students may be trained. (13:37) A course of study for the handicapped should consider that:

a. The majority of handicapped can be trained to become useful workers.

b. Handicapped students require a longer training period.

c. Manipulative skills taught in a series of intensive skill practices.

d. Skill experiences related to a variety of projects to prepare students for varied skill operations.

e. The greatest challenge is the development of a positive and wholesome work attitude.

The President's Panel on mental retardation is the basis for the present orientation for education of the mentally retarded. (14:335) The desired objectives are self-realization, human relationships, economic efficiency, and civic responsibility. (15:111) The degree that each objective is reached depends on the potential of each child. Whatever job training is considered suitable, it must have definite routine requirements and some type of supervision. (22:328)

Implications for Vocational Education

It is apparent that persons with special needs will profit from a system in which vocational education is an intregal part. (20:399) Vocational education is the bridge between economic dependency and independent functioning as a productive member of society. (1:30)

Jobs held by the disadvantaged and handicapped are usually unstable, and do not provide the opportunity to acquire skills not learned in school. (23:67) The major objective in planning a curriculum for these students must be preparation for employment. (21:309)

In jobs such as filing, sorting and packaging the handicapped have proven to be capable employees. They contribute to industrial growth and become responsible for their own economic security. (13:37) Before this can be accomplished, however, vocational education must restore a sense of self-confidence, provide a salable skill, and give an opportunity for a job. (4:53)

Legal Aspects

The vocational educators' goal is providing an opportunity for all individuals to learn a job skill. This includes the disadvantaged and handicapped. Vocational programs are now receiving increasing assistance from the Federal Government to provide this service. The law tells who may be considered for these programs, and the percentage of money that must be spent. (8:26)

a. 15% of the state's total allotment under section 102(a) of the Act for any fiscal year, or 25% of the excess over the base allotment, whichever is greater shall be used only for vocational education for disadvantaged persons.

b. 10% of the state's total allotment under section 102(a) of the Act for any fiscal year shall be used only for vocational education for physically and mentally handicapped persons.

In addition to the "Vocational Amendment Act of 1968" there are other laws that provide assistance for these students.

Manpower Development and Training Act of 1963

This act permits local utilization of this program to be largely directed at disadvantaged youth. Since

1965, states must match a portion of the federal funds provided for this program. (9:207)

Economic Opportunity Act of 1964

There are four parts to this law that provides economic opportunities for both young people and unemployed adults. Under Title I, the student may apply for the Job corp or a work training program. Title II provides Urban and Rural Community Action Programs and Adult Basic Education Programs. Title V permits work experience programs for adults, and under Title Vi is found the funding for the Volunteer program VISTA, (9:208)

The philosophy of vocational leaders has long recognized the need for education for the disadvantaged and handicapped. Now, supported by Federal laws, these individuals will have a greater opportunity to profit from vocational education.

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CHAPTER VII

CONTRACTING SERVICES IN VOCATIONAL EDUCATION

Respess

Discovering Available and Able Agencies

In the years past when we thought of contracts in the area of education we limited our thoughts to such things as; teacher contracts, contracts for facility construction, contracts for materials, contracts for equipment, and contracts for utility services. A part of each of these contracts were attached performance requirements of time, quantity, quality and other factors that must be met or a penalty would be inflicted upon the party failing to meet the requirements.

Now a new experiment in "performance contracting" (sometimes referred to as "accountability" and "guaranteed performance") is taking place in America.(11) Where else in the world would the government pay a private business firm to solve the drop-out problem, ensuing profits on a sliding scale of results, with transistor radios, sweaters, trading stamps and coupons as incentive to students, and stock in the firm as a reward to participating teachers? (5) Well, perhaps only in America so far because it seems that the concepts of

"accountability" and "guaranteed performance" are working.

Why hasn't the area with the greatest potential, Vocational Education, entered the area since the inception of the first of the "accountability" projects began last year when two adjoining school districts in Texas and Arkansas created Texarkana Rapid Learning Center under the successful bidder, Dorsett Educational Systems (DES) ofNorman, Oklahoma.(8) DES promised to raise the level of a number of students in reading and mathematics skills by one year, in eighty hours of instruction, at a cost of $1/student hour.

A sliding scale for the "guaranteed performance" was introduced, giving the company a bonus for achievements in less than eighty hours and assessing penalties for exceeding the time limit. If a student never makes the required standard, DES gets nothing.

The company uses an audio-visual device of a small console with a television-type screen on which problems and materials are projected from films, records and tapes. (5) The project involved initially 200 fifteen and sixteen year old potential drop-outs, often two or more years behind in skills, who used the methods two or three hours a day.

Funding came from the Federal Government, which provided a quarter million dollars.(8) At the inauguration of the project, it was the first time a public school has contracted with a private firm to provide academic instruction for its students. And it is the first time a partnership has

been formed between private enterprise and the public schools to train people to be able to achieve guaranteed results in skills training.

> "The Texarkana school official said that more than 130 companies considered most active in education and training were invited to bid. Forty representatives attended a prebid session and others later contacted the schools, of which seventeen gave notice of intent to bid." (8)

Texarkana has indicated that there may be able companies available to produce the required materials, equipment, technical know how, and administer the program on a sound guaranteed basis if we will but state the problem.

Educational Performance Contracts in Vocational Education

Why wait? Have we already been there? How near have we been to educational performance contracts? These and many other questions could be discussed in a paper of length. The question might be best answered at this time, by saying that in many aspects we have come close in many ways, but just have not reached the complete arrangement. We have worked with industry and business in work study programs, distributive education programs, diversified cooperative education, cooperative programs and others, but certain ingreediants have been missing.

In most working/study situations that vocational students enter into with business and industry, the student is merely trained to do a job for the company. Little or no thought is given to the fact that the student is merely getting work experience. Why not contract with someone that has

the technical know how and everything else required to do the complete job based on specific objectives, for a certain fee, in a given amount of time. Vocational education would not be giving away their vested rights to industry. but on the other hand they could possibly be giving the potential drop out the greatest opportunity of his life. Could the automotive manufacturing industry establish a better training program, based on current needs in a concentrated program better in many ways than our current varried activities. We are not meeting the needs other than the basics when we must always work with old equipment and materials. Why not be teaching them on current models and methods so they will have a real salable skill when their training is complete. Vocational education can not keep changing the materials and methods with each increment of time, but on the other hand, industry is doing the changing and has these materials and methods. Isn't it the economically sound thing to consider the possibility of "educational performance contracts" with our fellow workers in industry? We aren't meeting the needs of many of the vocational or potential vocational students as of this time under the limiting existing system. Why not pay the specialist to give us the needed hand. The payment required may save us money to be wisely spent elsewhere.

Evaluative Criteria

In the case of the Texarkana program, the evaluation value has gone beyond the mere degree of increase of reading

speed and problem solving proficiency in math.

> "Blaschke reports that there have been significant behavioral changes as a result of the project: Only one of the 301 participants has voluntarily dropped out of school. Meanwhile, the drop-out rate among other high school students, especially in grades 11-12, has increased. (Test) Results indicated that in a total of 120 hours, equally distributed between reading and math instruction, students were acheiving, on the average, 2.2 grade-level increases in reading and 1.4 in math." (5)

Evaluative criteria are generally built into the contract covering the program. The Texarkana plan relates renumeration on the basis of advances the students make in grade level abilities in reading and math. This is only one type of performance measurement. Other examples of measurement that might be agreed upon are:

1. A specific amount for each student that demonstrates at least an____percent increase in agreed upon behavioral objectives.
2. A specific amount for each student that successfully demonstrates certain performance skills as agreed upon by both parties to the contract.
3. A specific amount for each student that is gainfully employed within a specified number of days following successful completion of the program.
4. A specific amount for each student that is gainfully employed during the year following completion of the program at a wage of ____percent over the Federal minimum wage regulations.

A performance contract approach to Federal resource allocations promises greater economy in the use of Federal

funds and in the allocation of general education resources as well. Educational objectives attached to predictable measurable student performance, which are necessary parts of these contracts, would offer a much needed basis for measuring program cost and effectiveness.

Contracts and Agreements

The formulation of the performance contract takes place in the same manner as would a contract for any other service. After the school system formulates certain requirements that it desires, an invitation to bid is sent to prospective parties. This invitation contains such important information as: the educational services to be provided, the possible methods of reimbursing the contractor, the type of student population to be served by the contractor and how students will be selected, a general description of the educational proceedures to be used (during, before or after school, etc.), the standards of performance that the student will attain and how performance will be measured, details of how the bid is to be submitted as to form, time, plan, place. Following an evaluation of the bids submitted, the board then selects the company that it feels will do the best job based on compliance with the specifications or alternate proposals and at the most reasonable price.

Vocational education should strongly consider the possibility of becoming a part of the experimental program that has already proven successful in other areas.

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CHAPTER VIII

VOCATIONAL GUIDANCE AND VOCATIONAL COUNSELING

Rodgers, Franklin & Ripley

The Guidance Program

Guidance has been defined as the "process of helping an individual understand himself and his world" through the services of information, appraisal, counseling, placement, and follow-up. (49:31) However, vocational educators as well as guidance personnel are taking second looks at guidance in the schools today. Sharp criticism has been directed at counselors as the following quote indicates:

> Most high school counselors have never been in the world of work and are primarily concerned with seeing how many graduating seniors they can get into college. There is little or no concern for the 60% who will not go on to college and who must obtain additional vocational and technical training. There is little thought to the post-high school programs that are available to students in area vocational schools and community and junior colleges. (16:21)

Cote (10:11), however, has made the observation that perhaps the counselor is a scapegoat--that the impossible is being expected of him. With a national ratio of one counselor to 450 students, the school counselor is expected to counsel students; confer with parents, teachers, administrators; display expertise in "psychology, sociology, college place-emtn, remedial techniques and on and on plus knowledge of 20,000 odd occupations and changes!" (10:11)

Whether all or some of the above views are justified is a moot point. What is important is the fact that school guidance programs from K-14 are being challenged to meet the needs of all students in exploring, choosing, and planning vocational opportunities. Only through knowledge plus interaction can a student realistically see the options available to him. O'Hara recognized this responsibility of the counselor when he stated:

> Guidance counselors must intervene in the habitual perception of the vocational world in order to broaden that perception, to open up the number of options available, and to make each option clear, distinct, and patterned in accordance with the unique interests, abilities, and values of the student. (38:39)

This chapter is an attempt to examine methods--old and new--which the counselor can use to prevent the occurrence of the "vocationally deprived child" O'Hara speaks of and the resulting vocationally frustrated adult found all too often in our society.

Occupational Information

The process of disseminating occupational information and job descriptions to students has, until recently, been a poorly organized service. In the past few years, however, as the need for this type of guidance service has increased, many innovative ideas have been introduced in an attempt to better inform students concerning occupational information.

The concept of utilizing resources from outside the school system has grown extremely popular. Peters and Hansen

(41:214-19) reported on a four step plan initiated by one high school.

1. The local Kiwanis club met with school administrators and guidance personnel and agreed to try to locate a speaker for each 11th and 12th grade subject class.

2. Students were surveyed by a checklist to determine their occupational interest. A speaker was then chosen.

3. The prospective speaker was sent a letter indicating the area of the student's interest.

4. After the presentation by the speaker, student reactions were sought by use of a questionnaire.

A slightly different approach is the revised career day. This program covers several different occupational fields. Speakers are selected, and present their field in general terms rather than as a specific job. In this way, the students receive an overview of the occupation. Another major consideration is that seniors are allowed to attend all the presentations, rather than just a selected few. (50:117-20)

James Auld (1:853-4) reported on one high school which extended the concept of using outside resource people. This program incorporated five phases:

1. Invitation: Community people were invited to speak to students on a weekly rotating basis.

2. Advertising: Each weekly program was advertised via bulletin boards and literature.

3. Color film: A color film was shown which augmented the speaker's presentation.

4. Recorded: All sessions were recorded on audio tape so that other students could take advantage of the information.

5. Question and Answer: Each speaker's presentation was followed with a question and answer session with the students.

At least one high school has utilized students as a source of occupational information. Approximately 125 speech students chose an occupation, researched it and prepared a ten minute speech, which was given upon request, in home rooms. (36:265-6)

Essentially the same techniques for disseminating occupational information are being used on the college level. Students are surveyed according to vocational areas of interest, a relevant speaker is selected, and presented. In some areas where student interest has not justified a speaker, arrangements are made for interested students to talk with a representative from that occupation. (46:273-4)

The use of computers in making occupational information available to students has been attempted as one part of a multi-offering program. One high school in Illinois maintains free interaction between the student and computer. The student may obtain occupational as well as other related information. (15:162-4)

Perhaps the most widely used and successful innovative technique for bringing occupational information to students is by media methods.

One such system, called VIEW, is located in San Diego County, California. The major points of this program include:

1. Students are solicited as to the type of information they desire.

2. This information is obtained from available resources and imprinted on microfilm aperlure cards.

3. Information such as occupational requirements and qualifications, occupational opportunities, job description, local relevant occupational information, availability of training, names of available community resource people and bibliographic resources are available for each occupation.

4. Centers, called Regional Career Information Centers, are equipped with sets of aperture cards, readers and reader-printers. (17:593-6)

A similar approach has been developed for use by elementary school students. This instructional system is divided into five major 'job families': White Collar, Manual, Service, Farm and Armed Forces. The first two of these categories are sub-divided into smaller units because of their relative complexity. Each subsystem, of which there are thirteen, gives such occupational information as the "nature of the work, conditions of work, qualifications and education required, employment outlook, possible earnings and chance for advancement." (3:22-23) Using colored slides with cartoon characterization and synchronized audio-tapes, the student gains valuable information working at his own pace. Each subsystem or occupation, requires between eight to fifteen minutes to complete, depending upon the pupil's ability. Self-testing and feedback are built into the system. (13:22-23)

Wisconsin has attempted to bring occupational information into the classroom via television. Occupational

audio-films, photographs of men and women actually performing various types of work, are piped into selected junior high school classrooms. Such occupational information has advantages and disadvantages; necessary preparation for employment and even how the workers feel about their jobs, is disseminated to students. (53:60)

Santa Rosa, California, under the supervision of Darryl Laramore, filmed forty, four minute occupational information films. Each film was preceded by an interview with the worker to be photographed. He described his responsibilities by giving information about his daily routine. After the interview, the person was filmed while he actually performed his work. A script was written to coincide with the film. Such information as the worker's qualifications, a description of his functions, pay and the advantages and disadvantages of this particular occupation are included in the narrative. These films offer two major advantages: (1) they are relatively inexpensive ($35 per film) and (2) the script can be kept current by simply erasing and re-recording the new information. (28:63)

Testing

Vocational guidance began in 1909 with a trait-and-factor approach--the belief that a person's abilities, aptitudes, interests, and personality could be matched and forever sealed with those of a particular job. Today,

however, most counselors recognize:

> . . . the developmental nature of choosing, entering, and progressing in an occupation. Vocational choice and adjustment is not just 'point-in-time events'; they are processes which begin early and continue until late in life. (11:24)

Two views seem to be held today in regard to the purpose of testing as expressed in the following statements:

> 1. Use them--they are the best we have to predict, classify, select, and evaluate. "Psychological tests are by no means perfect and no reputable psychologist will say they are. Yet, even though tests do make mistakes in individual cases, there is a body of evidence that shows that in a variety of situations tests do a better job than other available methods." (6:2)
>
> 2. Use them--but, only for student self-understanding. "Most of our assessment instruments have little or no predictive validity in forecasting the two major criteria (success and satisfaction on the job) of vocational adjustment . . . Our traditional tests can provide a client with information he needs, if they are for description rather than prediction." (11:24)

Perhaps both views are necessary at this time. Institutions are forced by the number of people involved to select, classify, and evaluate. However, the counselor working with a student should aim at helping the individual understand the test profile in terms of the items asked and the norms used.

Traditionally, the majority of testing to aid a student in his vocational-educational development has begun in the junior high school, become more intensive in high school, and selectively used at the levels beyond. Achievement and ability testing are the main programs conducted in elementary school. However, there are forms of some interest

inventories such as the Kuder Preference Record, Form E, which can be used in the sixth grade as a stimulus to vocational exploration.

In junior high school, achievement and ability testing continues; however, group interest testing is often added during these grades as part of an occupational information program. It is recommended that interest inventories such as the Kuder Preference Record or the Ohio Vocational Interest Survey be used since they report scores in terms of interest groups or job clusters instead of specific occupations.

Interest inventories continue to be used either in group guidance or individual counseling in the high school. Cronbach (12:432) sees a great potential for these inventories as "a helpful device to encourage thinking about future plans . . . and an excellent preliminary either to further group study of careers or to individual counseling." Additional inventories useful in high school are those focusing on specific occupations such as the Strong Vocational Interest Blank for professional occupations and the Minnesota Vocational Interest Inventory which measures the preferences of non-professional workers.

Aptitude testing which is defined by Brown (6:314) as "the ability to learn a variety of skills or behaviors" is often limited in high school to the "academic aptitude" tests for the college bound such as the PSAT, the SAT, or the ACT.

The only testing of mechanical, spatial, clerical, manual dexterity, etc., aptitudes may be as a result of a part-time U.S.E.S. counselor who administers the GATB (General Aptitude Test Battery) and interprets the score to those referred to him by the counselor. (37:21) However, with more than 60% of the students not planning to attend college, the burden of aptitude testing and counseling is still on the high school counselor. Yearly programs could be set up to test interested students with the DAT (Differential Aptitude Test) or the GATB. Then counselors or para-professionals trained in test interpretation could discuss the results with each student. General aptitude testing could be beneficial to all students--college and non-college bound alike.

Beyond the high school level counselors use a wider range of appraisal instruments in working with their clients. Interest inventories, specific and multi-factor aptitude tests, individual ability or "intelligence" tests, and, in some cases, personality inventories are used to aid the student in college, vocational school, or junior college to tentatively commit himself to a particular course of study.

The taking of a test serves no purpose, though, unless the student can relate the results to norms and then to himself. In 1966-67, a study was conducted in several Missouri high schools to determine if there was a way to classify students enrolling in vocational education courses on the basis of their pattern of aptitudes and interests

measured by the Daley Vocational Test and the Minnesota Vocational Interest Inventory. The researchers tentatively concluded that classification of vocational students according to group resemblance could be accomplished by use of the discriminant function statistic. (14:32) More studies such as this one need to be done to establish means and norms to help the student anticipating vocational education to compare himself with others in the field and to provide the counselor and vocational educator with objective information concerning the successful student in each area of training.

Group Guidance

The concept of group guidance has become one of wide usage and acceptance in the field of vocational guidance and counseling. All levels of the educational system seem to be adapting this method to the attainment of disseminating occupational and vocational information to groups of students.

Laramore and Thompson (29:263-4) have suggested the following techniques for elementary children:

1. Talks by appropriate community resource people.
2. Have students interview their parents concerning their occupation.
3. Use of parents as resource people in the classroom.
4. Utilize school workers such as custodians, secretaries and nurses to provide talks to pupils.

5. Have students role play in conjunction with mini-research.

6. Use of upper grade students who have part-time jobs for resource people.

7. Invite workmen such as television repairmen, to perform their duties, within limitations, in the classroom.

8. Take students on field trips.

In New Jersey, a voluntary summer school program for the purpose of vocational guidance, has been extrememly successful. This program has the following student goals:

1. To understand the concept of work.

2. To develop positive attitudes toward work.

3. To understand basic economics.

4. To gain occupational information of major vocations.

5. To appraise their own assets and limitations as they relate to occupational decisions.

6. To be able to utilize their occupational abilities.

The program was established for sixty junior high school students, all of whom spent six weeks being cycled through such general fields as home economics, industrial arts, science, health services and business occupations. The above were major cycles, but mini-cycles such as journalism, flower culture and shoe repairing were also available for student exposure. The major emphasis was not on skill development, but on occupational awareness. (15:26-7)

Another approach, as described by Braland and Sweeney (5:260-1), involves students in grades seven through

nine. This program is undertaken in three steps:

1. In the seventh grade, students are exposed to aptitudes, training requirements, employment availability and methods of application and interviewing.

2. The eighth grade students use the simulation approach in small groups. Each student plans the hypothetical life of a peer, hopefully taking into consideration all the variables.

3. The program on the ninth grade level was somewhat more sophisticated. The primary objective at this stage was to introduce to the students the general processes for decision making. The rationale for this final unit was that if a student understands the decision making process, he is more able to apply these techniques to making a wise occupational choice.

Group guidance and counseling has also been utilized in other areas. Rosalyn Bass (2:26) reported about a proposal which "utilizes group techniques as an integral part of a vocational rehabilitation program." This particular concept was applied to clients from a vocational adjustment center. The total program was designed so that the group counseling be an essential part of the ten-week work adjustment program. Persons selected were considered either physically disabled or economically disadvantaged who had continually been unsuccessful in the labor market. The group was restricted to between 10-12 members with as varied backgrounds as possible. The group "provides a new, accepting and supporting reference group for its members by means of which:

1. Old dependencies can be broken and replaced by new feelings of independence and responsibility.

2. Old values and modes of behavior can be reexamined, reevaluated, and changed, if desired.

3. Biased and unrealistic perceptions may be subjected to reality testing in the group.

4. Feelings of self-confidence and self-worth may be enhanced by group acceptance.

Group therapy forces the individuals within the group to take into account the other members of the group." (2:26) The methods used in attaining these goals include maximum utilization of the group leader and role playing by group members.

A similar program, as described by Hoffnung and Mills, (19:458-60), was offered to disadvantaged youth, 16 to 22 years of age, in Cincinnati. A major difference in this program, however, was its evaluation through comparison with a control group. Three different groups were involved, all of which received individual job or work-crew training. However, one group attended group sessions twice weekly, a second group once weekly, and the third group did not attend any group meetings. This last group acted as the control group. The results showed greater improvement concerning job performance and in overall adjustment for the group attending two sessions a week than either of the other two groups. The control group showed less improvement than those that received this group therapy.

Vocational Counseling

Until the publication of Ginzberg's work in 1951, "vocational counseling was seen primarily as a matter of matching the traits of the client with the factors presumed

to be important for success in the occupational area." (60:260) Since that time, however, a number of additional theorists such as Super, Roe, Holland, Tiedeman and O'Hara have based their formulations upon the belief that "the vocational counseling process must certainly involve the total individual with all his characteristics, goals, and antecedents." (60:261)

Counseling has been defined by the American School Counselor Association as:

> . . . an accepting, non-evaluative relationship in which (a pupil) is helped to better understand himself, the environment he perceives, and the relationship between these . . . its purpose being that most pupils will enhance and enrich their personal development and self-fulfillment by means of making intelligent decisions. (25:127)

The question is being raised, though, as to whether or not vocational counseling is different from this definition of "regular" counseling. Patterson (40:62) feels that all counselors should be prepared to do vocational, educational, therapeutic, etc., counseling. Feirer (16:21), however, believes that if all counselors should be qualified to do vocational counseling, the following changes need to occur in guidance counselors:

1. Counselors must "change their value standards and be equally concerned with all students, not just the college bound."

2. Counselors should "have a background reflecting a more thorough exposure to vocational education, including some college courses."

3. Counselors need to have worked "at least one year in the world of work in as diversified experiences as possible."

Thus, a revamping of the counselor is needed--not of the counseling situation. To divide counseling responsibility in a school to the point that a student must go to Counselor A for personal counseling; Counselor B for academic counseling; and Counselor C for vocational counseling would make a mockery of the entire guidance program. As vocational theorists have shown, vocational plans and aspirations are a result of a person's entire life development. Ivey and Morrill have clearly expressed this concept as:

> Work is not a separate part of life, it is part and parcel with the entire developmental pattern. (23:645)

The counselor of the future needs to be a "constant student of the socio-economic scene and almost endowed with vision into the future or his counseling will be out of date." (56:198)

If counselors are to become this "new breed" described, changes in aspects of their training, philosophy and performance must take place. Winds of change are already moving into the counseling scene. Samler (47:3) sees two prospects which will lead to more effective vocational counseling: 1) better concepts and methodology and 2) transfer of some kinds of work to sub-professionals. Many of his predictions such as using the computer in vocational counseling, working more in groups, and applying behavior modification techniques to vocational goals are already in practice today. Samler also projects that the counselor manpower problem may be solved through the use of trained sub-professionals--the

outreach worker, the training officer, or the group leader in job exploration. (47:11)

There are other ways counselors are changing their images and their counseling. Odell (37:21) has recommended that school counselors "exchange" with employment counselors or participate in inter-agency training programs. A number of companies and business organizations such as Plans for Progress are sponsoring seminars to up-date the counselor's knowledge of the "realities of the business world." (32:651) In Date County, Florida, counselors have formed a Vocational Guidance Council to study training offered in the high schools, local employment opportunities, and ways in which communication can be facilitated with business and industrial personnel. (55:199)

A growing trend in many guidance departments is toward a greater reliance upon the teacher in vocational guidance and counseling.

> To be effective, a curriculum committed to vocational development involves teachers at all educational levels, and through counseling and small group work, counselors reinforce and complement teachers' efforts. (35:128

More specifically, Cote has designated the vocational teacher as "the counselor's most logical helper." (10:11)

Super (49:571) has commented that the school counselor is in the midst of organizing and improving himself but that he needs the help of others in this process. It is hoped that through a closer working relationship with both vocational educators and industry, a new breed of counselors will evolve.

Placement and Folow-up in the Vocational Guidance and Counseling Service

An essential service in a complete vocational guidance program is placement and folow-up. Although there is some difference of opinion among educators, relative to the extent of responsibility of the school, the majority of educators will agree that the service should be provided either by the school or some other agency. When other agencies are available for this service, the school should cooperate with these agencies in the placement of students and dropouts.

> Placement is a process involving (1) preparation in which the individual is conditioned for the job (2) induction into the new situation, and (3) encouragement on the job. This suggests that placement is not merely finding a job for an individual but is essentially an educational service concerned with making sure that youth are so placed that they will continue to develop on the job as they developed in school. (42:353)

Follow-up services are designed to help the youth make adjustments to his new environment and to take advantage of opportunities for advancement that may come his way. These adjustments are needed in connection with later placements, in connection with removing causes of dissatisfaction, for obtaining additional vocational preparation and during periods of prolonged unemployment.

Since, according to law, a student is required to be in school till his sixteenth birthday, he must be enrolled in some courses. The student is required to take courses either to meet school graduation requirements or post-high school training requirements, or to secure a job. To teach

the student, the teacher must know his past achievements, potentials, interests and desires, and the probability of his benefiting from that specific course.

Each teacher should be aware of the occupational implications of his particular teaching field:

> In school subjects and jobs, Brochard (4:48) produces information in chart form which is designed to indicate how high school subjects are related to jobs, and how the school subjects can help prepare for a future vocation.

The placement of the student that has the aptitude and capacity to complete high school should be for graduation. This will help the student that wants a career requiring high school graduation.

In the situation where the student has the desire and capacity for college work he will need required high school courses for college. For those students wanting to enter technical schools requiring special courses, place them in the educational program that offers these subjects. Then there is the student that is preparing to secure a job, the dropout. His educational placement should be for acquiring the basics that are needed for job placement. He should be encouraged to continue his education after employment.

> Whether the school wills it or not, the school is in the business of job placement. Its products, graduates as well as drop-outs, sooner or late enter the labor market. Whether the school develops a formalized and centralized placement bureau will depend in large measure upon local conditions. However, centralized or decentralized in organizational matters, it is imperative that the school develop a close working relationship with the local office of the State Employment Service. (61:127)

The vocational placement will depend upon the student placed and the reason for placement. Some students will need to be placed in temporary jobs. These jobs will meet the immediate goals of the student. He may need financial help. These jobs will be during the summer, after school or on the weekends. In other situations, the student will need to be placed in a job to provide the opportunity for the individual to explore the world of work, gain first hand information about occupations, associate with potential occupational peers, and try out in a field with future career potential.

The primary objective of initial placement is to assist the student in obtaining a job from which he may progress toward his permanent or regular position. Such placement, if effective, generally decreases the need for future use of employment agencies, because advancements come from within the business, industry or profession.

Each of the guidance services has a relation to the others. Follow-up services continues the personalization of the guidance program.

> In the follow-up service, the identity of the individual is maintained and additional services are offered to him, or additional information of potential value to him is obtained for his guidance record. (20:383)

The follow-up must make provisions to assist the individual who is followed-up. Follow-up is a means of evaluating the program or school. However, if the follow-up is restricted only to the evaluation or research aspect, it falls far short

of its potentials. The follow-up will assist an individual to understand, accept and utilize his abilities, aptitude, and attitudinal patterns in relation to his aspirations, so that he may increasingly become more capable of making free and wise choices, both as an individual and as a member of a dynamic, expanding society. The follow-up service should extend to all alumni, both those who have graduated and those who have dropped out of school.

> When properly executed, a follow-up study permits a school to reach some decisions regarding the effectiveness of its program in assisting its pupils to meet successfully the problems they encounter after leaving school. (22:286)

A placement service helps to bring the individual into contact with job opportunities and to work out a job-procurement program. A follow-up is designed both to evaluate the guidance program itself and to help the individual make job adjustment necessary for continued progress in his chosen field. Both are essential phases of a guidance service.

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CHAPTER IX

TEACHER EDUCATION SERVICES

Weiss

Rationale

Ultimately, vocational and technical education will be as good as those who teach it, for the ultimate success of the program is directly related to the quality and availibility of personnel. Consequently, teacher education has been recognized as an important aspect of vocational education both by the House of Delegates of the American Vocational Association in the AVA Policy Resolutions adopted in December of 1969, and by the Congress of the United States in the Vocational Education Amendments of 1968. (1:90)

Part B, Section 122 of the legislation provides for the use of Federal funds for ancillary services and activities including teacher education and supervision. In subsections of the same section, additional staff and courses, special workshops and institutes and other programs to implement provisions concerning working with the handicapped and disadvantaged were included. Parts C, D, F, G, and I, which are concerned with new programs or renewed emphasis in existing programs require additional numbers of professional personnel, thus, requiring added teacher education services. Full implementation of all these provisions was urged by AVA

delegates. (3:5)

Traditional Approaches

Teacher Certification

A major controversy in the field of vocational teacher education is that of certification. Unlike academic, consumer and homemaking, and agriculture teachers who must complete a college program in teacher education before beginning teaching, teachers for trade and industrial education and technical education follow a different pattern. Extensive occupational experience and a great diversity of fields for which training programs are offered have necessitated hiring people with adequate occupational experience, but little or no pre-employment professional training. In a report of the National Invitational Research Development Seminar published by the Center of Vocational and Technical Education at Ohio State University in 1968, it was stated that 36 states were hiring occupationally competent teachers who had no professional education background. (12)

Raising certification requirements poses a problem because of the probability of not finding persons to fill the positions. Presently, persons with a strong occupational and teacher education background can obtain higher salaries in industry than in teaching. The shortage of vocational and technical teachers results in courses often being organized around the competencies of the teacher rather than needs of students and industry. Regardless of how successful an instructor might have been in his previous occupational experience, it is doubtful that he possesses all of the required knowledge.

skills, and abilities to effectively teach courses to meet the needs of industry. Since hiring additional teachers to meet all of the needed competencies is impractical, other solutions must be sought.

Professional Preparation

One possible solution would be to hire the best instructor available and then provide professional training through inservice workshops or seminars. Self-instructional programs might also be undertaken. Some recommended readings for professional growth of teachers with no educational background include Developing Vocational Instruction by Robert Mager and Kenneth Beach, Jr., "The Use of Behavioral Objectives in Instructional Materials Development" by Edward J. Morrison, "Embarking on a Teaching Career" by A. J. Paulter and Teaching Vocations by Carsie Hammonds and Carl F. Lamar. These are quite simple and are helpful to persons with no understanding of learning theory or of current methods and techniques of teaching.

Evolving Teacher Responsibilities and Needs

Areas of Teacher Need

Based on the percentage of increased teacher need in vocational service areas from 1965 to 1968, James W. Hensel, in a report entitled, "The Demand for Teachers in Vocational and Technical Education," predicted the areas of greatest need for vocational teachers from 1968 to 1970. The study findings were reported by vocational service area and the predicted areas of greatest need were, for Agriculture - horticulture,

agricultural mechanization, and agricultural occupations; for Business and Office Education - Office-clerical practice, data processing and stenographic-secretarial occupations; for Distributive Education - high school cooperative programs, and adult education areas; for Health Occupations - practical nursing, dental assistants and medical laboratory assistants; for consumer and homemaking education-food services, homemaking and child care and development; for technical education - electronics, data processing and mechanical technology; and for Trade and Industrial Education - automotive programs, including auto mechanics and auto body repair, and the metal trades, including machine shop and welding. (8)

Selection of Teacher Candidates

In a working conference concerning professional internship in vocational-technical education, Jacob Stern considered the following factors in successfully recruiting and selecting candidates for internship programs: (1) The educational background, specifically the levels of sophistication and of achievement, the kinds of educational experiences, and the appropriateness to the area to be taught, and (2) The occupational background, specifically the evidence of individual adaptability to the occupational setting, the appropriateness to the area to be taught, the level of sophistication and involvement required, the bredth and depth required, the length of experiences, and the achievements and success attained. Because of the varied backgrounds of candidates, Stern stated that the requirements for the baccalaureate degree should be

flexible enough to accomodate candidates desired for the program with qualifications being taken into consideration when they enter the program. (13: 35)

Entering Teacher Competencies Needed

The "Teacher Education Guidelines" developed for Vocational Industrial Education by Ralph O. Gallington, Professor, Industrial Arts and Vocational Education at Florida State University in April, 1970, include some general competencies which might apply to all areas of vocational-technical education. The knowledge, skills, and attitudes identified were concerned with successful employment in the occupation taught; ability to analyze his occupation for instructional purposes; professional and occupational enthusiasm; understanding and utilization of motivation techniques; selection and use of teaching aids; design and direction of an organized system of student activities to reach program goals; selection, acquisition, and utilization of equipment and materials in his occupational area; effectively working with the guidance and counseling function; knowing and appreciating the heritage of vocational education; ability to relate his area with other curriculum areas; contacts with industry; enlisting community support, cooperation and assistance; the principles of good shop organization and management; respect for the dignity and worth of the individual; working with educational leaders in designing learning experiences; meriting respect of students and staff; understanding the functions of the draft advisory committee; recognizing his contribution to the total education

of the person; recognizing his contribution to society; understanding the need for supervision; organizing and supervising effectively; and remaining up to date in his occupation. (5)

New Approaches in Planning Teacher Education Programs

Traditionally, universities have been responsible for the teacher education programs. However, several new types of programs are emerging and, in many cases, the universities share or relinquish this responsibility.

Don Davies, in "Teacher Education and Otherwise," in the February, 1969, issue of the American Vocational Journal advocates bringing schools into full partnership, giving them some right to establish teacher requirements. He states that another type of partnership called for is between forces on campus, specifically schools of education, the academic disciplines, and departments of vocational education. (14:60)

The small colleges are a predicted participant in teacher education in the near future. Although finances may present a problem, they are otherwise in a good position to experiment and innovate. (2:37)

The Department of Defense has started a new program known as "TRANSITION" for the last six months of duty to provide servicemen with job entry skills. Instruction is conducted by industry and the military. (17)

Changes in occupational demands in society will continue to be reflected in the quantity and qualifications of teachers and in the programs of teacher education.

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CHAPTER X

PUBLIC INFORMATION SERVICE

Markin

Why Public Relations?

Abraham Lincoln once said, "With public opinion on its side everything succeeds; with public opinion against it, nothing succeeds." (3:95)

Since formal education and public education exist as a result of the good will and support of the public it is essential that the educators keep the taxpayers convinced of its merits if education is to prosper. This certainly includes vocational education.

Public relations is, of course, a form of selling. In this case, let's say the product is vocational education, the manufacturer is the vocational education school system, and the people working in this system are the production workers. Now, let us assume this is going to be a carefully produced, high quality product, properly presented and sold. Who are the customers?

It is becoming increasingly evident that there is a great mass market for vocational education. (6:37) The largest number of customers and the greatest beneficiaries will be the successful graduates who can take their places in our society as worthwhile, productive citizens. Another pleased customer is the business or industry who employs

the vocational education graduate and profits from his skilled services. And there is still another great group of satisfied customers in the parents, spouses, and children who revolve around this well trained, efficient worker.

Whether you're selling beans, bananas, balloons, bread or school programs the approach is pretty much the same. So possibly the vocational educator can learn something from his business cousin.

The Dartnell Public Relations Handbook makes this observation.

> "There have been innumerable instances where businesses have sold at 10 and 20 times their net worth because of the good will they enjoyed. The buyer was willing to pay for this reputation because he knew it would reduce sales efforts and costs, keep down work stoppages, attract new capital, and in a thousand other ways make his business operation more profitable." (1:21)

Substitute the word "effective" for "profitable" and if the vocational educator looks at the above carefully he can compare almost every aspect of these advantages to his own operation. Especially the remark about "new capital".

One of the main points that business emphasizes and one that we will pursue later is that public relations is a two-pronged effort, internal and external. (1:33)

Goals to be Achieved

Daniel P. Moynihan, sociologist, liberal, and adviser to President Nixon said recently "Remember that a quarter of the American population has an I. Q. <u>under</u> 85.--I'm saying there are a fairly large number of persons who have limited skill". (6:37)

When you place Dr. Moynihan's remarks with those

found in the Ford Foundation financed book "Human Behavior" and the academic outlook gets a little grim. The authors say an I. Q. of 105 "has a 50-50 chance of passing in academic high school curriculum." (2:163) Since the average for the population is 100 this could mean that half the U. S. population, barring social and custodial promotions, would never get a high school diploma.

As it now stands, the student with lesser academic abilities feels inferior and that his future is bleak, but above all he feels isolated. Some how he must be told that he has millions of peers, or that his situation is normal and natural, and that there are numerous opportunities for him to make an excellent living and be a valued member of the community.

The public has to be convinced that vocational education is not something to be dreaded as a symbol of failure, but that there are many roads to a successful life, and that the one that leads to a college degree is in reality a minor trail.

When the above happy state of affairs is reached, then the two most mentioned problems of vocational education will be alleviated. One, the stigma that is now supposed to be attached to vocational education will be gone, and two, it will be relatively easy to attract the more able student to meet the demanding challenges of the more complicated technologies.

Media and Methods

The business people seem to put much more emphasis on internal public relations than do the educators. (1:33) The purpose of internal public relations is to weld all of the personnel into a single unit dedicated to promoting the goals and general welfare of the organization. In this regard the vocational education administrator should do all reasonably possible to make the vocational school employee a happy member of the "team", and an enthusiastic salesman for his "product".

Here are a few suggestions that an imaginative, innovative vocational education administrator and his public relations people could use as a starting place to build a successful internal public relations program.

1. Prepare a "Public Relations" platform or policy, setting forth the goals of your school in booklet form which can be distributed to employees so that they may understand the public relations objectives of the school.

2. Some time during the year hold an open house to which employees are encouraged to invite their friends so that they can see the place where they work and meet the people they work for.

3. Hold an annual Christmas party for the children of the employees.

4. As a school you are proud of the achievements of your employees, so when one achieves something noteworthy, either inside or outside the scope of the school, make sure the local news media hears of it. (1:51)

5. Keep your employees informed as to policies, problems, and developments in the school through meetingsings and bulletins. Don't let them get the news from the newspaper or television set, or worse, have to display their ignorance of school happenings by hearing the news from a friend.

And now we come to external public relations. The commen ground where all Americans seem to meet is their

mutual interest in money. Since money is the number one way of keeping score in the country (and probably in the world) the vocational education message should stress both financial opportunities for those in vocational education, and financial success stories about its graduates.

A recent article by Victor Riesel is a case in point. Mr. Riesel tells of $31,000 a year crane operators and $16,000 a year unskilled workers. (Think what a skilled worker would earn!) He speaks of craftsmen who worked the entire week of the Memorial Day three-day holiday taking home close to $1,000 each after double and triple time. (6:7a) Who says you have to go to college to make money?

Certainly all the tried and true messages should go to the public in a never ending stream. New vocational education programs, new grants, new faces, new, new, new---should be passed to all the news media and trade journals. But above all, there should be woven in the releases the message of money, success, money, social approval, money, vocational education is the road up, and, lastly, MONEY!

In external public relations there are a multitude of tested programs the vocational educator can modify or improve to fit his situation. Below are listed just a few.

1. Open house. Still one of the best devices. Can be an annual event, plus special occasions such as the completion of a new building or facility. (5:364)

2. Encourage staff and faculty when qualified and so inclined to speak to local organizations, other schools, and conventions. (3:187)

3. Arrange for exhibits from the school to be displayed at shopping centers, churches, conventions, museums, county fairs, and other places where they will

have public exposure. Exhibits should also be displayed in the school, and emphasized during the open house promotions. (8:180)

4. Encourage local schools to bring their students for organized guided tours. Roll out the red carpet.

5. Encourage staff and faculty to maintain close contact with local industry and business by meeting the top management, and inviting members of labor and management to serve on advisory committees. (8:177)

6. Once a year entertain the editorial representatives of the news media at a luncheon or dinner so they can meet the key members of your staff and faculty.

Feedback Systems

So, we feel we have a high quality product, and that it has been properly promoted and sold. But are we sure? The old question is here, "How we doing, neighbor?".

Certainly the first area to check is customer satisfaction. If the graduate is pleased and happy with his education, earning a good living, and enjoying his work then the school can feel it's meeting its basic obligation. Here the public relations department should check on the alumni with such devices as newsletters and questionaires. Encourage them to drop a line on a postcard with news of moves or promotions. Questionaires of the "What helped you most in the program?" type could be a real guide.

Questionaires and polls among the employers of the school's graduates can also light the way. "What do you like most about the graduate's training?", "The least?", could be one form of approach. "How can we improve our program?", would be still another.

Another important area in which to check the school image is in the rest of the school system. Teachers and

staff should be surveyed with such as these: "Do you feel the vocational education center is doing a good job?". "What suggestions do you have for improvement?". "Would you recommend us to your students?".

Where practical, the school should try to measure the attitudes and opinions of the general public. In addition to professional polls, the vocational educator can use such devices as the open forum, the advisory committee, and panels of representatives of all organized interest groups. (5:54)

Controls

One final word pertaining to public relations and keeping a happy shop. Human nature being as it is, the vocational education administrator will have to watch that one or a few departments do not "hog" a disproportionate share of the public relation's output. There is always present the spectre of the indignant department head with the "How come you're always putting Charlie's department in the paper and you never mention mine--" type of complaint.

This problem can never be completely avoided as some departments automatically generate more news because of their nature, but where possible, for the sake of peace in the family, every effort should be made to see that all departments share in the efforts of the public relations department.

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CHAPTER XI

EVALUATIVE PRINCIPLES OF VOCATIONAL EDUCATION

Shortridge

The evaluation of vocational education is attracting the attention of vocational educators in increasing numbers. Inspired by rising costs, new legislation, the probing tax payer and a need to know, vocational educators seek objective information about the operation of their program--particularly the final product.

The literature on the subject of evaluation is overwhelming. It would be impossible in one article to present all of the techniques, all of the roles of evaluation in vocational and technical education. Therefore, I will make no attempt to review the literature but will provide a general look at the term as it applies to vocational education. The simplest way to negate an evaluation is to fail to establish an adequate or suitable goal.

> There is no way to make the evaluation of vocational education a routine matter. The essence of evaluation is insight and no mechanical compilation can substitute for the perspective an able person applies to the selection of goals. (1:16)

In making ready for evaluation each school selects its evaluation goal and clarifies the purpose of the institution. The second move is to create a pattern of the school process, and the third step is to find an objective measuring device. (1:17)

Improvement of Programs Through Evaluation

Program evaluation is basically the assessment of present status. It can do no more than provide quantitative and qualitative descriptions of current program conditions. The basic fallacy of descriptions of evaluative procedures is that they often stop short, leaving the impression that the process is an end in itself. Ending the process of collection, analysis and description of findings is justifiable only when final judgments indicate satisfaction with existing conditions. At least implicit in undertaking an evaluation are three factors: (1) a suspicion, however vague, that some change/s may be in order, (2) a commitment to make any needed changes, and (3) recognition that program modifications involve some degree of risk.

It is one thing to conduct a program evaluation to identify strengths and limitations but quite another to use the results to bring about change. The question of concern here may be simply put: If program evaluation has been conducted and change is indicated, how may it be secured? Reforms in vocational programs, as in other educational endeavors, are not a simple matter.

Modification of vocational education programs are a highly complex process, involving technical innovations, shifts in school population composition, and staff personalities. It is a complex process because the functions of vocational programs are enmeshed in a web of educational expectations and relationships.

Methods and Evaluation

There are a number of ways to approach the evaluation of vocational education. However, three elements are always present in any comprehensive evaluation and must be clearly delineated prior to beginning an evaluation. First, the objectives of the program, service, or activity must be stated in decisive and recognizable behavioral terms. The expected outcomes must be formulated in such a manner that they can be viewed and verified. Second, the activities or methods which are used to attain the objectives must be established. Third, procedures must be developed to collect evidence as to whether the activities or methods result in the attainment of objectives. (13:407)

Even though this chapter is limited to the three of the more prominent approaches to vocational evaluation, it should be apparent that many evaluative efforts involve combinations of methods to one degree or another.

1. Survey Method:

The survey method appears to be the most common and frequently used appraisal method in the school setting. Basically, it involves three aspects: (1) selecting the attributes, or goals, that are important in judging the worth of the entity to be evaluated, (2) developing and applying procedures that will describe attributes truly and accurately, and (3) synthesizing the evidence yielded by these procedures into a final judgment of worth. (7:15) The survey method is

often used in self-study by schools to appraise the assumed impact of the entire vocational program upon the lives of pupils.

Survey methods ordinarily center on services (external and internal), the direction of learning (which would include instructional staff, methods and activities), testing to determine what individuals gain from training, etc. (12:22) It tends to emphasize the availability of activities, staff, facilities and programs.

Restrictions of survey methods--lack of experimental validation, difficulty in inferring causal relationships, sampling errors which bias survey data--have led school personnel to be increasingly critical of a simple survey method to program evaluation. (13:408)

2. Experimental Method:

The execution of this method necessitates carefully planning in order to study a group of individuals in terms of a given set of variables. Experimental methods require the application of scientific procedures which involves predetermined sequence such as (1) the determination of objectives and methods of attaining these objectives; (2) the development of ways to measure the attainment of these objectives; (3) the selection of one or more groups for control and experimentation; (4) the process of carrying out necessary steps for the objectives; and (5) a measurement of the outcomes of experimentation. (13:409)

The ideal model of this method requires access to two groups--control and experimental. Both groups are chosen from a common class, socioeconomic group, grade level or whatever you are attempting to evaluate. The control group is held constant--nothing is done to them out of the ordinary. The experimental group is subjected to change in order to ascertain if any alteration is evident. This method supposedly rules out chance and focuses on instruments employed in the experiment.

3. Individual Study Method:

The term "Individual" is descriptive of this method--it measures the change in an individual as a result of introducing certain variables. Appropriate goals for the individual are established along with a system for collecting data. A logical review is maintained and changes attributable to the procedures employed are assessed.

The individual study method is time-consuming, but has certain advantages. It emphasizes the individual and his progress. It avoids the massing effects of many other evaluative approaches by which much may be learned of the effect on the group but little is known of what occurs to the person. (13:410)

The Problem with Criteria

The major difficulty besetting any evaluator of vocation, or for that matter, any researcher is the criterion

problem. The selection of a criterion is crucial, for the degree of confidence placed in the evaluation depends upon the appropriateness of the criterion. Some of the more common criteria that have been employed in vocation educational programs are (1) worker ratings, (2) salaries, (3) mobility, (4) job satisfaction, (5) unemployment, etc. (3:51-52)

The following diagram (3:55) illustrates the importance of careful criterion selection:

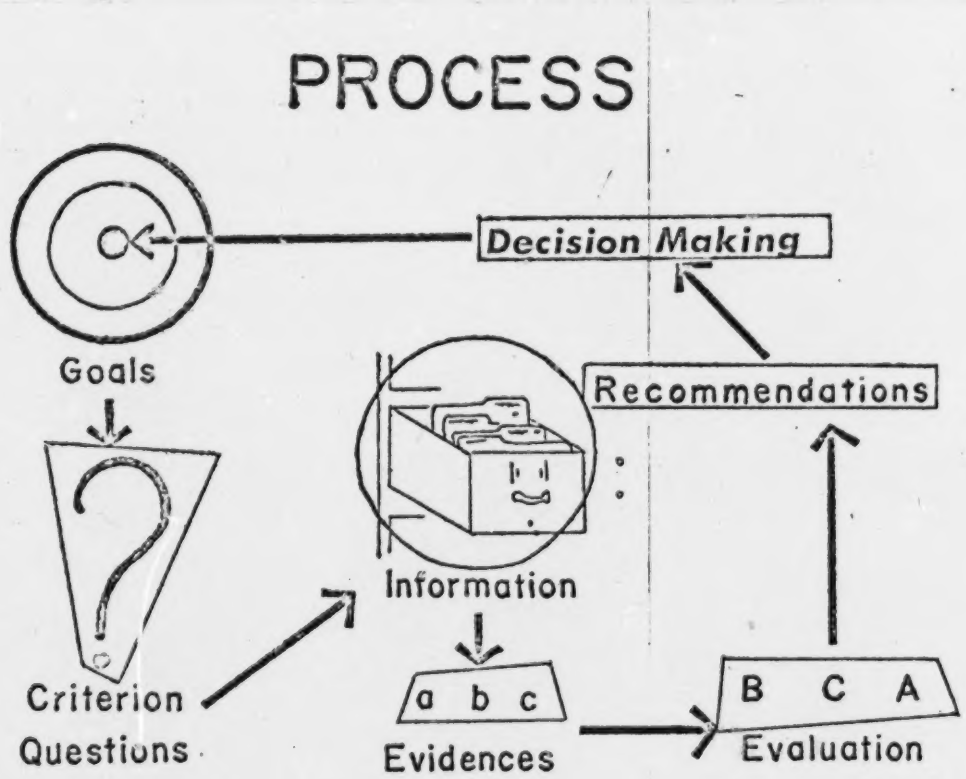

Figure 3

Evaluation: A Continuous Process

Evaluation must be a continuous process. Whatever may be satisfactory today may have no relevance to conditions tomorrow. (2:18)

The need for vocational education in a specific area must be determined by evaluation of occupational needs. (5:1)

1. What are the geographic boundaries of the labor market?
2. After completing training, will trainees be able to find work in the fields in which they are trained?
3. Will the need for trainees in these fields probably continue?

Once the need for training has been established, it must be determined if students are interested. (5:1)

Vocational programs are evaluated to find out if the objectives are being reached, or how well the results are filling the training needs. Evaluation measures taken without reference to past or future attainment would be misleading. Furthermore, opportunities for collecting data often slip by unnoticed if evaluation process are not continuous.

> A primary defense against an undesirable reaction to the many good programs in Vocational Education is careful evaluation of results to insure the elimination of defective ones before they create a public scandal. (1:16)

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CHAPTER XII

GENERALIZATIONS

Hopper

This seminar was composed of graduate students with widely diverse backgrounds and varied interests. Spirited discussions were held between the vocational and industrial arts majors; between the counselor education majors and other groups. An extensive occupational and educational background blended with a broad spectrum of industrial, business and military experience to advance toward the common goals and objectives as shown by the index of topics covered.

In vocational education today, we are in the unique position of receiving special notice from legislators and the public; we are showered with attention from educators in other fields because of the emphasis being placed on occupational education at this time. This attention must not be taken lightly and the grave responsibility must be accepted along with the support being given to us.

To be successful, occupational preparation must be oriented to the needs of society. Much of the legislation described in chapter III is indicative of the needs of the people as reflected by passage of these acts. Patterns of life can be changed by education and programs such as those described. Vocational education can remove people from the

roles of unemployment and from unsatisfactory jobs and raise them to productive and rewarding positions in life. Their contributions as tax-paying citizens far offsets the cost of these programs in just a few short years. In some instances the poverty cycle of generations can be broken by affording them the guidance and opportunity to utilize their undeveloped abilities. Work patterns have changed greatly with a resultant effect on families. It is becoming uncommon for children to follow the vocational choices of their parents whereas this was expected at the turn of the century. The move from farm to city life has caused a disorientation in family groups as well as vocational choices. The security and certainty of life in colonial America with the puritannical concept of dignity in hard work and pride in physical cccomplishments and craftsmanship has given way to social class structures based on occupations. An individual's concept of himself is influenced by his employability and occupational status. This social identification is present in many aspects of life and one of the goals of vocational educators and guidance personnel must be to obtain and disseminate more data on job satisfaction in relation to salaries and social acceptability. This aspect was considered in chapter X, Public Information Service.

Changes that have occurred are exemplified by the work in agriculture where marine agriculture can produce many times the production per acre in the utilization of experimental mari-culture techniques. The general impact of technical education was mentioned in chapter I and the innovative

programs in industrial education was covered in chapter III. The lines of demarcation are less clearly defined between industrial arts and vocational education as a result of the recent Florida legislation and the interrelationships and interdisciplinary concepts must be considered as shown in chapter IV. Cooperative education has been in existence since the early days of Berea College and now has progressed to the sophisticated engineering co-op programs found in a number of schools.

Vocational education for the handicapped is just as important as for the disadvantaged, but many educators are still undecided as to what are the differences in the programs. Some of the recent legislation defines and restricts funds for specific use in these programs.

Contractual programs are becoming big business and have existed in some form for many years. If the public school vocational educators fail in assuming the responsibilities given to them by the public and by the legislators, then it is a certainty that private organizations will step in to fill the need.

The largest chapter in this report is on vocational guidance and counseling. This is indicative of the importance the participants placed on this phase of the seminar and the references in class as well as in other chapters further points out this significance. Evaluation of guidance is one of the easiest because percentages of people placed in occupations for which they are trained and earnings initially as

well as in subsequent years are very tangible measures. Some of the intangibles are effects of group techniques, changes in judgments, aims, goals and spin-off benefits where placement is in a related field and questions as to whether schools should have placement offices.

The relatively short history of vocational education is well documented as to where we have been and most educators know where we are today, the big question is where we are going tomorrow. This question will be determined largely by the success of the teacher education services. In closing this report it is most fitting to end with a statement on recruitment and retention of qualified vocational teachers. This is probably the most important area of concern for the future, and has been one of the continuing problems throughout the development of vocational education. The importance at the graduate level is especially significant in order to provide future leadership.

It is most appropriate to end on this note because without success in this aspect of our program, it could well be the end of the excellent support being given to vocational education today.

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IDENTIFIERS - NEVADA

ABSTRACT - The occupational data contained in this report were gathered in a 1969 survey of Nevada employers. Out of 4,200 employers in the stratified sample, 2,200 returned the completed data forms. After inflating the sample data to obtain estimates of total employment by industry in each county, the study assumed a constant occupational structure within each industry over the next 10 years in order to estimate 1980 employment by occupation. The report predicts an increase of 171,200 jobs in Nevada by 1980, with the fastest growing jobs in the professional and technical field. Recommendations are made for improved educational programs to meet the demand for increased skill levels, and better utilization of manpower, by eliminating unnecessary restrictions on employment. (BH)

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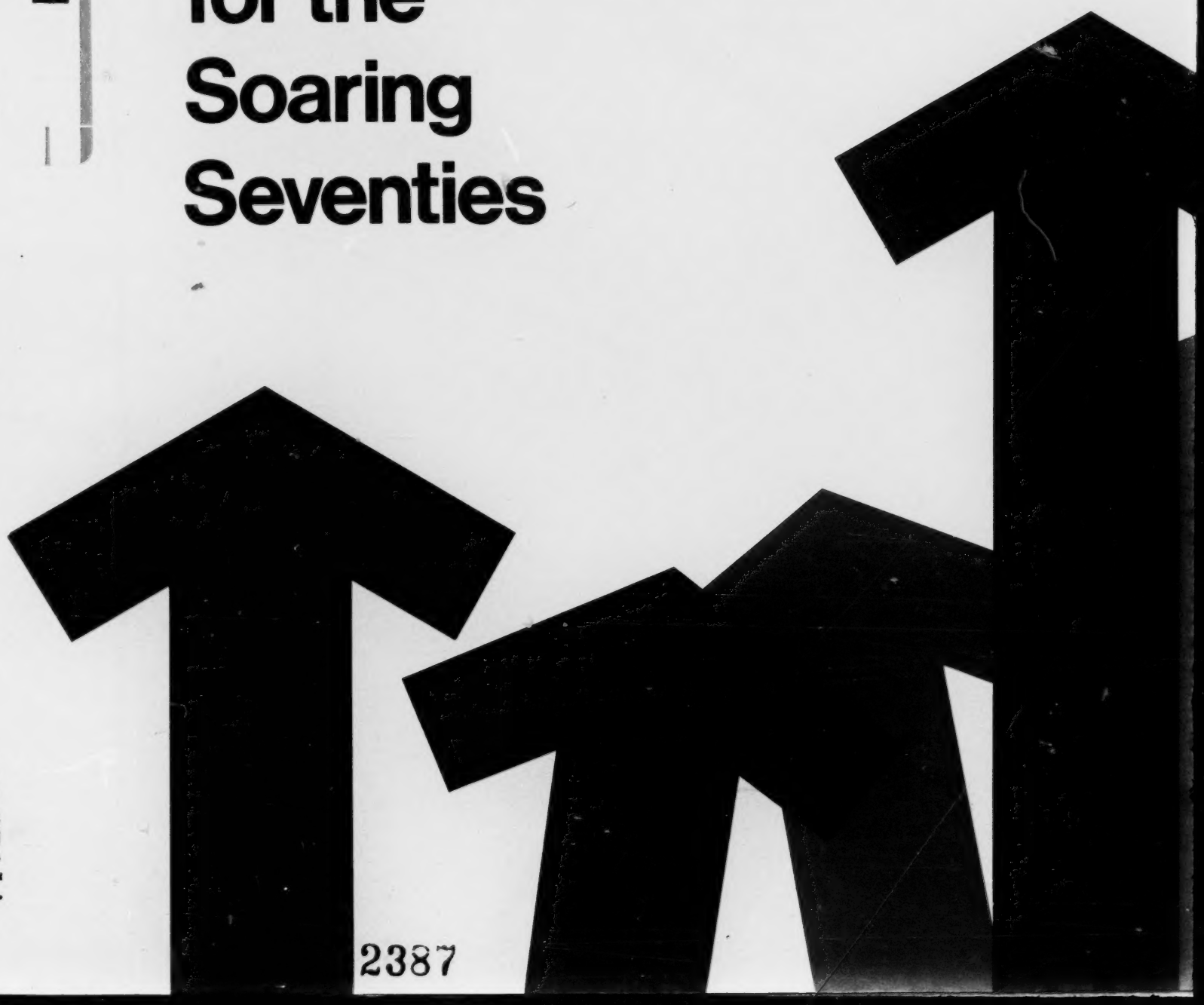
Manpower Horizons for the Soaring Seventies



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FOREWORD

This publication contains findings resulting from the mid-year 1969 Manpower Survey undertaken by the Nevada Employment Security Department. Material relating to anticipated industrial distribution of the State's work force was published late in 1969 — in conjunction with the 1969 Governor's Manpower and Economic Development Conference — under the title, "Preliminary Economic Projections for the Soaring Seventies". In addition to industry distribution, the present report contains current data and projections to 1980 of the occupational and regional distribution of Nevada workers.

Of necessity, the conclusions reached in this report have been kept general. A vast amount of detailed data were obtained from the recent Manpower Survey and it is beyond the scope of this publication to discuss at length all the implications which these data contain. Intensive reports utilizing the Manpower Survey data and dealing with such subjects as Supply and Demand Projections, Women in Nevada's Work Force, Employer's Educational Requirements, etc. are presently in the planning stage and will be available in the near future.

Information contained herein will be of value to legislators, employers, educators, and other persons having a basic interest in manpower trends of the 1970's. Terrific growth is anticipated for the Nevada economy in the next decade and the correct utilization and interpretation of present information and trends is of utmost importance if our economy is to expand without the economic and social dislocations which have been experienced recently in some other urban areas.

Lee H. Burnham

LEE H. BURNHAM
EXECUTIVE DIRECTOR

Manpower Horizons for the Soaring Seventies

JULY, 1969

Prepared by
Manpower Information and Research Section
Employment Security Department
Carson City, Nevada

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An analysis of employment within Nevada in 1969 with projected trends through the 1970's

JULY, 1969

Prepared by
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ment Security Department
Carson City, Nevada

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ACKNOWLEDGEMENTS

The Nevada Employment Security Department wishes to acknowledge its appreciation to those employers throughout the State whose cooperation in the 1969 Manpower Survey made possible the information contained herein. Survey questionnaires of the type sent out are often tedious and time consuming which sometimes results in a low percentage response; however, due to the generous and willing cooperation of hundreds of Nevada employers the present study is felt to reflect a high degree of accuracy and, consequently, to provide a useful tool for economic planners.

This project was undertaken by the Manpower Information and Research Section of the Employment Security Department. General overall supervision was provided by Ralph Allyn and Richard Peterson, Chief and Assistant Chief, respectively, of M. I. R. Specific responsibility for the project was undertaken by the Research Unit within M. I. R., under the direction of James Hanna. Grahame Ross, assisted by George Anastassatos and Joe Seifers, analyzed the survey data and wrote the report.

Particularly appreciated were the services performed by Bell of Nevada and its parent organization, Pacific Telephone and Telegraph. Through the efforts of Paul Garwood, the staff of Pacific Bell provided computer compilation and reduction of the basic survey data. Specific acknowledgements go to Gerald Bongard, Berenice Fox, R. D. Stouffer, L. H. Inama, and their respective staffs. In addition, James Oliver, Roger Maillard, Leila Drown, and the Nevada Employment Security Data Processing staff performed further necessary computer services.

Numerous persons assisted in making suggestions, checking computational work, reviewing the manuscript and performing secretarial chores. To these people the Employment Security Department extends its thanks and appreciation.

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INTRODUCTION

Since the 1940's Nevada has been growing at a rate comparable to that which accompanied the discovery and development of the many bonanza mining towns of the 1860's. Both population and employment have more than quadrupled since 1940, resulting in profound changes in the economy of the State. Accurate planning for anticipated growth such as has been experienced is largely dependent upon the availability of accurate data.

The purpose of "Manpower Horizons for the Soaring Seventies" is to make available to legislators, educators, planners, businessmen and any other interested parties, nonagricultural wage and salary employment information which will be of benefit to them in facing the challenges of the coming decade, a period in which Nevada's economy will continue its expansionary trend.[1] This publication examines several aspects of the present work force and projects various employment trends to 1980. Principal consideration is given to the structure of the present and future work force. Employment trends within broad industry groups are examined and projected to arrive at an understanding of the types of businesses in which the 1980 work force will be employed. A more detailed analysis of the occupational trends is then undertaken in order to determine where priorities should lie in the training of future employees. Attention is given to both those occupations in which the greatest number of persons are employed and those occupations, irrespective of size, which are expected to be the fastest growing.

The majority of Nevada's population reside in two urban centers, Reno and Las Vegas, with the remainder being unevenly distributed throughout the rest of the State. Economic and employment differences are readily discernible in these three areas and are the concern of the third major section of this report.

The role of women and other minority groups within the labor force is discussed in another chapter. The painfully gained experience of the 1960's has graphically illustrated the fact that all irrelevant discriminatory barriers to employment opportunities must be completely and quickly dismantled. Not to do so is to invite continued social turmoil and impair anticipated economic growth.

1 Includes all full-time and part-time employees who work or receive compensation from nonagricultural establishments. It does not include pensioners, members of the armed forces, and self-employed and unpaid family workers.

HISTORICAL OVERVIEW

Nevada's economic growth has historically been directly related to mineral extraction, agriculture, and transportation. Gold and silver discoveries, preceding the establishment of the State, brought thousands of fortune seekers to Austin, Humboldt City, Unionville, Virginia City and a host of other mining camps. New industries were formed and expanded to cater to the demands of both the mines and the miners.

Mining activity reached a peak in the latter half of the 1870's at which time the assessed value of the net proceeds of mining was approaching $25 million per year. Attendant expansion in both population and the value of real property paralleled this growth. The completion of the Central Pacific Railroad in 1868 gave rise to many small distribution centers which served the numerous mining communities in the State's interior. Other engineering accomplishments such as the Sutro Tunnel, the Marlette Lake — Virginia City Water System and several branch railroad lines stimulated economic growth and provided employment opportunities.

From 1880 to 1900 the economy of the State went through a period of decline as the discovered mineral deposits were depleted. Although the great mining bonanzas became a thing of the past, the value of agricultural crops and livestock increased, not only relative to mining activity and other industries but in absolute terms as well. The economy during this time shifted from a mineral to an agrarian base.

Coincident with the onset of the twentiet strikes in the Tonopah-Goldfield area spar remarkably similar to that of the 60's and connecting Los Angeles to the eastern seab major irrigation projects in the Truckee Riv created new marketing centers in the nort diversification of mineral production to inc

During this twenty year period, the increas of the need for better highways and, for the visitors for economic reasons. This was p became known as the "Divorce Capital of t

In the early years of the Great Depression a whole new Statewide economic structure. felt, were the construction of Hoover Dam divorce and acceptance by the State Legisl activity.

NEVADA: INDUSTRIAL DISTRIBUTION OF NONAGRICULTURAL EMPLOYME

(IN THOUSANDS)

INDUSTRY	1940	1945	1950	1955	1
TOTAL	37.4	48.3	53.8	84.5	1
MINING	6.4	2.8	2.8	4.9	
CONSTRUCTION	2.3	3.4	4.5	9.1	
MANUFACTURING	1.3	3.2	3.5	6.0	
TRANSPORTATION, COMMUNICATION & PUBLIC UTILITIES	5.8	9.8	8.2	9.5	
TRADE	8.2	9.7	10.9	17.3	
FINANCE, INSURANCE & REAL ESTATE	0.5	0.7	1.2	2.3	
SERVICE	5.6	7.3	11.9	21.8	
GOVERNMENT	7.3	11.4	10.8	13.6	

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HISTORICAL OVERVIEW

neral extraction, agriculture, hment of the State, brought inia City and a host of other o the demands of both the

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Coincident with the onset of the twentieth century was a resurgence of mining activity. Gold strikes in the Tonopah-Goldfield area sparked a twenty year economic growth period that was remarkably similar to that of the 60's and 70's. The completion of the Union Pacific Railroad, connecting Los Angeles to the eastern seaboard, sponsored growth in the Las Vegas region while major irrigation projects in the Truckee River watershed encouraged agricultural development and created new marketing centers in the northwestern region. World War I demands resulted in the diversification of mineral production to include copper, lead, zinc and several rare metals.

During this twenty year period, the increasing popularity of automobile travel caused recognition of the need for better highways and, for the first time, generated interest in attracting out-of-state visitors for economic reasons. This was particularly true of the Reno area which subsequently became known as the "Divorce Capital of the World" due to Nevada's liberal divorce laws.

In the early years of the Great Depression a series of events combined to herald the inception of a whole new Statewide economic structure. These events, the repercussions of which are still being felt, were the construction of Hoover Dam, a further reduction in the residency requirement for divorce and acceptance by the State Legislature of gambling as a legitimate and viable economic activity.

ISTRIBUTION OF NONAGRICULTURAL EMPLOYMENT, 1940-1969

(IN THOUSANDS)

945	1950	1955	1960	1965	1969[1]
48.3	53.8	84.5	103.4	157.4	188.8
2.8	2.8	4.9	3.5	3.7	3.9
3.4	4.5	9.1	7.8	12.3	10.9
3.2	3.5	6.0	5.4	7.0	7.7
9.8	8.2	9.5	9.1	11.7	13.4
9.7	10.9	17.3	19.4	29.3	35.5
0.7	1.2	2.3	3.4	6.2	7.1
7.3	11.9	21.8	36.0	58.6	74.5
11.4	10.8	13.6	18.8	28.6	35.8

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RECENT EMPLOYMENT TRENDS

The impact of the previously mentioned three events has been catalytically affected by nationally increasing trends in the level of affluence, amount of leisure time, and availability of high speed, i.e., short time, transportation facilities. Nevada's major industry, service and tourism, is such that an increase in any one of the above factors will beneficially affect the growth in that industry. Increases in per capita income are reflected in increased gaming revenues. Increasing leisure time is undoubtedly responsible for the growing number of visitors to our State and the fact that they are spending more time here. Finally, the nearly completed interstate Highway System has greatly enhanced the accessibility of Nevada's recreational areas to residents in California as well as more distant states.

The event of greatest significance in altering Nevada's economy was the legalization of gaming. This one act has resulted in the expansion of Las Vegas, previously a sleepy railroad supply center, to a city that has become legend throughout the world. Parallel expansion has also occured in the Reno area. In more relevant terms it has resulted in a major change in the industry and occupational mix of the State's labor force. Employment within the hotel, gaming and recreation section of the service industry divi
employment in 1940 to over 25 pe

Employment in the primary industr
cent of total employment in 1940
found on the national level, in no
experienced within Nevada. The vas
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Paralleling this development and
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upon service oriented activities has
traditionally open to women. Wor
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NEVADA: TOTAL NONAGRICULTURAL EMPLOYMENT 193

1939	34,800	1947	53,600	1955	
1940	37,400	1948	53,000	1956	
1941	41,700	1949	51,400	1957	
1942	58,500	1950	53,800	1958	
1943	55,800	1951	58,500	1959	
1944	48,900	1952	66,100	1960	1
1945	48,300	1953	72,100	1961	1
1946	53,100	1954	76,000	1962	1

ECONOMIC EXPECTATIONS OF THE 1970'S

In the next decade, the Nevada economy is expected to experience a tremendous expansion which should bring a significant increase in both the population and the work force, a further diversification of the industrial base, a reduction of cyclical swings, and in general — prosperity. The vigorous growth anticipated will undoubtedly mark Nevada as the major growth state in the Seventies.

The key to the above predictions is the tourist dollar. Unlike other areas of the nation where the goods producing sectors support activity in the other industries and dictate the rate of growth, in Nevada it is the service industry, with its amusement and recreation component, which is the dynamic element.

The optimistic outlook for this sector is founded on some fairly concrete facts. To begin with, there is more than ample evidence to indicate that amusement and recreational pursuits are highly income elastic. In simpler terms, this means that as the level of affluence in a society increases, an increasing proportion of personal income is spent in this area. This fact, coupled with the tremendous anticipated in
especially in the western states,
gambling, plus the fact that peop
Nevada's share of the tourist dolla

Also not to be overlooked are the
which are excellent for outdoor
utilized as both population growth
in the Sierras.

Being labor intensive as opposed
require substantial increases in em
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RECENT EMPLOYMENT TRENDS

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Parallel expansion has also occured in
n a major change in the industry and
within the hotel, gaming and recreation section of the service industry division has risen from about 7 percent of the total nonagricultural employment in 1940 to over 25 percent in 1969.

Employment in the primary industries — agriculture and mining — has declined from over 30 percent of total employment in 1940 to less than 5 percent in 1969. While similar trends are to be found on the national level, in no case has the change been anywhere near the magnitude as that experienced within Nevada. The vast majority of Nevada workers are now employed in the so called non-goods producing industries, essentially they are performing some type of service for their fellow citizens rather than being involved in the production of goods.

Paralleling this development and partially resulting from it is the trend toward increasing percentages of female workers in the work force. The increasing dependence of the Nevada economy upon service oriented activities has resulted in a proportional increase in the number of positions traditionally open to women. Women now fill over one-third of all nonagricultural jobs in the State whereas in 1940 they accounted for less than 20 percent of nonagricultural employment.

ADA: TOTAL NONAGRICULTURAL EMPLOYMENT 1939-1969

7	53,600	1955	84,500	1963	142,800
8	53,000	1956	85,700	1964	149,400
9	51,400	1957	88,100	1965	157,400
0	53,800	1958	88,300	1966	162,100
1	58,500	1959	96,200	1967	166,200
2	66,100	1960	103,400	1968	177,300
3	72,100	1961	109,700	1969	188,800
4	76,000	1962	126,800		

ECONOMIC EXPECTATIONS OF THE 1970'S

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and the work force, a further diversific-
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t as the level of affluence in a society
s spent in this area. This fact, coupled with the tremendous anticipated income, population and leisure time increases in the nation and especially in the western states, presents an immense potential. The uniqueness of legalized gambling, plus the fact that people thoroughly enjoy this form of recreation, guarantees that Nevada's share of the tourist dollar will increase.

Also not to be overlooked are the virtually unlimited and unexploited natural resources in Nevada which are excellent for outdoor recreation. These areas will undoubtedly become increasingly utilized as both population growth and increasing per capita use begin to cause an "overcrowding" in the Sierras.

Being labor intensive as opposed to capital intensive, the growth of the "tourist industries" will require substantial increases in employment. Employment and resulting population increases will then be translated into a growing demand for consumer goods, housing, governmental services, financial services, etc.

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While the growing population will help contribute to a healthy economic climate, it will also entice new industry into Nevada fostering continued economic growth. Firms which in the past merely shipped goods and services into Nevada will find it desirable to locate branch offices, manufacturing plants, and distri these firms in turn will increase firms into the State.

EMPLOYER EXPECTATIONS

An economic forecast form was included with the Manpower Survey form on which employers were questioned regarding their expectations of the future economic situation of the State.

This form consisted of five questions which were to be answered by an executive or an official of the firm. The first question was: "What are your expectations for the Nevada Economy in 1975?" This question resulted in a variety of answers which were separated into two categories; if the response inferred a strong, excellent, or steady growth, it was classified as optimistic; and if the response inferred a slow or decreasing growth rate, it was tabulated as pessimistic.

"If the State's economy continues to expand through 1975 at a rate equal to that experienced during 1968, do you expect your industry to: (1) grow at a faster rate, (2) grow at the same rate, or (3) grow at a slower rate", was the second question. The answers were similar in nature to employer's responses to the first question. Over 91 percent of the responding employers felt that growth in their industry would be at a rate faster than or the same as that experienced in 1968, while only 9 percent of the reporting firms felt that growth in their industry would be at a slower rate. Once again the employers seem to expect continued growth in their industry, as well as the State as a whole.

The third question sought information as to plans by firms to construct new or enlarge existing facilities in Nevada between now expansion would take place and one-third of the respondents are largest affirmative responses were thirds of the reporting governm facilities, primarily in the buildin government facilities as required

The fourth question elicited con porated into the employer's firm comments received were subseq not the employer anticipated e responding employers felt there felt that they would have a signi

The fifth question called for em skills by 1975, and specification were tabulated into yes or no ca be no shortage of any skilled w labor would exist.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT BY INDUSTRY

INDUSTRY GROUP	1969
MINING	3,900
CONSTRUCTION	10,900
MANUFACTURING	7,700
TRANSPORTATION, COMMUNICATION & PUBLIC UTILITIES	13,400
TRADE	35,500
FINANCE, INSURANCE & REAL ESTATE	7,100
SERVICE	74,500
GOVERNMENT	35,800
ALL GROUPS	188,800

economic climate, it will also
owth. Firms which in the past
rable to locate branch offices,

manufacturing plants, and distribution centers to serve a growing population. The entrance of these firms in turn will increase the demand within the local market thereby drawing additional firms into the State.

EMPLOYER EXPECTATIONS

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responding employers felt that
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n their industry, as well as the

nstruct new or enlarge existing

facilities in Nevada between now and 1975. Employers were asked to specify in which county the expansion would take place and estimate the resulting increase in employment. Approximately one-third of the respondents are planning for construction of new facilities. Percentage wise, the largest affirmative responses were recorded in the government sector of the economy. Almost two thirds of the reporting government agencies felt that they will enlarge and/or construct new facilities primarily in the building of education facilities, protective services facilities, and local government facilities as required by population increases of the seventies.

The fourth question elicited comments on any technological innovations that would be incorporated into the employer's firm resulting in a significant reduction in manpower by 1975. The comments received were subsequently classified into yes or no categories denoting whether or not the employer anticipated employment shortages for this reason. Over 94 percent of the responding employers felt there would be no reductions in manpower, while less than 6 percent felt that they would have a significant reduction in manpower by 1975.

The fifth question called for employer anticipation of shortages of workers possessing certain skills by 1975, and specifications in this area. This question also had a variety of answers which were tabulated into yes or no categories. Over two thirds of the respondents felt that there would be no shortage of any skilled workers by 1975, while one third felt that a shortage of skilled labor would exist.

D PROJECTED EMPLOYMENT BY INDUSTRY GROUP, 1969 & 1980

1969	1980	PERCENT INCREASE
3,900	5,000	28%
10,900	20,000	83
7,700	15,000	95
13,400	21,000	57
35,500	64,000	80
7,100	15,000	111
74,500	148,000	99
35,800	72,000	101
188,800	360,000	91%

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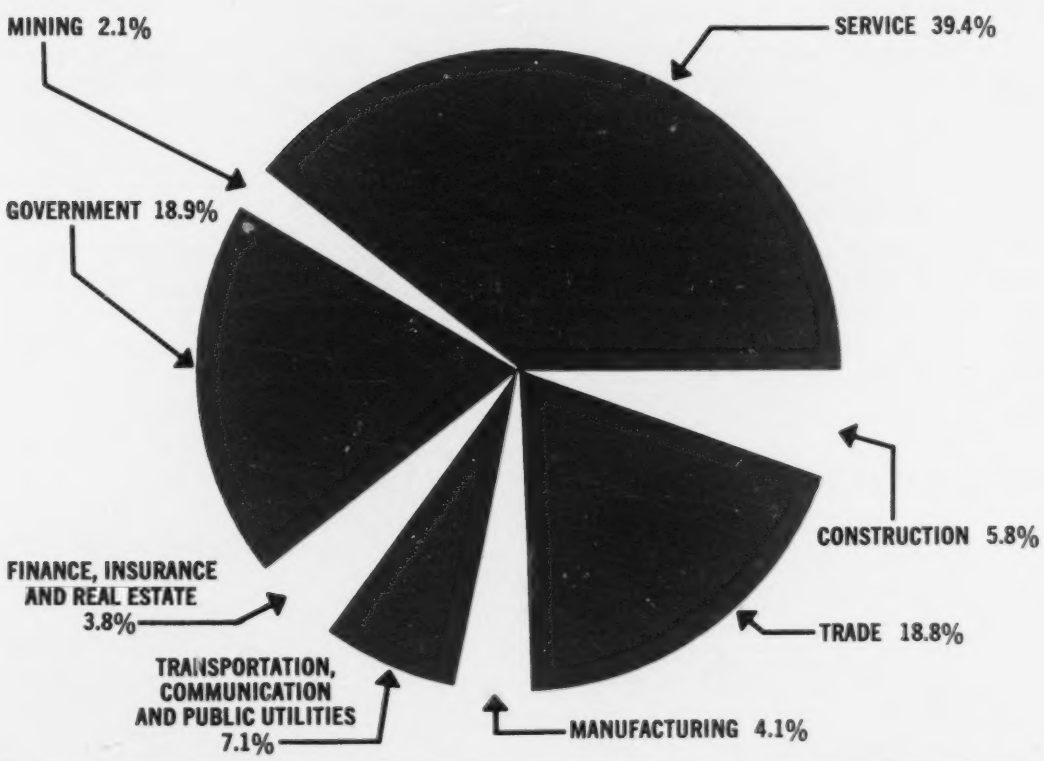
INDUSTRIAL DISTRIBUTION OF EMPLOYMENT

Knowledge of the industrial distribution of Nevada workers is essential in arriving at a clear understanding of the structure of the economy. As explained earlier, major changes have taken place in the State's economy as a result of the legalization of gambling. Fantastic growth has occured in the number of persons employed by the service industries, which now account for approximately 40 percent of the total nonagricultural employment.

NEVADA: PERCENT DISTRIBUTION OF EMPLOYMENT BY INDUSTRY, 1969



The 'service' industry inc
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lodging places; establishm
repair (automobile repair
services; medical, legal,
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fraternal groups, etc.). Tw
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Since 1957 estimates hav
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Tabulated data on emplo
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Test Site in southern Neva

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of the nation's workers in

It is anticipated that the
during the 1970's, adding
in hotel and gaming busi
economic growth.

NEVADA: SERVICE INDUSTRY EMPLOYMENT, 1957 & 1969

	1957		
	EMPLOYMENT (X1000)	PERCENT OF NONAG. EMP.	PERCENT OF SER IND. EMP.
TOTAL NONAG. EMPLOYMENT	88.1	100%	—
SERVICE INDUSTRY	24.7	28	100%
HOTEL, GAMING & RECREATION	17.7	20	72
PERSONAL SERVICES	1.9	2	8
BUSINESS SERVICES	1.1	1	4

F EMPLOYMENT

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of gambling. Fantastic growth has
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OF EMPLOYMENT
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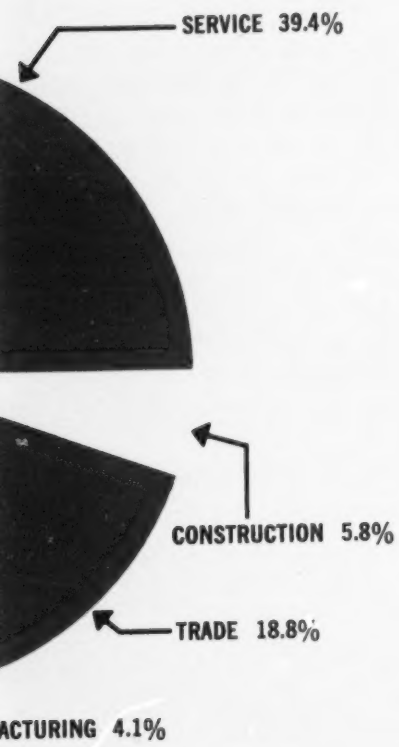

Service Industry

The 'service' industry includes a wide variety of personal, business, health, educational and recreational services. As used in this report the service industry division includes: hotels and other lodging places; establishments providing personal (laundries, etc.), business (accountants, etc.), repair (automobile repair shops, etc.), and amusement (bands, professional sports clubs, etc.) services; medical, legal, engineering and other professional services; educational services (excluding public schools); and nonprofit membership organizations (labor union organizations, fraternal groups, etc.). Two types of businesses which are sometimes mistakenly thought to be in the service industry are eating and drinking places and automobile service stations — both are in the trade industry.

Since 1957 estimates have been made of the number of employees in three major subdivisions of the service industry — hotels, gaming and recreation; personal services; and business services. Tabulated data on employment in these subdivisions for 1957 and 1969 and comparisons with changes in the combined service industries and nonagricultural employment figures are presented below.

It is readily apparent that the hotel, gaming and recreation component is responsible for a large part of the employment growth experienced in Nevada over the last decade. Of the 100,700 employees added to the State's nonagricultural payrolls since 1957, 30 percent — or 30,500 — of the gain has occurred within this single component. Hotel, gaming and recreation employment has increased from 20 percent of total nonagricultural employment in 1957 to 26 percent in 1969. The fact that the percentage increase in this component is less than that of the service industry as a whole is due to the exceptionally large percentage gain in the business service sector. These gains are largely the result of increased activity at the Atomic Energy Commission Test Site in southern Nevada and do not reflect an overall statewide increase in business services.

The growth of Nevada service industry employment is impressive not only when viewed as a fairly recent development within the State's economy but also when compared to national figures. In 1969 slightly over 15 percent of the nation's nonagricultural employment was in the service industry and only 1 percent was in the hotels and lodging places category. Although having only one quarter of one percent of the nation's nonagricultural employment, Nevada employs 4 percent of the nation's workers in the hotel, amusement and recreation services.

It is anticipated that the service industry will lead all other industries in terms of absolute growth during the 1970's, adding some 74,000 new employees. The largest part of this increase will be in hotel and gaming businesses which are and will continue to be the major factors in Nevada's economic growth.

	1957			1969			
	EMPLOYMENT (X1000)	PERCENT OF NONAG. EMP.	PERCENT OF SERVICE IND. EMP.	EMPLOYMENT (X1000)	PERCENT CHANGE 1957-1969	PERCENT OF NONAG. EMP.	PERCENT OF SERVICE IND. EMP.
EMPLOYMENT	88.1	100%	—	188.8	144%	100%	—
ICE INDUSTRY	24.7	28	100%	74.5	202	39	100%
& RECREATION	17.7	20	72	48.2	172	26	65
NAL SERVICES	1.9	2	8	4.0	111	2	5
NESS SERVICES	1.1	1	4	10.4	845	6	14

The opening of new and expansion of existing hotel-casino complexes has served to increase both the numbers of tourists and workers, rather than creating a ruinous degree of competition for the existing numbers of out-of-state visitors. Growth in this field, particularly in the southern part of the State, appears to be creating its own demand. Of the total increase in service industry employment by 1980 almost 40,000, or over 50 percent, will occur in the hotel, gaming, recreation component.

Government

Government, the second largest employing industry in the State accounts for almost 20 percent of total nonagricultural employment. In the coming decade demand for governmental services such as police and fire protection, education, health and welfare, and recreation is expected to increase at a rate slightly greater than that of the State's population. This differential is due in large part to the following factors: greater involvement in social and welfare endeavors; increasing pressure on rural area governmental agencies (some of which have remained relatively unchanged since the last century); the younger age of migrants into the State placing proportionately greater pressures on the local school systems; greater dependence of the population on the planning capabilities of government agencies, particularly in the fields of economics and ecology; and general upgrading of traditional government services.

In the past decade the largest gain in government employment has been in the field of education. It is expected that this trend will continue in the future as the average age in the country and State continues to drop. Also relevant is the fact that more young people are staying in school longer. Consequently, the greatest demand for teachers and educators will occur in secondary schools and colleges.

The growing concern of citizens, both public and private, regarding the environmental decay which is plaguing many areas of our country is resulting in the formation of numerous federal, state and local agencies whose sole responsibility is to abate this pollution. This new field of government activity will also result in increased employment.

Trade

Presently 19 percent, or 35,500, of the State's nonagriculture employment is in the wholesale and retail trade industry. The bulk of this employment is within the retail trade sector which accounts for over 80 percent, or 29,000, of the total. Within the retail trade category four major subcategories — food stores; general merchandising and apparel; auto dealers and service stations; and eating and drinking establishments — account for all but 5,200, or 15 percent, of the total employment. In all of these areas new technology and marketing techniques are expected to have some inhibiting effect on employment increases during the next decade. Due, in part, to the highly competitive conditions that exist in this part of the economy, new cost cutting developments have been readily accepted. Examples of this include large chain stores, self-service marketing, use of computers for inventory control and billing, and improvements in material handling techniques.

With these factors in mind, it is anticipated that the employment growth within the trade industry will be less than that of the State as a whole. Employment within this industry should increase by some 28,500 or 80 percent by 1980.

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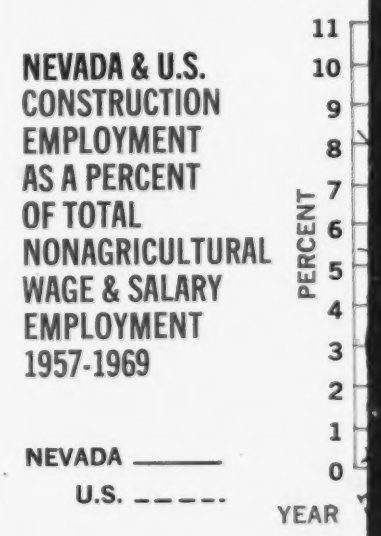

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Transportation, Communication and Public Utilities

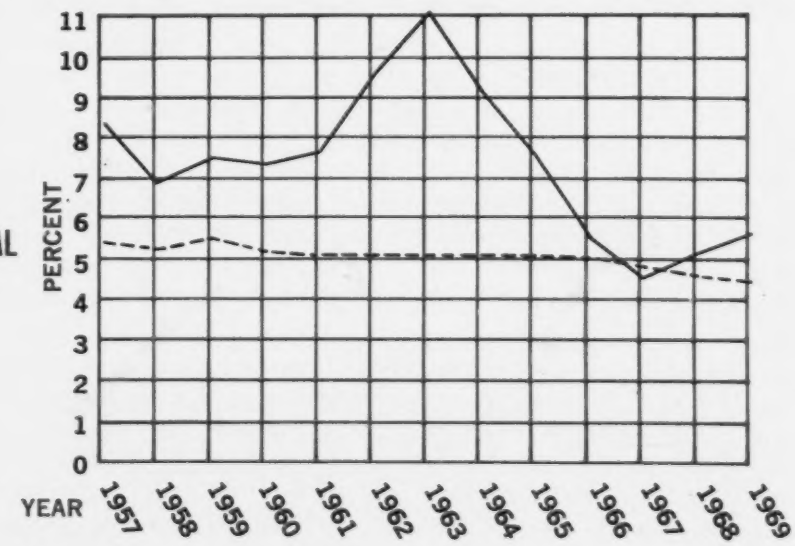
Employment in the T. C. P. U. (transportation, communications, and public utility) industries has been increasing at a rate which is less than that of any other industry, except mining, for the last thirty years. Developments in communications and the production and distribution of utility services have been at the forefront of modern technology and have greatly eliminated manpower as a cost factor in many areas of this industry. Presently the T. C. P. U. industries employ 13,400 workers which represents only 7 percent of nonagriculture employment, down from over 19 percent in 1957. Employment increases in these industries are expected to be largely limited to firms in the transportation industries, primarily within the trucking, warehousing and airline businesses. Automation will undoubtedly limit employment increases in these three fields, however, the increasing importance of Nevada as a distribution center for the Pacific States and the development of transportation facilities required for the expected increase in the number of tourists should combine to overcome this limitation. Employment is expected to increase by 7,600 in the T. C. P. U. industries during the next decade, a gain of 57 percent.

Construction

Activity in the construction industry reflects, to a certain degree, population changes, governmental fiscal and monetary policies, highway demands, and the expectations of businessmen and developers. The first and last factors played a major role in the statewide building boom during the first years of the 1960's. Exceptional optimism in the growth of Nevada, shown by real estate developers and speculators, resulted in construction employment increasing from 6,200 workers in 1958 to 15,900 in 1963. High vacancy rates in both residential and business buildings put the brakes on this frenetic construction period and foreshadowed a drastic curtailment in employment which was felt in all parts of the State's economy. Employment dropped from the 1963 high of 15,900 to 8,000 in 1967.

Concommitant with this cyclical change in construction employment are parallel changes in the proportion of total nonagricultural employment hired by the construction industry. The changes in this proportion point out the cyclical activity of construction employment within Nevada and, when compared to national data, show the volatile nature of this industry within the State.

NEVADA & U.S. CONSTRUCTION EMPLOYMENT AS A PERCENT OF TOTAL NONAGRICULTURAL WAGE & SALARY EMPLOYMENT 1957-1969



NEVADA ———
U.S. - - - -

Increases in construction employment are expected to be proportionally greater than the increases in any other industry group, except finance, insurance and real estate. A rapidly expanding population and rising level of affluence are primarily responsible for this projection. Furthermore, the majority of Nevada's population increase will be due to in-migration, which, it is anticipated, will result in more family formations with a corresponding increase in the demand for housing. This is due to the fact that people migrating between states have a median age less than that of the nation as a whole and, consequently, have greater proportional representation in the highest family formation age brackets.

Present anti-inflationary policies are having a definite braking effect on all types of construction activity. It is argued, however, that these policies, imposing an artificial temporary restraint on supply, will have little effect on the total amount of construction within the State over the next decade. The demand for residential, commercial, and, to a lesser degree, road and industrial construction is basically in direct proportion to changes in population. Consequently, an increasing population in Nevada will create a reservoir of demand which will subsequently result in greatly increased construction activity when the present artificial barriers to supply are dismantled.

Construction employment, which rose from its 1967 low to 10,900 in 1969, is expected to reach 20,000 by 1980. This represents an 83 percent gain.

Manufacturing

Manufacturing in most states of the nation serves as the basic building block for other economic activities. That this is definitely not the case in Nevada is shown by the fact that this industry accounts for less than 5 percent of all nonagricultural employment, whereas, nationally this figure is approximately 30 percent. Obviously then, manufacturing plays a relatively minor role in the State's economic mix.

Of the 7,700 persons employed in manufacturing a slight majority, 54 percent, are employed in the production of durable goods. Of this 54 percent nearly two-thirds are employed by stone, clay, glass or primary metal industries, which is to be expected in view of the State's mining activity. The non-durable goods sector of the manufacturing industry employs about 3,500 persons, most of whom — 2,700 — are involved in printing and publishing or food processing.

One, and possibly the most significant, explanation for this minimal manufacturing activity is Nevada's low population base. One of the basic criteria for the manufacturer of commodities is the ready availability of a sizable market place. While the present and past population of the State has not been sufficient to satisfy this criteria, it is very possible that the anticipated population growth during the 1970's may be great enough to attract many manufacturers. Should this happen it is likely that the economic growth of the State, and particularly the growth in manufacturing would become self-sustaining. More firms would find it economically advantageous to open operations in Nevada due to the increased marketing potential, thereby creating more job opportunities and further expanding the demand for goods and services.

A past economic development which has induced some firms to locate within the State and tempted many more is the Nevada Free Port Law. This law exempts merchandise in transit among the states from personal property taxation while in Nevada. The purpose of the Free Port Law was to encourage eastern manufacturers and distributors to utilize Nevada's warehouses for distribution of their products to marketing centers on the Pacific Coast. However, the free port policy has resulted in two developments which, combined with an increasing population, may affect a manufacturing "boom" within the State. First, the increasing amount of merchandise being distributed from Nevada warehouses has b
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from Nevada warehouses has brought about a reduction in commodity freight rates. Secondly, firms which have heretofore been only storing and processing, as allowed under the Free Port Law, have expanded their operation to include actual manufacturing.

However, in view of the fact that most of the employment in this area is a result of warehousing rather than manufacturing activity, it is assumed that manufacturing will continue to play a minor economic role in relation to service, government and the trade industries. By 1980 there should be an additional 8,000 workers in manufacturing, an increase of 114 percent.

Expansion of the manufacturing industry within the State is often deemed desirable by government and business leaders. However, the ecological problems presently being encountered by industrial areas throughout the nation stand as a warning that unplanned, hence uncontrolled, growth in this industry oftentimes results in a less habitable environment for human life. Industrial developers, licensing boards, community and state planners must be cognizant of this fact if the 'quality of life' in Nevada is to remain one of its most desirable attributes.

Finance, Insurance, and Real Estate

The finance, insurance and real estate industry is also minimal in terms of nonagricultural employment. Only 7,100 persons, less than 4 percent of the total, are so employed. However, despite increasing use of automation and other labor saving techniques, the proportion of nonagricultural workers in this field has been slowly increasing. This apparent paradox is the result of an increasingly affluent society placing a greater amount of its disposable income into public and private securities, bank accounts, insurance policies, real estate, etc., while at the same time increasing consumer spending through greater use of debt instruments. It is anticipated that this trend will continue through the 1970's resulting in a rate of growth for employment that is measurably greater than the average. The additional 7,900 workers employed in this industry by 1980 will represent an increase of over 110 percent from the current figure.

Mining

Mining, once the basis of all economic activity, if not the reason for Nevada's political existence, presently employs a lesser proportion of Nevada workers than any other major industry group. A drastic decline in mining employment as a proportion of nonagricultural employment, has resulted from the widespread automation which this industry has inaugurated over the last 30 years. The economic makeup of this industry has shown a complete turnabout in this period. Where once mining was labor intensive in nature it is now capital intensive with labor accounting for but a small part of overall operating cost.

The contraction in mining employment, however, has not been the result of declining mineral production. According to the U. S. Bureau of Mines the total value of the annual output of Nevada mines has increased from less than $50,000,000 in 1950 to $172,500,000 in 1969.

It is expected that technology will continue to play a major role in automating both mining and milling operations and also in the location of ore deposits. However, while the application of technology will result in greater mining activity the demand for labor is expected to be further reduced due to increased productivity per worker. Mining employment should grow at a significantly lesser rate than the State average and is expected to approximate 5,000 by 1980, an increase of only 31 percent.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT BY OCCUPATIONAL GROUP, 1969 & 1980

OCCUPATIONAL GROUP	1969	1980	PERCENT INCREASE
PROFESSIONAL, TECHNICAL & MANAGERIAL	37,900	73,800	95%
CLERICAL AND SALES	50,200	95,800	91
SERVICE	55,100	108,000	96
PROCESSING	2,000	3,500	75
MACHINE TRADES	7,000	12,900	84
BENCH WORK	1,500	2,800	87
STRUCTURAL	19,000	35,100	85
MISCELLANEOUS	16,100	28,100	75
ALL GROUPS	**188,800**	**360,000**	**91%**

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OCCUPATIONAL DISTRIBUTION OF EMPLO

The last thirty years have brought about vast changes in Nevada's occupational structure. With the expected doubling of the State's work force by 1980, it is anticipated that these changes will continue. One of the major challenges facing manpower planners, therefore, is to anticipate these changes and structure educational and training programs to insure that there will be sufficient numbers of adequately trained workers. To do so requires relevant occupational data concerning both the present and future work force.

The following occupational estimates and projections are based on information obtained from the 1969 Manpower Survey undertaken by the Manpower Information and Research Section of the Nevada Employment Security Department. As such, they constitute the most comprehensive and realistic picture of Nevada's occupational distribution available. The survey was taken in the summer of 1969 and, thus, reflects employment at the peak economic period of the year. Over 4,200, approximately 38 percent, of Nevada employers w ent survey questionnaires and 52 percent responded. These 2,200 respondents have a combined employment of 96,100, which represents 49 percent of total nonagricultural employment in the survey month.

The classification of occupational data is based on definitions as contained in the **Dictionary of Occupational Titles.** This source book groups jobs having the same occupational, industrial or worker characteristic. The primary occupational categories and a brief description of each follows:

Professional: Includes occupations that predominantly require a high degree of mental activity by the worker and are concerned with theoretical or practical aspects of complex fields of human behavior. Such occupations usually require extensive and comprehensive academic study.

Managerial: Includes occupations for individuals primarily concerned with responsible policy making, planning, coordinating, and the guiding of work-activity of others, usually through intermediate supervisors.

Clerical: Includes occupations concerned with the preparation, transcribing, transferring, systematizing, or presentation of records and written communications in offices, shops and other places of work.

Sales: Includes occupations
services and occupations w
they do not involve actual p

Service: Includes those occu
property owned by persons
vidual or proeprty being serv

Processing: Includes those
treating, heat treating and
naces, mixing machines, cr
involved.

Machine Trades: Includes oc
setting up machines to cut,
paper, wood and stone. Disas
and mechanical equipment,
included in this category.

Bench Work: Includes occu
bench machines to fit, gri
work relatively small objects

Structural Work: Includes
painting, repairing, and sim

Miscellaneous: Includes a
packaging and warehousing
logging and the graphic arts.

Approximately 75 percent o
these occupational groups

ECTED EMPLOYMENT
JP, 1969 & 1980

1980	PERCENT INCREASE
73,800	95%
95,800	91
108,000	96
3,500	75
12,900	84
2,800	87
35,100	85
28,100	75
360,000	**91%**

NEVADA: OCCUPATIONAL DISTRIBUTION OF NEW JOBS TO BE CREATED BY 1980

OCCUPATIONAL GROUP	NUMBER	PERCENT OF TOTAL
PROFESSIONAL, TECHNICAL & MANAGERIAL	35,900	21%
CLERICAL AND SALES	45,600	27
SERVICE	52,900	31
PROCESSING	1,500	1
MACHINE TRADES	5,900	3
BENCH WORK	1,300	1
STRUCTURAL	16,100	9
MISCELLANEOUS	12,000	7
TOTAL	**171,200**	**100%**

CUPATIONAL DISTRIBUTION OF EMPLOYMENT

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n, transcribing, transferring, systema- ns in offices, shops and other places

Sales: Includes occupations concerned with the sale of commodities, securities, real estate, and services and occupations which are very closely identified with sales transactions even though they do not involve actual participation in such transactions.

Service: Includes those occupations that relate to the performance of services to persons or to property owned by persons and usually require direct contact or close association with the individual or proeprty being served.

Processing: Includes those occupations involved in refining, mixing, compounding, chemically treating, heat treating and otherwise processing materials and products. Vats, stills, ovens, furnaces, mixing machines, crushers, grinders, and related machinery or equipment are usually involved.

Machine Trades: Includes occupations concerned with feeding, tending, operating, controlling and setting up machines to cut, bore, mill, abrade, print, and similarly work such materials as metal, paper, wood and stone. Disassembly, repair, reassembly, installation, and maintenance of machines and mechanical equipment, and weaving, knitting, spinning, and similarly working textiles are included in this category.

Bench Work: Includes occupations concerned with the use of body members, handtools, and bench machines to fit, grind, carve, mold, paint, sew, assemble, inspect, repair and similarly work relatively small objects and materials.

Structural Work: Includes occupations concerned with fabricating, erecting, installing, paving, painting, repairing, and similarly working structures or structural parts.

Miscellaneous: Includes a wide variety of occupations concerned with transportation services; packaging and warehousing; utilities; motion pictures; radio and television services; mining and logging and the graphic arts.

Approximately 75 percent of Nevada's 188,800 nonagricultural employees are in the first three of these occupational groups — professional, managerial and technical; clerical and sales; and

service. The largest single group, service occupations, employs almost 30 percent of the total. It is interesting to note that service occupations, within the service industry, alone account for over 20 percent of total Nevada employment. This fact is ample proof of the economic dependency of Nevada on the gaming and tourism industries since the vast majority of service occupations consist of waiters, bartenders, cooks, maids and housemen, and gaming hall attendants.

Those blue collar occupations normally associated with manufacturing — processing, machine trades, and bench work — account for less than 6 percent of total employment, an indication of the minimal impact of manufacturing upon the State's economy.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN SELECTED OCCUPATIONS, 1969-1980

PROFESSIONAL, TECHNICAL & MANAGERIAL OCCUPATIONS	1969	1980
TEACHERS AND EDUCATORS, ALL	8,400	16,800
Elementary	3,500	7,000
Secondary	2,800	5,600
College	700	1,500
MANAGERIAL POSITIONS, ALL	9,500	18,400
Office Managers	2,000	3,900
Store Managers	1,100	1,900
Branch Managers	1,000	2,000
Casino Managers	700	1,300
Hotel and Motel Managers	600	1,100
ENGINEERS, ALL	3,100	5,700
Civil Engineers	900	1,700
Electrical Engineers	800	1,500
Mechanical Engineers	500	900
Industrial Engineers	300	600
Mining Engineers	300	400
NURSING OCCUPATIONS, ALL	2,000	4,000
Registered Nurses	1,400	2,700
Licensed Practical Nurses	600	1,300
ACCOUNTANTS AND AUDITORS	1,900	3,400
ELECTRICAL TECHNICIANS	900	1,800
SURVEYORS	700	1,500
SOCIAL AND WELFARE WORKERS	700	1,500
DRAFTSMEN	700	1,300
MEDICAL AND DENTAL TECHNOLOGISTS	600	1,300
ADMINISTRATIVE ASSISTANTS	600	1,200
MUSICIANS	600	1,200
PURCHASING AGENTS	500	900
DENTAL ASSISTANTS	500	900
COMPUTER PROGRAMMERS	300	600

Profession

Employment of professional, 1980. This increase will be resulting from a rapidly increa

Other, more specific, growth

1. Greater use of accounting of automatic data proce increased demands for ac
2. Expanding youth populati care specialists, etc.
3. Growth in the constructio and other planners.
4. Expansion of State and college teachers and rese civil and sanitary enginee
5. Increasing use of vehicle services and investment stocks, bonds, insurance, investment analysts, etc.
6. Extension of Medicare a doctors, dentists, nurses

A brief analysis of selected

Teachers: The teaching profe workers. About 8,000 full-ti these teachers were employ almost 9 percent in univers as vocational and special tea

Demand for teachers is expe during the next decade. Th children that is greater tha school longer, and demand availability of scholarship g sities than in primary or s fessors and college teacher educational institutions is e

Managers: Workers within th which range in status from of a large casino-hotel com mately 57 percent — of Ne miliar categories: branch, st in this field is expected t agencies on trained manag increasing complexity of ma

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JECTED EMPLOYMENT
IONS, 1969-1980

1969	1980
8,400	16,800
3,500	7,000
2,800	5,600
700	1,500
9,500	18,400
2,000	3,900
1,100	1,900
1,000	2,000
700	1,300
600	1,100
3,100	5,700
900	1,700
800	1,500
500	900
300	600
300	400
2,000	4,000
1,400	2,700
600	1,300
1,900	3,400
900	1,800
700	1,500
700	1,500
700	1,300
600	1,300
600	1,200
600	1,200
500	900
500	900
300	600

Professional, Technical and Managerial Occupations

Employment of professional, technical, and managerial workers is expected to almost double by 1980. This increase will be stimulated generally by a growing demand for goods and services resulting from a rapidly increasing population.

Other, more specific, growth factors include:

1. Greater use of accounting information in business and government, and expanded utilization of automatic data processing in program planning, operation and evaluation resulting in increased demands for accountants, systems analysts and computer programmers.
2. Expanding youth population requiring more teachers, librarians, vocational counselors, child-care specialists, etc.
3. Growth in the construction industry with consequent demands for civil engineers, architects and other planners.
4. Expansion of State and local government, especially in higher education, requiring more college teachers and research scientists, and in air and water pollution control, requiring more civil and sanitary engineers, planners, geologists, chemists, etc.
5. Increasing use of vehicles other than legal tender as a means of exchange for goods and services and investment by greater numbers of our population in such things as real estate, stocks, bonds, insurance, etc. will result in increasing demand for brokers, financial managers, investment analysts, etc.
6. Extension of Medicare and private health insurance plans will result in a growing need for doctors, dentists, nurses and all other medical occupations.

A brief analysis of selected occupations follows:

Teachers: The teaching profession comprises the largest single occupational group of professional workers. About 8,000 full-time teachers were employed in 1969. Approximately 44 percent of these teachers were employed in elementary schools, over one-third in secondary schools and almost 9 percent in universities. The remaining ten percent are employed in various capacities as vocational and special teachers.

Demand for teachers is expected to be considerably greater than that of most occupational groups during the next decade. This demand is being generated by a rate of growth for school age children that is greater than the population average, greater impetus for students to stay in school longer, and demand for decreasing pupil-teacher ratios. Increasing family affluence and availability of scholarship grants are expected to result in greater enrollment growth in universities than in primary or secondary schools with consequent greater relative demand for professors and college teachers. As a result of these factors the number of teachers required by educational institutions is expected to exceed 16,000 by 1980.

Managers: Workers within this broad occupational group are involved in a wide variety of positions which range in status from management of a small rural gas station to overseeing the operation of a large casino-hotel complex or testing of an atomic device. However, the majority — approximately 57 percent — of Nevada's 9,500 managerial positions fall into five fairly definite and familiar categories: branch, store, hotel and motel, office, and casino managers. Anticipated growth in this field is expected to increase due to greater dependence of business and government agencies on trained management specialists. The dependence has been fostered largely by the increasing complexity of many businesses and functions.

Engineers: Engineering has been one of the fastest growing professional occupations in the last twenty years. This growth has been due largely to increased expenditures for research and development, generally defense related, by both private and public agencies.

In 1969 there were approximately 3,100 engineers in Nevada's nonagricultural wage and salary work force. Five fields of specialization account for over 90 percent of these wage receiving engineers. These fields and the percentage of engineers in each are: civil, 29 percent; electric , 26 percent; mechanical, 16 percent; industrial, 10 percent; and mining, 10 percent. Aeronautic , nuclear, chemical, metallurgical, and other specialized engineers account for the remaining 10 percent.

The numerous scientific discoveries resulting from defense and space research during the 1960's are expected to result in new areas of work for engineers in the 1970's. Public concern over a deteriorating environment will almost certainly result in increased demand for engineers to rectify those technological and industrial mistakes which have resulted in unprecedented amounts of environmental pollution. Furthermore, the growing automation of all industries will require large numbers of engineers to plan, develop, and produce the equipment involved. These and other factors will be responsible for a growth of more than 2,600 jobs in engineering during the next 10 years.

Nurses: Nursing is the largest profession within the health field. In 1969 more than 2,000 nurses were employed in Nevada; over two-thirds of whom were registered professional nurses.

The demand for nurses is largely related to population growth. However, extension of medical insurance plans, growing expenditures by industry and government for medical care, and increasing demands for additional and expanded quality medical services by individuals should result in a greater growth rate for nurses. By 1980 it is anticipated that 4,000 nurses will be employed in Nevada.

Accountants and Auditors: There were 1,900 accountants and auditors employed in Nevada in 1969, the largest of the business administration professions. Expansion in this field is expected to continue through the 1970's because of such factors as the increasing use of accounting services by small business organizations, complex and changing tax systems, the growth in size and number of business corporations required to provide financial reports to stockholders, and the greater use of accounting information in business management. These factors will result in an 80 percent growth in the number of salaried accountants and auditors resulting in approximately 3,400 jobs by 1980.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN SELECTED OCCUPATIONS, 1969-1980

CLERICAL OCCUPATIONS	1969	1980
TYPISTS	4,300	8,400
SECRETARIES	4,200	8,300
BOOKKEEPERS	3,100	5,900
CASHIERS, RETAIL TRADE	1,900	3,500
TELEPHONE OPERATORS	1,500	2,700
BANK TELLERS	1,400	2,900
STENOGRAPHERS	1,200	2,400
GENERAL OFFICE CLERKS	1,200	2,100

CLERICAL OCCUPATIONS
- STOCK CLERKS
- HOTEL AND MOTEL CLERKS
- POST OFFICE CLERKS
- MAIL CARRIERS
- FILE CLERKS
- OFFICE BOYS
- SHIPPING AND RECEIVING C
- DATA PROCESSING OPERATO
  - Key Punch Operators
- RECEPTIONISTS
- MAIL CLERKS

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Bookkeepers: Approximately 1 bookkeepers, most of whom occupation has resulted prima record keeping tasks of mod expands and becomes more equipment will limit the grow

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AND PROJECTED EMPLOYMENT
OCCUPATIONS, 1969-1980

	1969	1980
	4,300	8,400
	4,200	8,300
	3,100	5,900
	1,900	3,500
	1,500	2,700
	1,400	2,900
	1,200	2,400
	1,200	2,100

CLERICAL OCCUPATIONS (cont.)	1969	1980
STOCK CLERKS	1,100	2,100
HOTEL AND MOTEL CLERKS	1,000	1,900
POST OFFICE CLERKS	800	1,600
MAIL CARRIERS	700	1,400
FILE CLERKS	700	1,300
OFFICE BOYS	700	1,300
SHIPPING AND RECEIVING CLERKS	700	1,300
DATA PROCESSING OPERATORS	600	1,200
Key Punch Operators	400	700
RECEPTIONISTS	600	1,200
MAIL CLERKS	600	1,100

Clerical Occupations

Total employment in clerical occupations, currently numbering almost 38,000 persons, is expected to increase over 90 percent by 1980. A continued rise in the record-keeping requirements of modern business and government is expected to more than offset reductions in clerical manpower needs resulting from expanding use of automatic data processing equipment and other labor saving office equipment. The increasing spread and utilization of computers will play a significant role in increasing demand for all computer oriented clerical occupations. Another factor having an expansionary effect on clerical occupations is the continuing trend of self-service marketing techniques in retail stores, which will result in a shift from sales to clerical positions.

A restraining effect on growth of typist and general office occupations will result from greater use of high speed copying equipment, dictating equipment, taped typewriters, etc. A further contraction effect may result from the increasing use of electronic data processing computers, however, it is entirely possible that just the opposite may happen as professional and technical personnel require and demand clerical help in stemming the tide of paperwork which these machines spew forth.

Stenographers, Secretaries and Typists: Over 9,700 stenographers, secretaries and typists were employed in Nevada in 1969. The largest employing industry of these workers was government which accounted for about one-third of the total.

Employment requirements for secretaries, stenographers, and typists is expected to almost double in the next ten years resulting in the employment of 19,000 persons by 1980. This increase is anticipated on the basis of projected rapid expansion of those industries employing large numbers of clerical personnel, such as finance, insurance, real estate, and governmental employing units. Technological developments are not expected to significantly limit growth in this field but, rather, to increase worker output.

Bookkeepers: Approximately 10 percent of all clerical workers employed in Nevada in 1969 were bookkeepers, most of whom were employed by trade and service businesses. Growth in this occupation has resulted primarily from economic expansion and the increasing complexity of the record keeping tasks of modern businesses. Future increases will occur as Nevada's economy expands and becomes more diversified; however, computers and other mechanized bookkeeping equipment will limit the growth of the more routine bookkeeping jobs.

The number of persons employed as bookkeepers is expected to rise from the 1969 total of 3,100 to 5,900 by 1980.

Cashiers: The relatively large number of cashiers employed in the State is the result of the inclusion of several casino occupations in this category. Of the 8,100 cashiers employed in 1969 over 75 percent were working in casinos. (A separate section deals with these and other casino occupations.) As is to be expected, most of the non-casino cashiers, over 80 percent, are employed by wholesale and retail trade businesses.

Employment of these cashiers is expected to increase mainly because of anticipated expansion in all of Nevada's business sectors. In addition, more retail stores will undoubtedly adapt self-service and other merchandising techniques which tend to eliminate sales personnel and create more jobs for cashiers. However, increased utilization of vending and change making machines would result in limited expansion of cashiers during the next decade. From the 1969 employment figures of 1,900 retail trade cashiers an additional 1,600 are expected to be added, resulting in a total of 3,500 by 1980.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN SELECTED OCCUPATIONS, 1969-1980

SALES OCCUPATIONS	1969	1980
SALES CLERKS	6,800	12,400
SALESMEN, GOODS	2,500	4,600
SALESMEN, SERVICES	1,800	3,300
ROUTEMEN	1,000	1,900

Sales Occupations

Of the 12,500 sales workers in Nevada in 1969 over one-half were employed as sales clerks. The vast majority of these persons, approximately 90 percent, were employed by retail trade stores. Of the remaining 5,700 sales workers 44 percent were commodities salesmen, 32 percent service salesmen, and 18 percent routemen or driver salesmen.

The anticipated increase in the employment of sales clerks, to 12,400 by 1980, is predicated on the prospect of a greatly expanded population, rising income, and the continued trend of credit consumption. Tending to limit employment would be the increasing usage of automatic vending equipment and self-service sales techniques.

The greatest growth within this occupational group is expected to occur in service sales occupations such as insurance agents and brokers, real estate salesmen and securities salesmen. As mentioned in the chapter on Industrial Distribution, the expected growth in this area will result primarily from increasing affluence. The incomes of more and more families are reaching the level where those families are able to acquire second homes, invest in insurance policies, speculate in securities, etc. thereby increasing the demand for service salesmen. Nevada's expanding population, expected to approximate 1,000,000 by 1980, will obviously result in increased demand for real estate salesmen. The numerous housing developments which will be needed on the perimeters of our population centers will probably result in the opening of at least as many new real estate positions as now exist.

The increases in employment of routemen is expected to follow population increases, essentially. However, those routemen servicing vending machines are expected to be in greater demand as this form of merchandising expands.

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	6,800	12,400
	2,500	4,600
	1,800	3,300
	1,000	1,900

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NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN SELECTED OCCUPATIONS, 1969-1980

SERVICE OCCUPATIONS	1969	1980
WAITERS AND WAITRESSES	8,400	16,100
MAIDS AND HOUSEMEN	5,700	11,300
KITCHEN WORKERS	4,300	8,500
CHEFS AND COOKS	3,300	6,300
JANITORS	3,200	6,300
BUS BOYS	2,900	5,700
LAUNDRY AND CLEANING WORKERS	2,100	4,100
BARTENDERS	2,600	4,900
GUARDS AND WATCHMEN	1,700	3,300
LAW ENFORCEMENT OFFICERS	1,600	3,100
AIDS AND ORDERLIES	1,400	2,700
PORTERS AND CLEANERS	1,200	2,400
FLOORMEN AND HOUSE DETECTIVES	1,200	2,300
HAIRDRESSERS AND COSMOTOLOGISTS	800	1,500
BAR BOYS	700	1,400
BELLMEN	700	1,300
HOSTESSES	500	1,000

Service Occupations

In 1969, 55,100 persons, 30 percent of total nonagricultural wage and salary employment in Nevada, were employed in service occupations. Nationally, less than 13 percent of nonagricultural employment is in service occupations. It is well recognized that this great proportional difference is due to Nevada's reliance on tourism and gaming. The gaming industry accounts for a large number of service, as well as clerical, occupations which are easily categorized and defined. For this reason those service occupations which are employed almost wholly by casino operations — crap, roulette and 21 dealers; floormen, security guards, and shills — will be discussed in a following separate section.

Food and Beverage Preparation and Service Occupations: Non-casino service occupations totaled 44,900 in 1969. Over 50 percent of these workers were employed in food and beverage preparation occupations, which is also a reflection of the economic impact of tourism and gaming. The largest specific occupation within this category is waiters and waitresses, followed by kitchen workers, chefs and cooks, bus boys, bartenders, bar boys and hostesses in descending order. Employment in these occupations is expected to expand substantially over the next ten years. Employment increases are expected to parallel and be largely dependent upon expansion in the gaming industry and presently there does not appear to be any forseeable limitations on the growth of this all important sector of the economy. Automation, in the form of labor saving kitchen devices, may retard increases in the number of kitchen helpers required but should not significantly effect the other food and drink preparation occupations. By 1980 there will be at least 22,000 new positions in this field resulting in a total of 45,700 workers in this group.

The following three occupations, are also closely related to tourism and gaming. These three and the number of persons employed as such are: maids and housemen, 5,700; janitors, 3,200; and porters and cleaners, 1,200. Employment in these occupations is also expanded with the growth of tourism and gaming since these two industries are obviously responsible for the anticipated growth in the number of hotels and motels.

Until fairly recently Nevada's law enforcement occupations reflected the State's rural nature. Peace officers were generally sheriffs, deputy sheriffs, or constables who were familiar with social conditions and problems of local communities and not greatly involved in, nor cognizant of, modern crime fighting techniques. With the increasing urbanization of the State, mainly in the Reno and Las Vegas areas, and the nationwide attraction of gaming, the demand for more sophisticated equipment and techniques was felt and has largely been met.

Future changes in this occupational group will occur not only in the numbers so employed but also in the emphasis placed on training requirements. Increasingly, police departments are requiring applicants to have training in such subjects as psychology, sociology, minority group relations, etc. This emphasis on training and education is coming at a time when many departments are encountering difficulties recruiting personnel. This has resulted in considerable shortages of police officers in Nevada. Compounding this problem is the anticipated doubling of the State's population in the next ten years.

In 1969 there were over 1,600 policemen and policewomen (including highway patrolmen, sheriffs, deputies, etc.) in Nevada, by 1980 an additional 1,500 will be needed for a total of 3,100 law enforcement personnel.

Casino Occupations

The gaming industry in Nevada is responsible for the existence of a number of occupations which are not to be found in the other 49 states. These unique occupations lend themselves readily to classifications and are of such magnitude, relative to the State's total employment, that it is deemed essential to discuss them separately. The following table lists the twelve occupations, most of which are unique to casinos.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN CASINO OCCUPATIONS, 1969 & 1980

OCCUPATION	1969	1980
21 DEALERS	3,600	7,100
CHANGE GIRLS/BOYS	2,600	5,200
CRAP DEALERS	2,400	4,900
KENO WRITERS	1,800	3,600
CASINO CASHIERS	1,500	2,900
FLOORMAN	1,200	2,300
SECURITY GUARDS	900	1,800
SHILLS	700	1,400
SLOT MACHINE MECHANICS	700	1,400
CASINO MANAGERS	700	1,300

OCCUPATION (co

KENO RUNNERS

ROULETTE DEALERS

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Not included in this
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CTED EMPLOYMENT
, 1969 & 1980

	1969	1980
	3,600	7,100
	2,600	5,200
	2,400	4,900
	1,800	3,600
	1,500	2,900
	1,200	2,300
	900	1,800
	700	1,400
	700	1,400
	700	1,300

OCCUPATION (cont.)	1969	1980
KENO RUNNERS	400	800
ROULETTE DEALERS	400	800
MISCELLANEOUS	1,100	2,100

Not included in this table are the numerous support personnel — bookkeepers, secretarial help, janitors, maintenance men, etc., who are necessary for the running of casinos as well as any other commercial enterprise. It is interesting to note that, even excluding these support personnel from total casino employment, the number of persons actually involved in taking and placing the customers wagers still represent a minority of casino employment.

All of the listed casino occupations are expected to be among the fastest growing in the State. Rapid expansion of the gaming industry has occurred in the past few years and is expected to continue well into the 1970's. Increasing leisure time, disposable income, mobility, regional population, and greater corporate involvement all point to continued growth in Nevada's tourism related businesses.

Due to the labor intensive nature of casino and other service industry businesses, it is probable that attempts to utilize automated labor saving devices will be made. It is not foreseeable, at the present time, however, that automation in this area will have a serious limiting affect on casino employment. Gambling is essentially a social happening and requires the presence of numerous persons in close proximity before one can become wholly involved. Due to this fact it is doubtful that machines will replace dealers at the 21, roulette, baccarat, poker or crap tables.

Employment in the casino occupations is expected to increase 98 percent to 35,700 by 1980. In the past, the training of personnel to fill these positions has largely been undertaken by the casinos themselves. Increasingly, however, public vocational education facilities are being made available for this training. This trend is expected to continue throughout the 1970's.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN SELECTED OCCUPATIONS, 1969-1980

PROCESSING OCCUPATIONS	1969	1980
MINE MILLWORKERS	600	800
BAKERS	300	600
MACHINE TRADES OCCUPATIONS		
AUTOMOBILE MECHANICS	2,400	4,300
MACHINISTS	700	1,300
AIRCRAFT MECHANICS	500	1,000
DIESEL MECHANICS	400	600
BENCH WORK OCCUPATIONS		
APPLIANCE REPAIRMEN	300	500
RADIO AND TELEVISION REPAIRMEN	200	400

Processing Occupations

Accounting for only 1 percent of total nonagricultural employment, this group of occupations is one of the smallest in the State. Ore refining occupations, such as millmen, concentrators, and flotation men, are the largest sub-group in this category, however, the combined total of these occupations was only 600 in 1969.

Many occupations in this group are mechanical and repetitive in nature and lend themselves favorably to automated techniques. Consequently, labor saving automatic machinery has replaced many workers in the past and will undoubtedly continue to do so in the future. Presently, one of Nevada's largest precious metal mills is operated almost entirely by less than 20 men, most of whom are computer operators or meter readers.

Future growth of processing occupations will result almost entirely from expansion of mining and food processing activity. By 1980 3,500 persons are expected to be employed in these occupations, most will be employed in the mining industry.

Machine Trades Occupations

This group is composed of skilled workers such as: machinists, automobile mechanics, slot machine mechanics, radio and television repairmen, etc. Statewide employment of all persons in this group averaged 7,000 in 1969.

Automobile Mechanics: These workers constitute the largest single occupation within this group, accounting for approximately one-third of the total. Increase in population, new families, disposable income, and multicar ownership is expected to result in ever increasing numbers of automobiles on our highways. Thus, there will be an increasing demand for skilled automobile mechanics. Offsetting this increased demand to a limited extent will be an increase in the efficiency of repair shops. Mechanic specialization and more widespread utilization of such test equipment as dynamometers and engine analyzers will reduce the time required to diagnose malfunctions and check repairs. A further restriction on the growth in the numbers of internal combustion mechanics may possibly result from legislation aimed at limiting the amounts of exhaust pollutants; of which automobiles are one of the major causes. Such legislation would most likely have the effect of reducing the demand for internal combustion automobile engine mechanics and concomitantly result in retraining of many mechanics in the repair of new types of automobile propulsion systems. Anticipated growth in the number of automobile mechanics will result in a total of 4,300 being employed in 1980, an increase of 80 percent.

Machinists: The second largest machine trades occupation in the State is that of machinists; there were, however, only 700 persons employed in this occupation. Expansion of Nevada's minimal manufacturing activity could result in a great increase in demand for machinists due to the current low employment base. The opening of a single large machinery manufacturing firm could, conceivably, result in a doubling of machinists jobs. Based on recent data the number of persons in this occupation is expected to be 1,300 by 1980.

None of the remaining occupations within this group account for more than ten percent of the total. Those occupations which are expected to grow faster than the average include: aircraft mechanics, appliance repairmen, business machine repairmen, computer installers and repairmen, and radio and television repairmen.

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LINEMEN

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NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN SELECTED OCCUPATIONS, 1969-1980

STRUCTURAL OCCUPATIONS	1969	1980
CARPENTERS	2,400	4,500
OPERATING ENGINEERS	2,100	3,900
BUILDING MAINTENANCE MEN	1,900	3,800
ELECTRICIANS	1,900	3,600
CONSTRUCTION LABORERS	1,400	2,600
PLUMBERS	1,300	2,300
LINEMEN	800	1,300
PAINTERS	700	1,300
WELDERS	600	1,100
PLASTERERS	500	900
BOILERMAKERS	500	900
AUTOMOBILE BODYMEN	400	800
STRUCTURAL STEEL WORKERS	400	800

Structural Occupations

The 19,000 structural workers in Nevada comprised 10 percent of total nonagricultural employment. They worked in many different occupations, including such diverse jobs as electrician, boilermaker, utility lineman, auto bodyman, carpenter, and building maintenance man.

Building Trades: The vast majority of structural workers in Nevada are employed in the building trades. Manpower requirements in most, if not all, of these construction occupations are expected to rise substantially during the next decade as Nevada's population doubles and further expansion takes place in the gaming and tourism sector of the economy. Current national anti-inflationary policy is such as to restrict construction growth, however, a backlog of demand is being created which should result in considerable building activity in the near future.

Further factors which will stimulate contruction activity include increases in government expenditures for highways, schools, and administrative buildings, rising expenditures for business and industrial plant capacity and higher levels of personal and corporate income. Additionally, large numbers of construction workers will be required for maintenance, alteration, and modernization of existing buildings and other structures.

Due to technological innovations, it is expected that building trades employment will not grow as rapidly as the total expansion in construction activity. Developments in construction methods, tools and equipment, and materials will probably result in limitations on the growth of building trades employment. However, it is anticipated that the major impact of these developments will be an increase in worker productivity which should have the desired effect of lowering per unit housing and other construction costs. A further limiting factor in building trades employment will probably result from the increasing utilization of prefabricated components which are installed as complete units on the job site. For example: factory constructed exterior and interior walls, with plumbing and electrical lines built in, are lifted into place and attached in one operation. An important extension of this is modular building in which rooms and complete buildings are factory constructed in standard sizes.

However, these limiting factors will not be of sufficient magnitude to measurably affect construction employment in Nevada. Carpenters, cement masons, floor coverers, roofers and plumbers will be in greater demand throughout the coming decade than almost any other occupations. By 1980 employment in the structural occupations will increase by 85 percent representing a total of 35,100 workers.

NEVADA: CURRENT AND PROJECTED EMPLOYMENT IN SELECTED OCCUPATIONS, 1969-1980

MISCELLANEOUS OCCUPATIONS	1969	1980
TRUCK DRIVERS, ALL	4,200	7,000
Truck Drivers, over three tons	2,700	4,500
Truck Drivers, under three tons	1,500	2,700
SERVICE STATION ATTENDANTS	2,100	3,700
TAXI DRIVERS	1,900	2,900
WAREHOUSEMEN	1,800	3,200
GARDENERS AND GROUNDSKEEPERS	1,000	1,900
BUS DRIVERS	700	1,200
MINERS AND MINE LABORERS	500	700
PARKING LOT ATTENDANTS	400	800
BAG BOYS	400	700

Misc

Vehicle Drivers: Over 6,800 persons
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verers, roofers and plumbers
t any other occupations. By
rcent representing a total of

MPLOYMENT
9-1980

1980	
7,000	
4,500	
2,700	
3,700	
2,900	
3,200	
1,900	
1,200	
700	
800	
700	

Miscellaneous Occupations

Vehicle Drivers: Over 6,800 persons were employed in transporting goods and passengers in Nevada in 1969. They consisted of taxi-cab drivers, bus drivers, delivery truck drivers (under three tons) and heavy (over three tons) truck drivers.

The latter category is the largest of the vehicle driving occupations, accounting for 2,700, or 64 percent of the total. This is due largely to the Nevada Free Port Law which accounts for the disproportionately high amount of warehousing and distribution activity in a State of this size. More and more firms are finding it profitable to store their goods in Nevada, free from personal property taxation, and distribute them to the various high density markets on the Pacific Coast.

Due to the growth in warehousing activity mainly in the Reno-Sparks area, it is anticipated that the employment of heavy duty, over-the-road, truck drivers will increase rapidly. Futhermore, increased commercial and industrial activity and the continued decentralization of industry, is expected to result in growth in the volume of inter-city freight.

The continued lack of efficient public intra-city transit systems in the Reno-Sparks and Las Vegas areas will require increasing numbers of taxi-cab drivers as the State's visitors continue to increase. The desirability and necessity of such systems is recognized however, and employment of cab drivers should be expected to fall somewhat when they are constructed.

Population growth will also be the major factor in influencing the employment of school and inter-city bus drivers. The low median age of Nevada's immigrants results in a higher than average proportion of school age children which requires the employment of more school bus drivers. Inter-city bus drivers are in demand due to the necessity to connect Nevada's widely separated communities, this demand will increase as the population of these towns and cities increases.

Automobile Service Station Attendants: Persons employed in this occupation are an absolute necessity for our mobile society. Within Nevada, employment of service station attendants is expected to increase rapidly due to projected growth in both population and tourism. Also influencing growth are national trends such as increasing income, multiple car ownerships, and greater amounts of leisure time. By 1980, it is anticipated that there will be 3,700 service station attendants employed, an increase of 1,600 over 1969.

Warehousemen: The employment of warehousemen has grown rapidly since the passage of the Nevada Free Port Law and the consequent growth of warehousing and distribution activities. Continued and substantial growth is forecast in this area which will demand the employment of proportionately greater numbers of warehousemen. From a 1969 total of 1,800, employment is expected to grow to 3,200 in 1980.

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INDUSTRY – OCCUPATION MATRIX

The following tables show both the occupational distribution within each major industry group and the industry mix of the major occupational groups for 1969 and 1980. The entries for 1969 are a result of the 1969 occupational survey while those for 1980 are based upon industry employment projections. An explanation of the methodology used in arriving at the 1980 occupational estimates is to be found in the section on technical notes.

This type of a matrix allows one to a within each of the major industries i professional, technical or managerial ployment within that industry. Wherea the professional, technical or manage ployed in the construction industry th structural occupation group.

NEVADA INDUSTRY — OCCUPATION MATRIX, 1969

OCCUPATION GROUP	INDUSTRY GROUP					
	MINING	CONSTRUCTION	MANUFACTURING	T.C.P.U.[1]	TRADE	F.I.R.E.[2]
PROFESSIONAL, TECHNICAL & MANAGERIAL	700	600	1,500	2,200	2,700	1,500
CLERICAL & SALES	200	1,100	1,700	3,400	15,700	4,800
SERVICE	100	200	200	300	8,100	400
PROCESSING	600	*	900	*	200	*
MACHINE TRADES	400	300	1,300	500	2,100	*
BENCH WORK	*	*	200	100	800	*
STRUCTURAL	700	8,200	1,000	1,600	1,200	200
MISCELLANEOUS	1,100	400	800	5,200	4,800	200
TOTAL	3,900	10,900	7,700	13,400	35,500	7,100

1 Transportation, Communication, and Public Utilities
2 Finance, Insurance and Real Estate.
Figures may not add to correct totals due to rounding.
* Less than 50.

N MATRIX

within each major industry group
9 and 1980. The entries for 1969
r 1980 are based upon industry
d in arriving at the 1980 occupa-
s.

This type of a matrix allows one to analyze the relative importance of each occupational group within each of the major industries in the State. Thus, in the trade industry in 1969 the 2,700 professional, technical or managerial positions represented only about 8 percent of the total employment within that industry. Whereas, in government almost one-half of the 35,800 jobs are in the professional, technical or managerial field. As is to be expected, of the 10,900 persons employed in the construction industry the vast majority, 8,200 or about three out of four, are in the structural occupation group.

EVADA INDUSTRY — OCCUPATION MATRIX, 1969

INDUSTRY GROUP						
N MANUFACTURING	T.C.P.U.[1]	TRADE	F.I.R.E.[2]	SERVICE	GOVERNMENT	TOTAL
1,500	2,200	2,700	1,500	12,100	16,500	37,900
1,700	3,400	15,700	4,800	15,800	7,600	50,200
200	300	8,100	400	38,700	7,100	55,100
900	*	200	*	200	*	2,000
1,300	500	2,100	*	1,300	1,000	7,000
200	100	800	*	300	100	1,500
1,000	1,600	1,200	200	4,100	2,000	19,000
800	5,200	4,800	200	2,000	1,600	16,100
7,700	13,400	35,500	7,100	74,500	35,800	188,800

NEVADA INDUSTRY — OCCUPATION MAT

OCCUPATION GROUP	INDUSTRY GROU				
	MINING	CONSTRUCTION	MANUFACTURING	T.C.P.U.[1]	TRADE
PROFESSIONAL, TECHNICAL & MANAGERIAL	1,000	1,200	2,900	3,400	4,800
CLERICAL & SALES	300	2,000	3,400	5,300	28,300
SERVICE	200	500	300	500	14,600
PROCESSING	800	*	1,800	*	400
MACHINE TRADES	500	600	2,600	800	3,800
BENCH WORK	*	100	400	100	1,400
STRUCTURAL	900	15,000	1,900	2,600	2,100
MISCELLANEOUS	1,400	700	1,600	8,200	8,600
TOTAL	5,000	20,000	15,000	21,000	64,000

1 Transportation, Communication, and Public Utilities
2 Finance, Insurance and Real Estate.
Figures may not add to correct totals due to rounding.
* Less than 50.

REGIONAL VARIANCES

Over 80 percent of Nevada's total nonagricultural wage and salary employment is located in the two metropolitan areas of Clark and Washoe counties. Clark county has experienced the greatest growth increasing its employment figure by over 120 percent, from 47,400 to 104,700, in the last nine years. During t increased from 32,4 includes the remain increase of 39 perce it is realized that th percent during this s

NEVADA INDUSTRY — OCCUPATION MATRIX, 1980

	INDUSTRY GROUP							
	ONSTRUCTION	MANUFACTURING	T.C.P.U.[1]	TRADE	F.I.R.E.[2]	SERVICE	GOVERNMENT	TOTAL
	1,200	2,900	3,400	4,800	3,200	24,100	33,200	73,800
	2,000	3,400	5,300	28,300	10,100	31,300	15,200	95,800
	500	300	500	14,600	800	76,800	14,300	108,000
	*	1,800	*	400	*	400	*	3,500
	600	2,600	800	3,800	*	2,700	1,900	12,900
	100	400	100	1,400	*	500	200	2,800
	15,000	1,900	2,600	2,100	400	8,200	4,000	35,100
	700	1,600	8,200	8,600	400	4,000	3,100	28,100
	20,000	15,000	21,000	64,000	15,000	148,000	72,000	360,000

VARIANCES

al wage and salary employment is located in the unties. Clark county has experienced the greatest 120 percent, from 47,400 to 104,700, in the last nine years. During the same period Washoe county's nonagricultural wage and salary employment increased from 32,400 to 51,200, a gain of almost 60 percent. The balance of the State, which includes the remaining 14 counties and Carson City, gained 9,300 workers, which resulted in an increase of 39 percent. The magnitude of each of these percentage increases is considerable when it is realized that the national growth in nonagricultural wage and salary employment came to 29 percent during this same nine year period.

NEVADA: INDUSTRY DISTRIBUTION OF EMPLOYMENT BY REGIO

(IN PERCENT)

INDUSTRY GROUP	CLARK COUNTY	WASHOE COUNTY	RU
MINING	0.2%	0.4%	
CONSTRUCTION	6.2	5.8	
MANUFACTURING	3.8	5.3	
T.C.P.U.[1]	6.5	9.0	
TRADE	18.3	21.9	
F.I.R.E.[2]	3.3	5.7	
SERVICE	46.7	33.4	
GOVERNMENT	14.9	18.6	
ALL GROUPS[3]	100.0%	100.0%	

1 Transportation, Communication & Public Utilities.

2 Finance, Insurance & Real Estate.

3 May not add to correct totals due to rounding.

Regional Industrial Variances

Any analysis of regional variances in industry employment must begin with the service industry. In the United States 3 out of 20 workers are employed by firms categorized within this industry. In Nevada approximately 8 out of 20 workers are employed by service firms. This fact, and the ramifications resulting from it, cannot be overemphasized in arriving at a clear understanding of the Nevada economy.

The Las Vegas area — Clark County — has the largest concentration of service industry workers, who account for 47 percent of the area's total employment. Two factors account for this extremely high figure. First, and most important, is the gaming industry which has been largely responsible for the phenomenal growth in all areas of the State's economy. The second factor is the growth in business services which has resulted from the increased research and development activities taking place at the Atomic Energy Commission Test Site north of Las Vegas.

Washoe County — Reno-Sparks — is also heavily service industry oriented. Proportional increases in service industry employment over the last nine years have even exceeded those of Clark County. However, the service industry in Washoe County accounted for 33 percent of the employment total compared to Clark County's 47 percent. Thus, the Washoe County economy is considerably less oriented toward a single industry than is its southern counterpart.

The remaining, so-called, rural counties are even less dependent upon the service industry. In 1969 slightly over one-fourth of all workers were employed by service firms. Carson City and Douglas County — which includes Lake Tahoe's South Shore casino complex — account for the largest part of these workers. If these two areas are excluded from the balance of State category only 11 percent of the remaining nonagricultural wage and salary employment would be in the service industry.

Government, which employs almost 20 ployment, is the second largest emplo government employment is to be found total is so employed. This is most lik agencies, as it is to the preponderance o ally greater government employment; County. The greater size of the Reno c Vegas counterpart, the Nevada State Ho Highway Department in Reno all accou Clark and the greater proportion of gov almost one in three workers are govern State employment in Carson City — app at the Naval Ammunition Depot at Haw government employment as a percent 19 percent.

Employment in the mining industry is Washoe counties combined account fo employment of 3,900. Of the remaining counties of Lyon and White Pine. Exi activity.

The only other regional industrial vari transportation, communication, and p becoming a major distribution center t Coast states. Warehousing and trucking to the T. C. P. U. industry.

DA: INDUSTRY DISTRIBUTION OF EMPLOYMENT BY REGION, 1969

(IN PERCENT)

LARK COUNTY	WASHOE COUNTY	RURAL COUNTIES	STATE
0.2%	0.4%	10.6%	2.1%
6.2	5.8	4.3	5.8
3.8	5.3	3.0	4.1
6.5	9.0	6.1	7.1
18.3	21.9	15.5	18.8
3.3	5.7	2.1	3.8
46.7	33.4	25.8	39.4
14.9	18.6	32.5	19.0
100.0%	100.0%	100.0%	100.0%

l Variances

yment must begin with the service industry. ved by firms categorized within this industry. mployed by service firms. This fact, and the asized in arriving at a clear understanding of

est concentration of service industry workers, yment. Two factors account for this extremely industry which has been largely responsible economy. The second factor is the growth in reased research and development activities Site north of Las Vegas.

vice industry oriented. Proportional increases rs have even exceeded those of Clark County. unted for 33 percent of the employment total Washoe County economy is considerably less n counterpart.

dependent upon the service industry. In 1969 ed by service firms. Carson City and Douglas e casino complex — account for the largest d from the balance of State category only 11 salary employment would be in the service

Government, which employs almost 20 percent of Nevada's nonagricultural wage and salary employment, is the second largest employing industry in the State. The lowest concentration of government employment is to be found in Clark County where slightly less than 15 percent of the total is so employed. This is most likely due, not to a lack of the existence of governmental agencies, as it is to the preponderance of service industry workers. Washoe County has proportionally greater government employment; 19 percent as opposed to 15 percent, than does Clark County. The greater size of the Reno campus of the University of Nevada as opposed to its Las Vegas counterpart, the Nevada State Hospital at Sparks, and the greater employment of the State Highway Department in Reno account for a larger number of State employees in Washoe than Clark and the greater proportion of government employment in that county. In the rural counties almost one in three workers are government employed. This relatively high proportion is due to State employment in Carson City — approximately 2,000 workers, and federal civilian employment at the Naval Ammunition Depot at Hawthorne — over 1,500 workers. Excluding these two areas, government employment as a percentage of total employment drops significantly from 33 to 19 percent.

Employment in the mining industry is almost wholly located in the rural counties. Clark and Washoe counties combined account for only about 10 percent of the total statewide mining employment of 3,900. Of the remaining mine industry workers over one-half are located in the two counties of Lyon and White Pine. Extensive deposits of copper are responsible for this mining activity.

The only other regional industrial variance between the areas under consideration occurs in the transportation, communication, and public utility industry category. The Reno-Sparks area is becoming a major distribution center due to its advantageous location in regards to the Pacific Coast states. Warehousing and trucking firms, consequently, add considerable numbers of workers to the T. C. P. U. industry.

NEVADA: REGIONAL EMPLOYMENT GROWTH, 1969 & 1980

	1969	1980	PERCENT INCREASE 1969-1980
CLARK	104.7	216.2	106%
WASHOE	51.2	90.4	77
BALANCE OF STATE	32.9	53.0	61
STATE TOTAL	188.8%	360.0%	91%

CLARK COUNTY: CURRENT AND PROJECTED EMPLOYMENT BY INDUSTRY GROUP, 1969 & 1980

(IN THOUSANDS)

	1969	1980	PERCENT INCREASE 1969-1980
MINING	0.2	0.2	— %
CONSTRUCTION	6.5	12.0	85.0
MANUFACTURING	4.0	9.0	125.0
T.C.P.U.[1]	6.8	11.0	62.0
TRADE	19.2	39.0	103.0
F.I.R.E.[2]	3.5	8.0	129.0
SERVICE	48.9	100.0	105.0
GOVERNMENT	15.6	37.0	137.0
TOTAL[3]	104.7%	216.2%	106.0%

1 Transportation, Communication & Public Utilities.

2 Finance, Insurance & Real Estate.

3 May not add to correct totals due to rounding.

Regional Employment Growth, 1969-1980

Clark County: Employment growth during the soaring seventies in Clark County is expected to exceed that of any other region in the State. The anticipated 111,500 increase in employment from 1969 to 1980 represents an annual average growth rate of almost 10 percent. The greatest absolute increase will occur in the service industry, which is expected to gain an additional 51,100 workers during the forthcoming decade. Manufacturing, government and the finance, insurance and real estate industries are expected to post greater relative increases than the service industry, however, their combined gain of 30,900 workers is considerably less. The construction industry is expected to grow from 6,500 to 12,000 by 1980.

WASHOE COU

MINING
CONSTRUCTION
MANUFACTURING
T.C.P.U.[1]
TRADE
F.I.R.E.[2]
SERVICE
GOVERNMENT
TOTAL[3]

1 Transportation, Commu
2 Finance, Insurance & R
3 May not add to correct

Washoe County: Emp
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Service industry emp
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RURAL COUN

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TRADE
F.I.R.E.[2]
SERVICE
GOVERNMENT
TOTAL[3]

1 Transportation, Comm
2 Finance, Insurance &
3 May not add to correc

YMENT GROWTH, 1969 & 1980

1980	PERCENT INCREASE 1969-1980
216.2	106%
90.4	77
53.0	61
360.0%	91%

AND PROJECTED EMPLOYMENT
ROUP, 1969 & 1980

HOUSANDS)

1980	PERCENT INCREASE 1969-1980
0.2	— %
12.0	85.0
9.0	125.0
11.0	62.0
39.0	103.0
8.0	129.0
100.0	105.0
37.0	137.0
216.2%	106.0%

ent Growth, 1969-1980

e soaring seventies in Clark County is expected to he anticipated 111,500 increase in employment from e growth rate of almost 10 percent. The greatest ustry, which is expected to gain an additional 51,100 nufacturing, government and the finance, insurance t greater relative increases than the service industry, ers is considerably less. The construction industry is .

WASHOE COUNTY: CURRENT AND PROJECTED EMPLOYMENT BY INDUSTRY GROUP, 1969 & 1980

(IN THOUSANDS)

	1969	1980	PERCENT INCREASE 1969-1980
MINING	0.2	0.4	100.0%
CONSTRUCTION	3.0	5.0	67.0
MANUFACTURING	2.7	4.0	48.0
T.C.P.U.[1]	4.6	8.0	74.0
TRADE	11.2	19.0	70.0
F.I.R.E.[2]	2.9	5.0	72.0
SERVICE	17.1	31.0	81.0
GOVERNMENT	9.5	18.0	89.0
TOTAL[3]	51.2%	90.4%	77.0%

1 Transportation, Communication & Public Utilities.
2 Finance, Insurance & Real Estate.
3 May not add to correct totals due to rounding.

Washoe County: Employment growth in Washoe County has been and will continue to be impressive. Of all the industrial sectors, government is projected to have the largest percentage increase (this excludes the mining industry in which the 1969 base year was too small for accurate comparison).

Service industry employment is also expected to grow faster than the average, increasing from 17,100 to 31,000. This projection is based on the assumption that geographic restrictions will be removed from the gaming industry in the Reno area. It is expected that Washoe County will continue to have a more diversified economy than that of Clark County. Almost two-thirds of the employment in Washoe County is projected to be in industries other than service, whereas, only 54 percent of Clark County's employment is expected to be distributed among these other seven industries.

RURAL COUNTIES: CURRENT AND PROJECTED EMPLOYMENT BY INDUSTRY GROUP, 1969 & 1980

(IN THOUSANDS)

	1969	1980	PERCENT INCREASE 1969-1980
MINING	3.5	4.0	14%
CONSTRUCTION	1.4	3.0	114
MANUFACTURING	1.0	2.0	100
T.C.P.U.[1]	2.0	2.0	—
TRADE	5.1	7.0	37
F.I.R.E.[2]	0.7	1.0	43
SERVICE	8.5	17.0	100
GOVERNMENT	10.7	17.0	59
TOTAL[3]	32.9%	53.0%	61%

1 Transportation, Communication & Public Utilities.
2 Finance, Insurance & Real Estate.
3 May not add to correct totals due to rounding.

Rural Counties: Government and services will continue throughout the seventies as the major employing industries in the so-called rural counties. It should be noted, again, that Carson City (formerly Ormsby County) accounts for a disproportionately large share of government workers. Excluding this area, the percentage of workers employed by governmental agencies falls from 33 percent to 23 percent in the rural counties. The hotels and casinos on the south shore of Lake Tahoe — Douglas County — exert a similar influence on the data for service industry employment. For the remaining 13 counties, little absolute growth is anticipated during the next decade.

Tourism and service relat
coming into the State and
both highways and automo
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of some rural counties, is
volume of production, but

NEVADA: REGIONAL OCCUPATIONAL DISTRIBUTI

	CLARK	WASHOE
SERVICE	35,100	13,000
CLERICAL & SALES	26,700	16,700
PROFESSIONAL, TECHNICAL AND MANAGERIAL	19,800	10,100
STRUCTURAL	9,400	4,300
MISCELLANEOUS	8,400	4,100
MACHINE TRADES	3,800	1,900
BENCH WORK	800	600
PROCESSING	700	500
ALL OCCUPATIONS	104,700	51,200

Figures may not add to correct totals due to rounding.

Regional Occupational Variances

Employment in the professional, technical, and managerial fields is projected to be the most rapid growing of all occupations in Nevada during the next decade. A large portion of these workers are employed by the State government in Carson City and by agencies of the Atomic Energy Commission Test Site in Nye County causing 20 percent of this occupational group to be located in the rural areas. Washoe County has almost 30 percent of the State's professional, technical and managerial workers and Clark County absorbs over 50 percent of those highly trained people. Many of those workers in Clark County are teachers employed by the Clark County School District and the University of Nevada - Las Vegas campus. Over 50 percent of all the teachers in the State work in this southern county. Most of the nurses in Nevada are employed in Clark County (60 percent). Of the nurses in Clark County, about 25 percent work in the government sector. In Washoe County,

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Clerical and sales occupa
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els and casinos on the south shore of Lake
on the data for service industry employment.
vth is anticipated during the next decade.

Tourism and service related industries will continue to grow as both the number of tourists coming into the State and traffic on transcontinental routes increase. However, improvements in both highways and automobiles and increased air travel will reduce the number of required stops in crossing the State and may eliminate many traditional stopping points. Mining, the mainstay of some rural counties, is expected to experience a considerable increase in activity and dollar volume of production, but technology will limit the impact of employment.

NEVADA: REGIONAL OCCUPATIONAL DISTRIBUTION — 1969

CLARK	WASHOE	RURAL COUNTIES	STATE
35,100	13,000	7,500	55,100
26,700	16,700	7,000	50,200
19,800	10,100	8,100	37,900
9,400	4,300	4,600	19,000
8,400	4,100	3,500	16,100
3,800	1,900	1,300	7,000
800	600	200	1,500
700	500	800	2,000
104,700	51,200	33,000	188,800

Regional Occupational Variances

gerial fields is projected to be the most rapid
decade. A large portion of these workers are
d by agencies of the Atomic Energy Commis-
this occupational group to be located in the
t of the State's professional, technical and
0 percent of those highly trained people. Many
oyed by the Clark County School District and
0 percent of all the teachers in the State work
a are employed in Clark County (60 percent).
in the government sector. In Washoe County,

however, almost 75 percent of the nurses work in the government sector. This is mainly due to the location of the Veteran's Hospital in Reno, the State Hospital at Sparks, and relatively fewer hospitals and convalescent centers in the County.

Clerical and sales occupations account for almost one-third of the total employment in Washoe County, whereas this group makes up over one-fourth of the work force in Clark County with the trade and service industries utilizing most of these workers. The projected growth for this occupational group, however, is greatest in Clark County, with a projected rapid increase of 108 percent.

Service related jobs dominate the occupational distribution in Clark County, accounting for slightly over one-third of the county employment total. Washoe County and the rural counties have pro-

portionally fewer workers in service occupations which reflects their relatively lesser dependence on the service industry. Clark County will also show the greatest gain in service occupations over the next decade, increasing 107 percent from 35,100 to 72,700. Projected increases for Washoe County and the rural counties are 80 percent and 76 percent, respectively. Technological innovations may have some limiting effect on the demand for service workers, however, increasing tourism and recreation is expected to more than compensate for this factor.

Approximately 23 percent of the workers in the rural counties are employed in service occupations, which is significantly less than the State figure of 29 percent. Douglas County, in which the resort hotels and casinos on the south shore of Lake Tahoe are located, accounts for over one-half of the rural counties service occupations. Excluding this county, the percentage of rural county workers in service occupations drops to less than 15.

The remaining occupati
Structural occupations,
this is mainly attribut
Nye County.

During the next decad
growth in service occu
present national trend
technical occupations,
which now account for
the State and will exce

NEVADA: REGIONAL OCCUPATIONAL DISTRIBU

(IN PERCENT)

	CLARK	WASHOE
SERVICE	34%	25%
CLERICAL & SALES	26	33
PROFESSIONAL, TECHNICAL AND MANAGERIAL	19	20
STRUCTURAL	9	8
MISCELLANEOUS	8	8
MACHINE TRADES	4	4
BENCH WORK	1	1
PROCESSING	1	1
ALL OCCUPATIONS	100%	100%

Figures may not add to correct totals due to rounding.

ts their relatively lesser dependence
test gain in service occupations over
700. Projected increases for Washoe
, respectively. Technological innova-
service workers, however, increasing
for this factor.

are employed in service occupations,
. Douglas County, in which the resort
ted, accounts for over one-half of the
percentage of rural county workers in

The remaining occupational classes show minimal differences among the three geographical areas. Structural occupations, however, in the rural group do show a slightly larger proportion of jobs; this is mainly attributable to the employment at the Atomic Energy Commission Test Site in Nye County.

During the next decade all three of the geographic areas will experience greater than average growth in service occupations. This is reflective of both the State's tourism based economy and present national trends. Exceptional growth will also occur in the professional, managerial and technical occupations, particularly in Clark and Washoe Counties. These two occupational groups, which now account for slightly less than one-half of all jobs, are the two fastest growing groups in the State and will exceed 50 percent of total employment in Nevada by 1980.

ADA: REGIONAL OCCUPATIONAL DISTRIBUTION — 1969

(IN PERCENT)

RK	WASHOE	RURAL COUNTIES	STATE
%	25%	23%	29%
	33	21	27
9	20	24	20
9	8	14	10
8	8	11	9
4	4	4	4
1	1	1	1
1	1	2	1
00%	100%	100%	100%

UNDERUTILIZED LABOR RESOURCES

Nevada's work force is expected to almost double during the forthcoming decade. In order to achieve this growth smoothly and without the social disruptions which have been experienced in the previous decade, it is essential that all employers accept some measure of responsibility for guaranteeing that all Nevadans have equal chances to share in the ensuing prosperity. While it is recognized that some margin of idle manpower resource is not necessarily undesirable, the concentration of these idle resources in specific groups is socially and morally undesirable and threatens the stability of our economic system. Although federal legislation now outlaws discrimination on the basis of race, sex or age, some Nevada jobseekers still find unnecessarily restrictive hiring standards in many employing units. Nevada employers must appraise their needs and realize that discrimination can and will result in a restricted labor supply with consequently higher operating costs. The President's Council of Economic Advisors has estimated that the country as a whole loses up to $20 billion annually in potential production because of unfair discriminatory employment requirements and unequal education opportunities.

The

Although there has been a liberalization
available data show that women are not
that their yearly income is 40 percent les
percent of the heads of U. S. families are
responsibility of earning the families inc
have a correspondingly greater burden th

Contrary to the belief of many businessr
not vary significantly. At similar job level
favorable records of attendance and labo
indicates that the skill level of the job,
relevant determinants of cost differences

(1) 1969 Handbook on Women Workers, U. S. Depart
(2) Facts About Women's Absenteeism and Labor Tur

NEVADA: FEMALE EMPLOYMENT DISTRIBUTION BY INDUSTRY AND RE

INDUSTRY	CLARK	WASHOE	R
MINING	*	*	
CONSTRUCTION	500	200	
MANUFACTURING	500	500	
T.C.P.U.[1]	700	1,100	
TRADE	6,500	3,000	
F.I.R.E.[2]	1,700	1,000	
SERVICE	19,000	8,600	
GOVERNMENT	5,000	3,600	
TOTAL	33,900	18,000	

1 Transportation, Communications and Public Utilities.
2 Finance, Insurance and Real Estate.
* Less Than 50.

2433

RESOURCES

the forthcoming decade. In order to
ptions which have been experienced in
ept some measure of responsibility for
re in the ensuing prosperity. While it is
s not necessarily undesirable, the con-
socially and morally undesirable and
ederal legislation now outlaws discrim-
ekers still find unnecessarily restrictive
loyers must appraise their needs and
ricted labor supply with consequently
omic Advisors has estimated that the
ential production because of unfair dis-
ion opportunities.

The Nevada Woman

Although there has been a liberalization in established social attitudes toward working women, available data show that women are not only under-represented in broad occupational groups but that their yearly income is 40 percent less than that received by their male counterparts.[1] Ten percent of the heads of U. S. families are women, at least one half of these women have the added responsibility of earning the families income. Thus, with fewer financial resources these women have a correspondingly greater burden than do male heads of households.

Contrary to the belief of many businessmen, cost differences in employing men and women do not vary significantly. At similar job levels and under similar circumstances, women workers have favorable records of attendance and labor turnover when compared with men. Detailed analysis indicates that the skill level of the job, the marital status, and the age of the worker are more relevant determinants of cost differences than the fact that the worker is a female or male. [2]

(1) 1969 Handbook on Women Workers, U. S. Department of Labor.

(2) Facts About Women's Absenteeism and Labor Turnover. U. S. Department of Labor, August 1969.

LE EMPLOYMENT DISTRIBUTION BY INDUSTRY AND REGION — 1969

RK	WASHOE	RURAL COUNTIES	STATE
	*	100	200
00	200	200	900
00	500	100	1,100
00	1,100	200	2,100
00	3,000	2,000	11,500
00	1,000	300	3,000
00	8,600	5,200	32,800
00	3,600	3,500	12,000
00	18,000	11,500	63,500

Industry Distribution of Women Workers: In 1969 approximately 63,500 women were employed in Nevada; this represents over one-third of the total nonagricultural wage and salary employment in the State. Clark County has the lowest proportion of female workers, 32 percent, while in Washoe County and the remaining rural counties group the proportion is 35 percent.

The majority of female workers, 52 percent, are employed in the service industry, where most occupations have traditionally been open to women. It is also noteworthy that many of the occupations in the service industry are among the lower paying jobs.

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NEVADA: FEMALE EMPLOYMENT DISTRIBUTION E

(IN PERCENT)

INDUSTRY	CLARK	WASHO
MINING	* %	* %
CONSTRUCTION	1	1
MANUFACTURING	1	3
T.C.P.U.[1]	3	6
TRADE	19	17
F.I.R.E.[2]	5	6
SERVICE	56	48
GOVERNMENT	15	20
TOTAL	100%	100%

1 Transportation, Communications and Public Utilities.
2 Finance, Insurance and Real Estate.
* Less than 0.5%. May not add to correct totals due to rounding.

63,500 women were employed
ral wage and salary employment
kers, 32 percent, while in Washoe
35 percent.

ne service industry, where most
teworthy that many of the occu-

Government and the trade industry employ about the same proportion of women workers, 19 and 18 percent, respectively. Major occupations of female workers in the trade industry include: waitresses, sales clerks, cashiers and clerical personnel. The great majority, approximately 70 percent, of female government workers are concentrated in two occupational areas: teaching and clerical. The remaining industry groups (mining, manufacturing, construction, transportation, communication, public utilities, finance, insurance, and real estate) account for a combined total of only slightly over 10 percent of the total female employment.

MPLOYMENT DISTRIBUTION BY INDUSTRY AND REGION — 1969

(IN PERCENT)

WASHOE	RURAL COUNTIES	STATE
* %	1%	* %
1	2	1
3	1	2
6	2	3
17	17	18
6	3	5
48	45	52
20	30	19
100%	100%	100%

2436

NEVADA: FEMALE EMPLOYMENT AS A PERCENT OF TOTAL EMPLOYMENT IN EACH INDU

	CLARK	WASHOE	BALA
MINING	20%	15%	
CONSTRUCTION	8	6	
MANUFACTURING	12	19	
T.C.P.U.[1]	12	23	
TRADE	34	27	
F.I.R.E.[2]	48	35	
SERVICES	39	51	
GOVERNMENT	32	38	
ALL INDUSTRIES	32%	35%	

1 Transportation, Communications and Public Utilities.
2 Finance, Insurance and Real Estate.

Female Representation within Each Industry: Within the major industry groups the percent of female employment varies significantly. Two industries have a substantially higher proportion of women workers than the State average. These industries are service and the finance, insurance, and real estate group. Clerical occupations account for almost 85 percent of the female employment in the latter group while almost 90 percent of the female service industry employment is split between two occupational groups — clerical, 36 percent, and service, 52 percent.

Approximately one-third of government workers and trade industry employees are women, which is close to the proportion of women in the labor force. Again, however, female employees in both these industries are grouped within traditional occupational areas. In the trade industry only 4 percent of the 11,500 women workers are in professional, technical or managerial jobs while 10,750 — 94 percent — are in clerical or service c
50 percent of female employees are in prof
to the large number of female teachers a
workers are almost entirely in clerical and

In none of the remaining industries does
This is due to the large number of traditi
truck drivers, miners, etc., found in the mi
communication and public utility industrie
vociferous in their demands for lowering di
other fields.

A PERCENT OF TOTAL EMPLOYMENT IN EACH INDUSTRY, BY REGION — 1969

WASHOE	BALANCE OF STATE	STATE
15%	4%	5%
6	16	8
19	10	14
23	9	15
27	40	32
35	38	42
51	61	44
38	32	34
35%	35%	34%

ndustry groups the percent of
ostantially higher proportion of
and the finance, insurance, and
cent of the female employment
e industry employment is split
vice, 52 percent.

employees are women, which is
ever, female employees in both
s. In the trade industry only 4
or managerial jobs while 10,750

— 94 percent — are in clerical or service occupations. In government, on the other hand, almost 50 percent of female employees are in professional, technical or managerial positions. This is due to the large number of female teachers and nurses. The remainder of the female government workers are almost entirely in clerical and service occupations.

In none of the remaining industries does the proportion of women workers exceed 15 percent. This is due to the large number of traditionally masculine jobs, such as linemen, electricians, truck drivers, miners, etc., found in the mining, manufacturing, construction, and transportation, communication and public utility industries. It is anticipated that women will be increasingly vociferous in their demands for lowering discriminatory barriers based on sex in these as well as other fields.

NEVADA: OCCUPATIONAL DISTRIBUTION OF FEMALE EMPLOYMENT, B

OCCUPATIONAL GROUP	CLARK	WASHOE
PROFESSIONAL, TECHNICAL & MANAGERIAL	5,400	3,000
CLERICAL & SALES	15,500	9,300
SERVICE	12,600	5,400
PROCESSING	*	*
MACHINE TRADES	100	100
BENCH WORK	100	100
STRUCTURAL	*	*
MISCELLANEOUS	200	*
TOTAL	33,900	18,000

* Less Than 50.
Figures may not add to correct totals due to rounding.

NEVADA: OCCUPATIONAL DISTRIBUTION OF FEMALE EMPLOYMENT, B

(IN PERCENT)

OCCUPATIONAL GROUP	CLARK	WASHOE
PROFESSIONAL, TECHNICAL & MANAGERIAL	16%	17%
CLERICAL & SALES	46	52
SERVICE	37	30
PROCESSING	*	*
MACHINE TRADES	*	1
BENCH WORK	*	1
STRUCTURAL	*	*
MISCELLANEOUS	1	*
TOTAL	100%	100%

* Less Than 0.5%.
Figures may not add to correct totals due to rounding.

STRIBUTION OF FEMALE EMPLOYMENT, BY REGION — 1969

WASHOE	RURAL COUNTIES	STATE
3,000	2,300	10,700
9,300	4,800	29,500
5,400	4,200	22,200
*	*	*
100	*	200
100	*	300
*	*	100
*	200	500
18,000	11,500	63,500

DISTRIBUTION OF FEMALE EMPLOYMENT, BY REGION — 1969
(IN PERCENT)

WASHOE	RURAL COUNTIES	STATE
17%	20%	17%
52	42	46
30	37	35
*	*	*
1	*	*
1	*	*
*	*	*
*	2	1
100%	100%	100%

NEVADA: MAJOR FEMALE OCCUPATIONS — 1

OCCUPATION	STATE	PERCENT OF ALL WOMEN WORKERS
WAITRESSES	7,100	11.1
MAIDS	4,600	7.2
TEACHERS	4,500	7.1
SECRETARIES	4,100	6.5
TYPISTS	3,900	6.1
SALES CLERKS	3,700	5.8
GAMBLING CASHIERS (Includes Change Girls & Keno Writers)	3,700	5.8

OCCUPATION
OTHER CASINO ATTENDANTS
BOOKKEEPERS
REGISTERED NURSES
TELEPHONE OPERATORS
CASHIERS, RETAIL TRADE
KITCHEN WORKERS
STENOGRAPHERS

Major Female Occupations: Although the number of women in the professional and technical field has increased substantially in the last thirty years, the proportion of women in these occupations has actually declined. During the same period their representation in service occupations rose 38 percent. The increases in professional female employment which have occurred during the last ten years have been almost entirely in teaching and nursing; in other professions, the proportion of women remains minimal. Currently, only 10 percent of all Nevada women in professional or technical positions are in occupations other than teaching or nursing.

Approximately one half of Nevada's female employment is in seven specific occupations. The occupation which has the largest cent of the total.

Only two professional, technic the top 14 female occupation administrators are still heavil women who will want to wor for women in fields other tha

NEVADA: MAJOR FEMALE OCCUPATIONS — 1969

STATE	PERCENT OF ALL WOMEN WORKERS	OCCUPATION	STATE	PERCENT OF ALL WOMEN WORKERS
7,100	11.1	OTHER CASINO ATTENDANTS	2,600	4.1
4,600	7.2	BOOKKEEPERS	2,600	4.1
4,500	7.1	REGISTERED NURSES	1,400	2.2
4,100	6.5	TELEPHONE OPERATORS	1,400	2.2
3,900	6.1	CASHIERS, RETAIL TRADE	1,400	2.2
,700	5.8	KITCHEN WORKERS	1,100	1.7
,700	5.8	STENOGRAPHERS	1,100	1.7

en in the professional and technical field
roportion of women in these occupations
esentation in service occupations rose 38
ent which have occurred during the last
sing; in other professions, the proportion
of all Nevada women in professional or
g or nursing.

in seven specific occupations. The occupation which has the largest number of women — waitressing — alone accounts for over 11 percent of the total.

Only two professional, technical or managerial occupations — teaching and nursing — are among the top 14 female occupations. Occupations such as executives, accountants, store managers and administrators are still heavily dominated by men. The increasing number of professionally trained women who will want to work suggest that professional, technical, and managerial opportunities for women in fields other than education and health will have to widen.

The Old and Young Nevadan

American society has traditionally viewed the older worker as being of less value than younger, more energetic workers. The valuable job experience gained by a person who has spent at least 25 years in the labor force is oftentimes overlooked. Approximately 95,000 Nevadans were between 45 and 64 years of age in 1969. Because of the experience gained over a period of many years, many workers in this age group must be considered as among the most skilled workers in the State. The older worker often requires less training to update his knowledge of new techniques than does a younger person. The use of older workers in training job entrants is becoming recognized as a valuable training tool. Also, inducing recently retired workers to serve part time in an advisory capacity has proven beneficial to some businesses.

However, when these workers are faced with the task of looking for employment, they very often find discriminatory age barriers to those jobs in which they are highly skilled. The magnitude of the problem older workers face in obtaining employment is reflected in the fact that in 1969, 22 percent of the 38,000 applications for employment received by Employment Security Offices throughout Nevada were filed by workers 45 years of age and over. The willingness and desire of these older people to continue working can and will be an important factor in meeting the anticipated demand for labor throughout the next decade.

At the other end of the age spectrum are those workers and potential workers who have recently left the school system. Although the problems encountered by these young persons are substantially different from those faced b
and appropriate remedial action. Nati
40 percent of the total unemployed whi
labor force. Their unemployment rate i
is less than 3 percent.

Of primary importance in alleviating t
increased emphasis on the quantity and
demand. Recent programs to lower hi
should be continued. Another problem
that a student must make after he leav
are unaware of the variety of occupati
tion of their high school education. E
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appropriate educational personnel.

With the cessation of the hostilities i
will occur. The need here is to insu
military service to civilian employment
youths will have only military oriented

Nevada's Racial Minorities

Racial minorities in Nevada represent approximately eight percent of the population and a similar proportion of the work force. Negroes make up the largest percentage of minorities with roughly two-thirds of the total with the majority of the remainder consisting of Indians.

Unfortunately, this source of labor has not been utilized to its fullest. Unemployment for the other than white worker nationally is nearly twice that of the white worker and limited evidence indicates this is also the case in Nevada. In addition to a higher incidence of unemployment, minorities are more apt to be employed at the lower end of the occupational ladder. This undesirable employment situation has resulted not only from the fact that minorities as a group have fewer salable skills and less education, but also, in many cases, it is due to discriminatory hiring policies.

The need to improve the employmen
labor supply extends beyond general
tion of manpower would, of course,
meet labor shortages, and contribute
urgent than any of these. The fabric
groups lag far behind those enjoyed b
to insure that all Nevadans share in

As noted by the participants of the 19
is one of the few states with a chance
trous: if positive steps are taken imm
step in meeting this challenge.

The Old and Young Nevadan

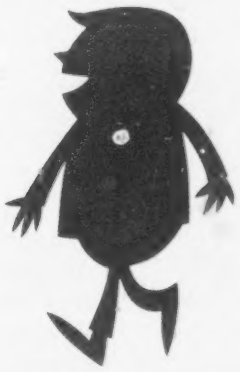
s being of less value than younger, cy a person who has spent at least ately 95,000 Nevadans were between ained over a period of many years, he most skilled workers in the State. wledge of new techniques than does trants is becoming recognized as a s to serve part time in an advisory

ng for employment, they very often re highly skilled. The magnitude of reflected in the fact that in 1969, ed by Employment Security Offices over. The willingness and desire of n important factor in meeting the

potential workers who have recently by these young persons are substantially different from those faced by the older worker, they are no less worthy of recognition and appropriate remedial action. Nationally, persons in the 16-21 age group comprise almost 40 percent of the total unemployed while at the same time they account for only 13 percent of the labor force. Their unemployment rate is over 10 percent while the rate for workers over 22 years is less than 3 percent.

Of primary importance in alleviating the high incidence of unemployment in this age group is increased emphasis on the quantity and quality of vocational training in skills which are in greatest demand. Recent programs to lower high school drop-out rates have shown positive results and should be continued. Another problem area which should be recognized concerns the adjustments that a student must make after he leaves his ivory tower and enters the labor force. Many students are unaware of the variety of occupational opportunities that are available to them upon completion of their high school education. Employers can help to achieve a sufficiently trained future labor supply by anticipating their employment requirements and communicating their needs to appropriate educational personnel.

With the cessation of the hostilities in Vietnam, a further influx of youth into the labor market will occur. The need here is to insure that these young people can make the transition from military service to civilian employment. In some cases, training will be required as many of these youths will have only military oriented skills.



Nevada's Racial Minorities

percent of the population and a rgest percentage of minorities with inder consisting of Indians.

its fullest. Unemployment for the white worker and limited evidence higher incidence of unemployment, f the occupational ladder. This unhe fact that minorities as a group ny cases, it is due to discriminatory

The need to improve the employment situation and to increase the utilization of the minority labor supply extends beyond general economic considerations and social altruism. Better utilization of manpower would, of course, add to overall productivity and economic growth, help to meet labor shortages, and contribute to rising hiring standards. However, the basic issue is more urgent than any of these. The fabric of our society is threatened when opportunities for some groups lag far behind those enjoyed by the great majority of the population. Steps must be taken to insure that all Nevadans share in the prosperity of the Seventies.

As noted by the participants of the 1969 Governor's Economic and Manpower Conference, Nevada is one of the few states with a chance to cure its civil rights problems before they become disastrous: if positive steps are taken immediately. Expanded employment opportunities are a major step in meeting this challenge.

CONCLUSION AND RECOMMENDATIO

In the next decade Nevada is expected to have 171,200 more jobs. Although most of these jobs will be in the service industry, the fastest growing occupations will be in the professional and technical field, which implies a higher level of training for our work force. The challenge for Nevada is one of achieving work force quality, via increased training. The buoyancy of this State's economy will not, however, free Nevada employers and government agencies from the responsibility of taking immediate action to remedy short run labor problems.

In an expanding economy, efficient manpower utilization is a prerequisite for an adequate labor supply. A task all Nevada employers must undertake is re-evaluation of employment policies, such as uneconomical and outdated restrictions of hiring based on race, educational degrees, sex and age. A qualified younger worker without a high school certificate, a person over 45, a woman, a Negro, or an Indian must no longer be barred from the labor arena on prejudicial grounds.

The internal labor market should not be neglected. Placing an over-qualified person in a lesser job is as costly as putting an under-qualified person in that same job. With an increasingly high demand for professional and technical workers, redesigning jobs and simplifying entrance requirements will help provide an adequate labor supply. Incentive systems, internal transfer policies, and job redesign should all be re-evaluated to be of full value to the firm's present work force.

Education has consistently been cited as the foundation of any sound economic growth. However, the unreasonable demands made on youth to go to college for an academic education may not be in the interest of a balanced labor supply in Nevada. A shortage of skilled craftsmen and technicians has not drastically slowed Nevada's growth; but, with any growth in manufacturing, these vocationally trained people will be in high demand and possibly in short supply. Many of the conferees of the 1969 Governor's Manpower Conference noted that the deserved dignity must be returned to those choosing a t
tional education may be the c

Business and office workers w
Occupational training in high
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machine mechanics, casino de
Training should be provided i
to enter these jobs.

While Nevada's population wil
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Industrial and occupational
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LUSION AND RECOMMENDATIONS

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returned to those choosing a field of work which requires training other than academic. Occupational education may be the crucial key in fully utilizing Nevada's manpower.

Business and office workers will be needed to handle increased commercial activity in Nevada. Occupational training in high schools in this field will help prepare Nevada's youth for job entry after graduation. Increased demands on health services will result in needed practical nurses, surgical technicians and nurse aids, all of whom can be trained at post secondary or adult level vocational programs. With more mothers working, a definite demand for child care specialists is being created. Home economic programs at the secondary level should be utilized to train these workers. A rapidly growing population will need more law enforcement agents who will increasingly need college level training in the social sciences. Service industry occupations, which include slot machine mechanics, casino dealers and hotel-motel workers, are crucial to the State's economy. Training should be provided in public vocational programs which would help prepare Nevadans to enter these jobs.

While Nevada's population will be expanding at a rapid rate during the 1970's, supportive manufacturing is expected to increase at an even faster pace. The possibility of these manufacturing concerns polluting our relatively pure environment is alarming. Great concern for the vital relationship between economic growth and ecology was noted by the attendants at the Governor's 1969 Manpower and Economic Conference. These government and business leaders were quite emphatic on the need to recruit only those businesses which would not disrupt Nevada's favorable environment. The advisability of allowing any expansion of Nevada's minimal manufacturing base was even questioned by some. Again, rational planning today can prevent the forseeable catastrophe of a damaged or even deadly environment in the coming decade.

Industrial and occupational growth has been described. Awareness of problems involved in economic growth in such a rapidly growing State hopefully will be an asset to Nevadans in planning for orderly development in the Soaring Seventies.

TECHNICAL NOTES

The occupational data included in this report resulted from a survey of Nevada employers undertaken in the summer of 1969. The survey data reflects non-agricultural wage and salary employment which represents nearly 90 percent of the total employment in the State. The remaining 10 percent is composed of agricultural workers, self-employed persons, and unpaid family workers.

Due to the fact that approximately 1.6 percent of the 11,000 firms in Nevada employ over 40 percent of the State's workers, it was deemed necessary to stratify the sample of employing units surveyed. Rural and urban differences in average firm size necessitated a different stratification procedure for these areas. The stratification criteria adopted was as follows:

NO. EMPLOYEES IN FIRM	SAMPLE SIZE WASHOE & CLARK COUNTIES	OTHER COUNTIES
OVER 100	100%	100%
50-100	50%	100%
25-49	25%	50%
0-24	25%	25%

The stratified sampling procedure resulted in a sample size of 4,200 employing units, approximately 38 percent of the statewide total. Employer response was greater than expected with 2,200 completed, returned data forms — slightly over 50 percent. The employment represented by these firms was slightly over 96,000 or approximately 50 percent. It is apparent that a higher percentage of small firms responded than did large firms.

Statistical methodology was utilized to inflate the sample data to the non-agricultural wage and salary employment totals for each industry within each county. A printout of occupations within each industry in each county was then obtained; the entries of this matrix were in percentage form and were placed in a separate computer file.

The inflated survey data resulted in a nonagricultural wage and salary employment total which deviated less than 5 percent from the monthly estimate determined by the Employment Information Section within the Manpower Information & Research Section. For the sake of uniformity, the monthly estimate figure was adopted and the survey results adjusted accordingly.

Separate and independently calculated projections of Nevada employment by industry in the year 1980 had previously been made by the Research Section (see: Preliminary Economic Projections for the Soaring Seventies; Nevada Employment Security Department; November, 1969). The percentage figures showing the occupation structure within each industry were then applied to these employment projections. The results show 1980 employment by occupation within each industry. It should be noted that this method assumes that the occupational structure within each industry will remain constant during this ten year period.

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California Women.

California State Advisory Commission on the Status of Women, Sacramento.
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State of California, Documents Section, P.O. Box 20191, Sacramento, California 95820.
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DESCRIPTORS - *FEMALES; WORKING WOMEN; *EMPLOYMENT; WORKING PARENTS; *CHILD CARE; *EDUCATIONAL NEEDS; ADOLESCENTS; *STATUS; GUIDANCE SERVICES; COMMUNITY SERVICES; VOCATIONAL COUNSELING; OCCUPATIONAL GUIDANCE
IDENTIFIERS - CALIFORNIA

ABSTRACT - An 18-member advisory commission held public hearings jointly with other State committees on child care services, contracted with an independent research organization for a study of women in the California workforce, and conducted a computer-tabulated survey of 1,524 adolescent girls and women throughout the State. Data and recommendations are organized under the subjects of child care, education, and employment. Some major recommendations are: (1) The "Community Coordinated Child Care" approach proposed by the federal government, which calls for coordinating councils at both the state and local level, should be adapted within the State, (2) A specialization in early childhood education should be added to the existing possibilities for the standard teaching credential, (3) Community College Districts should offer counseling courses to adult community residents, (4) Paraprofessional training courses should be offered by colleges and universities throughout the State, and (5) Local school districts should take steps to train junior and senior high and community college counselors in more effective use of existing tools and materials. Additional recommendations are included. (SB)

VT 011 968

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Report

of the

Advisory Commission on the Status of Women

CALIFORNIA WOMEN

RONALD REAGAN
Governor

1969

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STATE OF CALIFORNIA
RONALD REAGAN, *Governor*

ADVISORY COMMISSION ON THE STATUS OF WOMEN

1108 14TH STREET, SUITE 106 SACRAMENTO, CALIFORNIA · TEL. (916) 445-3173

March 15, 1969

HONORABLE RONALD REAGAN
Governor of California

HONORABLE ED REINECKE
President of the Senate, and
MEMBERS OF THE SENATE

HONORABLE BOB MONAGAN
Speaker of the Assembly, and
MEMBERS OF THE ASSEMBLY

Gentlemen:

It is with pleasure and pride that I submit to you this Report on behalf of the Advisory Commission on the Status of Women, and thank you for the opportunity to participate in this important work.

Among its activity, the Commission held public hearings jointly with the Senate and Assembly Social Welfare Committees on child care services, contracted with an independent research organization for a study of women in the California workforce, and conducted a computer-tabulated survey of hundreds of girls and women throughout the state.

We have been particularly gratified by the interest and assistance of California's outstanding women's groups, and we are also grateful for the generous cooperation of the State government offices we have called upon for information and assistance.

Our recommendations call for creative thought and action by many groups. We urge that our work be continued so that solutions may be implemented and the full realization of the potential of California women may be achieved.

Respectfully submitted,

MRS. BETTY CONCANNON,
Chairman

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INTRODUCTION

When the Legislature and the Governor acted affirmatively on Senate Bill 564 in July of 1967, the green light was given for continuation of California's Advisory Commission on the Status of Women. Since membership of the Commission was almost entirely new, its first task was to read and digest reams of transcripts, proceedings, and other documents amassed by its predecessor Commission. Other early required reading included 1,000 printed pages of reports of work done nationally on the subject.

Commissioners learned of the following startling changes in the lives of women in only the last half century:

.. Women live substantially longer. The life expectancy of a woman in 1900 was 48 years; today it is 75 years and it will go higher.

.. About half of today's young women are married by age 20; they will have had their last child by about age 30; and by the time the youngest is in school, the mother will have 40 years of life ahead of her.

.. In 1920 the average woman worker in the nation was single and 28 years old; in 1968 the median age was 40 and the average woman worker was married.

.. More than half of today's young women will work full time for 25 or more years.

.. The percentage increase of California women workers in the last nine years has been nearly 50 percent (48.3).

.. Close to 1 in 10 families in California is headed by a woman.

Looking to the reasons for change, the Commission found them subtle, yet obvious when viewed objectively: The American way of life bears little physical resemblance in 1969 to that of the year 1900 when most Americans lived on farms, few owned their own homes, few went to college, automobiles and wonder drugs were unknown, as were basic labor saving devices and income tax.

Commissioners also learned that despite the changes, women themselves and the society around them, are largely unaware of their impact or how to incorporate wise planning to deal with them.

In one Commission study, teenagers were asked for their view of their futures. Only 31 percent planned on college, a scant three percent saw a need for education or training at age 30, and only two percent at age 40. This naivete hits hard against the rock of reality--the need for training, re-training, education, or

continuing education as technology erodes today's knowledge, skills and expertise at a rapid rate, especially since nearly all of today's school girls will be gainfully employed at sometime in their lifetime, and will live and enjoy good health an average of 30 years after their children are grown.

This Report is not a brief for encouraging all women to have careers in paid employment, but rather for each woman to make an enlightened appraisal of how to make best use of a much longer life span and a changed life pattern in a world that bears little resemblance to that of only 50 years ago.

This Report does reflect work undertaken in three areas of major concern--child care, education, and employment. Much remains to be done. Early in its work the Commission identified numerous issues which need further understanding, clarification and attention--

.. Realistic counseling of girls about the roles they will assume: student, homemaker, mother, worker, citizen.

.. Immediate answers for the full time homemaker whose family is grown and who has a third of her life yet ahead of her.

.. Availability of educational programs to meet women's needs and life patterns.

.. Coordination and dissemination of information on existing facilities and services.

.. Strengthening family life.

.. Increased need of communities for talented volunteers.

.. Lack of understanding and dialogue between men and women about their roles in a changing society.

.. Need for more qualified women in public office and other decision making positions.

.. Labor laws and the working woman.

.. Job aptitude testing, training, hiring, and advancement.

.. Special problems of unmarried heads of household.

.. The "package" of problems facing mothers on welfare.

.. Discrimination in employment.

.. Child care needs and services.

In its limited time to date, the Commission has dealt with some of these issues. Many of the Commission's recommendations involve

actions which could and should be taken by existing entities and organizations throughout the state--schools and colleges, women's groups, business and industry, professional associations, and government, all of which will need technical and consultive assistance if solutions are to be implemented and progress achieved.

The major problems facing our society today do not permit of the waste of talent and wisdom of any segment of its citizenry. There are millions of California women. How exciting the prospect of the contribution of their full potential!

The Commission considers that its work has just begun.

CHILD CARE

It is safe to say that the single biggest problem of the working mother -- at all economic levels -- is adequate care of her children while she is on the job. A common reaction to this statement is, "Why are all these women working in the first place? Why don't they stay home?"

The Commission found that the large majority of California's more than one million working mothers hold jobs because they have to. Nationally, 11 percent of families were headed by women in 1968, and the "choice" of most of these family heads is work or go on welfare.

To many more working mothers -- married -- the job means the difference between proverty and a reasonable living standard; funds for a college education for the children; owning the family home; taking a vacation; and avoidance for the husband of "moonlighting" on a second job so that he too has time to be with his children.

The other side of the coin is the impact of women workers on the California economy: It can't get along without them. Their earnings are plowed right back into the economy for shelter, food, and services needed by their families. California figures are not available, but in the nation, women's earnings in a recent year were nearly 90 billion dollars. Parents of the children enrolled in the California Children's Centers Program -- and 85 percent of the families using the Centers are sole parents of low to modest income -- earn over $48.4 million per year.

Also to be considered is the important role played by women workers in business and services in the state. If all women workers "went home," banks, insurance companies, business firms, factories, schools, hospitals, and government itself would come to a grinding halt.

Thus the facts must be faced and accepted, and the crucial issue of adequate child care for working mothers must be faced and solutions found. It should be made clear that the Commission regards the manifold problem as a serious challenge to the private sector, professional groups, and government, working together. Business and industry, after all, have the greatest stake in helping meet the needs of child care for working mothers, for it is they who depend (and will come increasingly to depend) on women to help fill their workforce needs.

What are the facts? What are the problems?

For families at middle and upper income levels, finding competent persons to come into the nome for day care is usually difficult and often nearly impossible. Nor do there exist adequate numbers of licensed day care homes or nursery schools where care is provided outside the home.

At lower income levels the lack of sufficient and adequate day care at a price the working mother can afford has become a major

social crisis. This situation can create a vicious cycle: (1) The mother must work in order that the family survive; (2) She is unable to find adequate child care and must quit or loses her job; (3) The family remains in, or returns to, poverty.

Also involved are parents pursuing an education and those who are looking for or are in training for employment. Day care is much more than mere physical custody of the child ... or should be. "In our view," says Frank Howard, Assistant Bureau Chief of the State Department of Social Welfare, "day care should provide a wide range of services to not only help the child, but also strengthen the family life of all members of the family."

Voluminous testimony gathered in meetings and hearings by the Commission's Child Care Committee revealed woeful shortages of child care facilities; told the story of long waiting lists, underfinancing, many governmental agencies inadequately coordinating their efforts, the difficulty of finding suitable services even by those well able to pay full fees.

Further special problems were found in the care of infants, the child who becomes sick, child care for migratory farm workers, and children of women who work other than day shifts.

Among 23,000 working women in a sample surveyed in Berkeley-Albany in 1965 were some 11,000 mothers of minor children -- nearly 48% -- of whom about half provided care in the home, "although there are indications that many such arrangements are inadequate and unreliable, as well as costly in relation to total family income," in the words of the chairman of the survey committee. And existing community facilities, the witness added, accommodated only about 1,000 of the estimated 6,000 to 8,000 children of the other 5,500 working mothers, leaving the majority to make such arrangements as they could.

Complicating the picture of the already woefully inadequate number of child care facilities is a new phenomenon, a federally instituted program called Work Incentive Program (WIN). It says, in effect, that those on welfare cannot continue on it if they can be trained for work. Recognizing that most welfare families are headed by women, the federal government will provide the funds (on a matching basis) for the child care of such women. WIN has thus imposed the requirement for a large number of new facilities in the face of an already critical shortage.

Perhaps before proceeding to the many specific problems in the child care picture, the six kinds of child care facilities should be described.

IN-HOME CARE. The Commission learned little of value about this arrangement, whereby the child is cared for in his own home by a relative or employee, other than considerable testimony that much of this type of care is "poor," to say the least. Even those with sufficient funds to pay a good salary to come into the home often find it almost impossible to find satisfactory candidates.

PRIVATE-PROPRIETARY CENTERS (DAY NURSERIES). Operated for profit, these are primarily for children 2 to 7 years of age, lacking activities for older children. In 1967 there were 881 such centers in California with a total capacity of 33,095. Since they range in cost from $16 to $30 a week per child they are too costly for the average family, especially with more than one child.

PRIVATE NON-PROFIT CENTERS. Operated by churches, parent cooperatives, and other non-profit groups, these centers are funded by parent fees, community chest, and the non-profit organization itself. There are 677 such centers in California with a capacity of 25,868.

FAMILY DAY CARE HOMES. These are private homes where the child is taken by the parent each day, and they too are run for profit. There were 9,771 licensed family day care homes in California as of June 1968, with a capacity of 36,000.

STATE CHILDREN'S CENTERS. These are operated by local school districts for low to very modest income families. The State's general fund supplies most of the funding, which is supplemented by parent fees, local school district override taxes, and special federal funds from the "school breakfast and lunch" program and "milk" program. There are 310 state children's centers in California serving approximately 20,000 children.

HEAD START FULL-DAY CARE. For the "very poor," defined by the federal government as "an income under $3,300 per year for a family of 4," the Head Start centers are operated mostly by local Community Action Agencies under the Office of Economic Opportunity. The number of centers in California is not known, but 1,380 children were enrolled last year.

CALIFORNIA MASTER MIGRANT PLAN DAY CARE (now suspended). This program existed from 1966 to June 1968. The Federal Office of Economic Opportunity cut back funds in 1968 and will not fund the day care program in the future. Under the master migrant plan the State of California was designated the "Community Action Agency" to provide housing, child care, and other services to migrant families working in California agriculture. The program served only about 50 percent of the State's migrant families.

LOW INCOME NEIGHBORHOOD FAMILY DAY CARE SERVICES. According to the State Department of Social Welfare this is a relatively new program, with few such homes actually in existence, and "experience with them is limited at this time." Parents operate the services in their homes as employees of the county welfare department, and receive training and assistance. Children are within easy walking distance of their own homes. A principal disadvantage is the location of suitable houses in poverty neighborhoods. Funds are available for minor repairs to bring houses up to standard, but not for major repairs.

One other program, which is not a type of care but a funding arrangement, is federal welfare funds to a parent getting job train-

ing: a portion of the "relief check" for child care. The funds were so limited until 1968 as to be almost negligible. When forthcoming, the parent selected his (her) own type of child care -- in-home, family day care home, or in a Head Start or Children's Center. WIN greatly expands this concept.

The Child Care Committee of the Commission met individually with dozens of experts, studied reams of documents, and met as a group five times during the course of its work. Additional fruits of its findings and recommendations were harvested during two days of public hearings held jointly with the California Legislature, and a one day consultation with experts on private non-profit solutions.

Early in its work, the group joined in the consensus opinion that government involvment in child care services had become so complex that no one could understand its scope and funding, program and regulatory inter-relationships. The Committee reported the hearings resulted in bringing together for the first time in the state -- and probably in the nation -- a multi-purpose statement of the many programs, funding sources, and services.

The consultation addressed itself to private non-profit solutions and centered around three questions: (1) How are private non-profit day care services provided?; (2) What are the barriers that need to be overcome within present programs?; and (3) What are new and untried private non-profit solutions to day care.

Testimony developed in the course of the Committee's task hit repeatedly on a number of concerns in the area of child care -- its lacks and its problems, many of which will take our best creative minds if solutions are to be found. Some mentioned most frequently were:

.. Massive effort should be made to develop a plan for the next five or ten years to increase services for day care. Responsibility for expansion on the scale needed must be shared by the private sector and by government at all levels.

.. Many buildings now housing the Children's Centers Program have outlived their safety and usefulness and will have to be replaced.

.. There is a tremendous need for facilities in those areas where no day care centers now exist.

.. Social and educational problems are aggravated when children are compartmentalized by economic class.

.. There should be no de-emphasis of the educational aspects of any program for pre-school children. Some kind of learning occurs, whether or not planned for.

.. Good care is not cheap. Lack of such care is more expensive than any society can afford.

.. Efforts should be developed to simplify and bring together various sources of funding.

.. There is a need for widespread public information about day care. Its aim: to inform parents about the many kinds of day care services, standards and licensing requirements, and where such services are located. It could include information to labor and management, legislators, community groups, and others on the need for day care, what it can do, how it operates, and the action required to meet the needs.

.. Day care and other related services should provide as wide a variety of services as possible: medical, dental, educational, psychological and social work, not only to help the child but to strengthen family life.

.. Securing adequately trained staff is a problem faced by most day care centers.

.. Institutions of higher education must become more involved in offering courses in the field of early childhood education.

.. More of the administration of day care should be at the local level to deal with local needs.

.. Transportation is an acute problem which frequently makes it impossible for mothers who work to take advantage of existing facilities.

.. Cost of proprietary day care is virtually prohibitive for low-income families, especially those with two or more children.

.. Almost one out of every five poverty level resident who was not in the labor force, but who want a regular job, indicated inability to arrange for child care as the principal reason for not looking for work.

.. There should be an increased income tax deduction for child care. The present deduction is $600 for one child and $900 for two children under 13 years of age.

.. A single coordinating body at each level -- national, state, local -- should coordinate and exchange knowledge of existing programs, problems and progress.

.. Better communication and coordination is needed between the government and private sector and voluntary organizations.

.. Establishing ongoing pre-service and in-service programs for training personnel to work under professionals is one of the most important steps that need to be taken now.

.. Children whose parents must work at night or on weekends are not covered by present day care services.

.. The usual arrangement for care is not enough when the child becomes sick.

.. Each county in California should be asked to conduct an intensive analysis of the magnitude of the need and the resources available to meet them.

Clearly, quite a package!

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SYNTHESIS

The most telling arguments in support of the Commission's recommendations on Child Care (which start on page 44) are to be found in the testimony of those persons most directly involved in the many aspects of the child care problem. The hearings and consultation brought forth an array of expertise that sprang from long and hard-bought experience of those closest to the problems.

In the following pages, an attempt has been made to illuminate the total picture by synthesis -- by saying "these are the parts and the pieces that go to make up the whole." Many of the parts are inseparable from others, and the headings and sub-headings are purely arbitrary. The material is grouped as follows:

WHY ARE ALL THESE WOMEN WORKING?

COSTS -- HUMAN AND MONETARY -- WHEN CARE IS LACKING

THE NUMBERS GAP

- Known Current Unmet Need
- More Numbers -- WIN

PROBLEMS IN EXISTING PROGRAMS AND SERVICES

- Buildings
- Coordination
- Shortage of Trained Staff and the Need for More Than Custodial Care
- Continuity of Funding
- Segregation of Children by Economic Class
- Licensing

NEEDS AND CONCERNS OF THE POOR

- Ancillary Services
- Educational Component
- Involvement of the Client in Planning
- Children of Migrant Farm Workers

SPECIAL PROBLEMS

- Transportation

Sick Children

Weekend and Night Shift Workers

School-Age Children

Infants

OTHER NEEDS AND CONCERNS

Children of College Students

Children of Middle-Income Parents

Long Range Planning

Private Sector Involvement

* * * * *

WHY ARE ALL THESE WOMEN WORKING?

The Berkeley City Council and Board of Education made the following statements in appointing a committee to study child care needs in that community:

"The major lines of supportive reasoning are:

1. Employers report continuing critical shortages of competent clerical, secretarial, nursing and teaching personnel, among others. Most of these jobs are presently filled by women.

2. Women are entering the labor force in continually increasing numbers, regardless of whether or not they have children. At low income levels and in one-parent families, they work because of financial need. At middle-income levels, they work to raise the family standard of living and for personal satisfaction. At higher income levels they work for personal satisfaction and because their skills are needed in the community."

Other data and testimony on this subject follows:

MADELINE CODDING MIXER, REGIONAL DIRECTOR, WOMEN'S BUREAU, U.S. DEPARTMENT OF LABOR.

"The American woman, as part of the changing world about her, not only performs her basic role within the family unit but also assumes other obligations that are necessitated by the times in

which she lives and by her sense of responsibility to the community as well as to her family. Today's woman is faced with new problems and new challenges. For many women, including those who have children, new life patterns include paid employment...

"Among the 27.5 million women who were working or seeking work in March 1967 were 10.6 million mothers with children under 18 years of age. These mothers constituted 38 percent of the total number of women in the labor force and 38 percent of all mothers in the population.

"Over the decades, social and economic forces have drawn more and more women into paid employment. Since the pre-World War II period, the trend has been accelerated; there is scarcely a workplace in the Nation in which there are no women workers. The most striking rate of increase in employment has been among working mothers. Almost 4 out of 10 mothers were in the labor force in March 1967 as compared with less than 1 out of 10 in 1940.

"The growing movement of women into paid employment, with its implications for family life and society, has focused a great deal of attention on the circumstances of women's working, particularly if there are young children in the family.

"Why do mothers of young children work? For the great majority of working women with young children, economic need is the most compelling reason. This need, in large measure, is determined by the husband's earnings and the regularity of his employment. The higher his earnings, and the greater the security afforded by his job, the less likely the wife is to work. In fatherless homes and in homes where the husband is absent, the compulsion on a mother to seek work is obviously great. Her earnings are not supplementary; they are basic to the maintenance of her family. In this most affluent of nations, 37 percent of all families headed by a woman lived in poverty in 1966; many other such families lived in near poverty."

PROFESSOR LYDIA RAPOPORT, SCHOOL OF SOCIAL WELFARE, UNIVERSITY OF CALIFORNIA AT BERKELEY

"In response to the question as to why the mothers were using the facilities, 80% responded, "because of the need to work." In this population 79% of the parents were divorced or separated. It should be noted that the wish to be self supporting among this population is strong, which society should encourage, and the number of welfare recipients using the facilities was extremely small.

"Among the remainder of the population, the mothers were attending school and pursuing higher education in order to better their opportunities for employment."

RUTH CHURCH GUPTA, LEGISLATIVE ADVOCATE, CALIFORNIA FEDERATION OF BUSINESS AND PROFESSIONAL WOMEN

"Child Care is one of the most urgent problems of our urbanized society. It is a fact of life that women with children work outside the home. By and large, the women who work do so for purely economic reasons -- such as preferring work to starvation or welfare handouts."

MRS. JOHN O. AHERN, PRESIDENT, LEAGUE OF WOMEN VOTERS OF CALIFORNIA

"The League of Women Voters of California supports expansion of day care programs in California.

"Our interest in the Child Care Centers began in the 1940s when we were concerned that children of mothers in defense work have adequate care and supervision during their mothers' working hours. Because many women were forced to continue work for economic reasons in the post-war years, the League supported creation of permanent child care centers. Our interest in the program has been reactivated during the past four years as the continuing crisis of our cities has focused attention once more on the problems of low-income families."

MRS. MARJORIE MORRIS, CALIFORNIA ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN

"Other books, such as The Many Lives of Modern Woman, include recommendations that women can fulfill their personal needs for pursuing vocational interests through part-time employment. Statistics suggest, however, that most women who work do so because of economic need. If a woman goes back to work when her children start to college, it is more likely to be because of increased expenses, than because she has nothing to do with her time once her children are grown. If a mother works while her children are in school, or before they start to school, it is usually because the parents feel the added income is needed. In most one-parent families, of course, there often is very little choice. A mother must either work or accept public assistance."

* * * * *

COSTS -- HUMAN AND MONETARY -- WHEN CARE IS LACKING

The following testimony speaks for itself.

MRS. DIANA ELDER, COORDINATOR, PRESCHOOL AND DAY CARE PROGRAMS, TULARE COUNTY COMMUNITY ACTION PROGRAM AGENCY

"In our area, it is crucial that children of farm laborers are

not denied the pre-school education necessary for them to become successful students in the public schools, and their lives and health is not endangered by spending hours in the fields or in locked cars, a practice that has already taken its toll in the deaths of countless numbers of children."

MARVIN FREEDMAN, ASSISTANT DIRECTOR OF PROGRAMS, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC SOCIAL SERVICES

"Good day care is not cheap, but the lack of such care is more expensive than any society can possibly afford. Children have a right to protection and care. They have the right for opportunity to develop their capacity for learning, for gaining a sense of worth and an ability to relate to others. Children denied such care and opportunities will be found a few years later in very expensive institutions for disturbed children, in mental hospitals, in juvenile courts and in State prisons."

MRS. BARBARA COUGHLAN, DEPUTY REGIONAL COMMISSIONER, SOCIAL AND REHABILITATION SERVICE, U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

"On a cost benefit basis alone, aside from social consideration, this program /Head Start/ has shown that investment in preschool educational and child development experiences for the very young will in the long run effect a monetary savings. Reductions occur both in the present cost of remedial instruction and the long range impact of costs of juvenile delinquency, unemployment and other social and economic problems."

MRS. MARJORIE MORRIS, CALIFORNIA ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN

"One woman who would have preferred staying home while her children were young, was widowed in the 1930's. She recalls alarming stories about her own family's experiences. She had been able to arrange care for her children when they were well, but not when they were ill. She had no friends or relatives in the city to whom she could turn for help. When her three-year-old son had measles, she was forced to leave him at home alone, because she would have lost her job if she had taken time off to care for him, and she had no hope of finding another position. She recalls, 'I can still see his little face pressed against the front window, watching and waiting for me to return each day.' Later she became a teacher in a Children's Center. It is not surprising that she is still truly dedicated to the task of helping other families find better solutions for appropriate care of their children."

* * * * *

THE NUMBERS GAP

What is the scope of the problem? How many families? How many children? How old are the children? What do the families earn? One of the greatest problems encountered in this study is the fact that no one knows. This fact in itself needs remedy to allow for intelligent planning.

The number of working women in California is known: 2,760,000 in 1968. The Women's Bureau of the U.S. Department of Labor states that the national pattern of working mothers is as follows: nearly two-fifths of working women have children under 18 years; and of working mothers, almost two-fifths have children under 6 years. Thus, if California follows the national pattern (and there is evidence that it does) there are...

> 1,035,000 California working mothers with children under 18 years, and 388,125 with children under 6 years.

All the known resources for out-of-home care in the state -- licensed family day care homes, private profit-making nurseries, private non-profit centers, State Children's Centers, Head Start Day Care -- total 116,943 places for children. Thus, even if each of the nearly 400,000 mothers with children under 6 years has only one child, it is clear that the number of children involved far exceeds the number of places available (the working mother lucky enough to have a relative available to care for the children is an exception, and the Commission heard repeated testimony that reliable and adequate employee-in-home care is almost impossible to find at any price).

Known Current Unmet Need

The following is testimony on what is actually known about current unmet need.

JOHN WEBER, SUPERVISOR, CHILDREN'S CENTERS PROGRAM, STATE DEPARTMENT OF EDUCATION

> "The estimate of unmet need for children's center services throughout California is actually an unknown quantity.
>
> "Los Angeles City enrolls approximately 6,000 children in their 80 centers and has currently a waiting list of 12,000 children. San Francisco which enrolls 1,600 children has as many more children on waiting lists. It is the speaker's judgment that most districts have waiting lists from 50 to 100 percent of their present capacity."

WILLIAM PERRY, ASSISTANT CAP ADMINISTRATOR FOR HEAD START, WESTERN REGIONAL OFFICE, U.S. OFFICE OF ECONOMIC OPPORTUNITY

"Head Start Day Care is meeting less than 10% of the need for this specific service based upon community identified needs."

MRS. DOROTHY SNYDER, SUPERVISOR, CHILD CARE CENTERS, LOS ANGELES CITY SCHOOL DISTRICT

"All centers have fantastic waiting lists. A two year delay before being enrolled is not at all unusual. Facilities run the gamut -- old World War II bungalows, temporary for 25 years and a few new modern buildings especially planned for children's centers. 4,700 families are represented by the 6,300 children enrolled, 4,500 being sole parents.

"Requests for enrollment in the centers come from all areas: economic, ethnic and geographical.

"Eligibility is prescribed by state law, keeping within a framework of moderate to low incomes.

"625 children enrolled are 'aid to dependent children' recipients. 183 parents are in training for employment programs."

GABRIELLE MORRIS, CHAIRMAN, BERKELEY CHILD CARE COMMITTEE

"There are approximately 23,000 working women in the Berkeley-Albany area (1965). Eleven thousand of them have minor children; 2,900 of these have pre-school children. The children of half of these women are cared for, and presumably will continue to be cared for, at home, although there are indications that many such arrangements are inadequate and unreliable, as well as costly in relation to total family income. This means that services of the type we propose are needed now by approximately 5,500 women in this area, involving 6-8,000 children. Present facilities only serve approximately 1,000 children, and even these facilities do not meet all types of need."

THOMAS W. GWYN, DIRECTOR, ON-THE-JOB-TRAINING PROJECT, BAY AREA URBAN LEAGUE

"One of the most significant things to be said about day care programs is that they are inadequate. There are not enough facilities for child care services to meet the needs of the poor.

"I would like to exemplify the severe need for more adequate facilities by pointing out the child care situation in San Francisco's Hunter's Point Target Area. Hunter's Point has been declared a poverty target area for some time. The 1960 census showed that 51,000 people lived in the area, and at that time 60% of the families earned less than $4,000 a year

and 23% earned less than $2,000. Over 18,000 residents of the area lived in public housing. The 1960 census figures show that there were 5,000 children under five in Hunter's Point; by 1965, there were 6,300 such children.

"Using the 1965 figure of 6,300 children which is obviously out of date by three years, and probably less than the current number of children, I would like to inventory the existing facilities in Hunter's Point as of last month... The current pre-school day care programs provide for only 472 children between 2½ and 5 years old. This represents 7.4% of the 6,300 children under 5. Only 217 of these children are in all day programs, this is 3.4%. Obviously anything less than all day care will not enable the working parent to seek and find full time employment or training."

MRS. MARJORIE MORRIS, CALIFORNIA ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN

"It is well known that many school-age children arrive at school without breakfast and return to empty homes -- or to care for younger children who have been left alone. Not all of these children have parents who are willfully neglectful or ignorant of their responsibilities. But all of them surely have two strikes against them and their chances of becoming successful students and responsible citizens."

DR. ADELE K. DAVIDSON, PROJECT DIRECTOR, WORKING MOTHERS' SICK CHILD CARE PROJECT, SAN FRANCISCO

"In 1966 there were 48.8 million children under 12 years old in the nation. Of that number, mothers of 11 million children were working. Nearly one million of that eleven million are 'latchkey' children, children who have to care for themselves part of the day."

* * * * *

More Numbers -- WIN
(Work Incentive Program)

The foregoing information and testimony provided the Commission irrefutable evidence that comparing the numbers alone -- working mothers vs. the numbers of places available -- reveals an extreme shortage of adequate child care spaces, whether in centers, homes, and whether for the poor or for the middle class. When the Work Incentive Program is in full operation, the problem will be critical.

The WIN Program will involve California welfare recipients and 'potential' recipients. Explanation of the Program, its rationale,

its impact on the child care picture, our current welfare costs, the numbers of families and children involved, WIN funding sources, and some concerns of the poor themselves are covered in the following testimony.

MRS. BARBARA COUGHLAN, DEPUTY REGIONAL COMMISSIONER, SOCIAL AND REHABILITATION SERVICE, U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

"Major amendments to the Social Security Act also were passed in 1967 which will have far-reaching implications for the whole day-care field. As a result of its concern over rising caseloads under the AFDC program /Aid to Families with Dependent Children Program/, Congress enacted a "package" of provisions designed to assist welfare families to become self-supporting. Part of this "package" is the WIN program which provides that all appropriate AFDC recipients over 16 years of age are to be referred to the Department of Labor for employment, training or special work projects. Adequate child care must be provided for any person so referred. The costs of child care and other supportive services are reimburseable from Federal funds at the rate of 85% prior to July 1, 1969 and 75% thereafter. Federal financial participation for this purpose is available on an on-going basis under the public assistance open-ended appropriation. This is not a time limited demonstration program. In addition, authorization was broadened for such services to be purchased from public or private agencies or individuals. Previously, purchase was limited to services from another State public agency.

"The magnitude of this program will be seen when it is realized that of the persons receiving public assistance, there are over 1 million mothers with 4 million children in the country as a whole. In California alone there are 172,500 AFDC families headed by mothers. 194,900 children in these families are under 6 years of age and 298,700 are between 6 and 17 years of age. Contrast these figures with the fact that the total capacity of licensed facilities in this country is for less than 500,000 children.

"Obviously, day care facilities will have to be tremendously expanded if the objective of reducing dependency on public assistance is met. Not only is day care needed for persons now receiving AFDC, but is is essential that other low-income families have such services to prevent their becoming recipients. In a recent Department of Labor study of unemployment and underemployment in 10 areas of high poverty concentration, it was found that one out of five slum residents who were not in the labor force but who wanted a regular job gave their inability to arrange for day care as the principal reason for not looking for work. In this regard, under the AFDC program, Federal matching for day care services is available for potential and former recipients, which includes practically all such low-income families."

FRANK HOWARD, BUREAU CHIEF, STATE DEPARTMENT OF SOCIAL WELFARE

"As of July 1968, there were 208,482 AFDC families, including 586,166 children in the State of California. This represented an average of 2.8 children per family. It is estimated that of these families, 158,000 were female headed families, that is there were no adult males in the home.

"Funds expended for AFDC excluding medical care and administrative costs for fiscal year 1967-68 totaled $423,123,145, of which federal funds were $205,365,620; state funds $141,553,696; and county funds $76,203,829.

"The first Social Security Act passed in 1935 defined its objective in regard to what is now called AFDC as "to prevent the disruption of families on the grounds of poverty alone and to enable the mother to stay at home and devote herself to housekeeping and the care of her children." This was the objective for several years. Many factors entered into the change of emphasis that has taken place. The 1935 Act was confined to widows with children. Through the years the needs of other children have been recognzed and included under the program. So we no longer deal with widows on a large scale, but with children who for any reason are deprived of a parent. Also, included are the unemployed father families. Along with this development has gone the increased use of women in the labor market.

"As a result of these factors, emphasis has switched to helping mothers secure employment or train for future employment. In implementing the changing emphasis in laws, our Department, as has the federal government, has provided safeguards that require a case work determination as to the feasibility of employment for women on a case by case basis with emphasis on the need for proper day care plans for the children. The 1967 Amendments to the Social Security Law re-emphasizes under the WIN program that participation by a mother in this program is dependent upon the provision of proper day care for her children.

"A pilot study of AFDC mother's employability, recently undertaken by the SDSW, involving interdisciplinary participation by representatives of employment, public health, rehabilitation, and social welfare, included an in-depth study of 50 mother-headed AFDC cases. The two most frequently identified barriers to employment were the limited marketability of skills and the problem of child care. Of the two, the problem of greatest magnitude was that of child care."

MRS. ARNOLD ANDERSON, CHAIRMAN, SOCIAL SERVICES ADVISORY COMMITTEE, CONTRA COSTA COUNTY

"The committee is keenly aware of priorities of need for AFDC and other low-income mothers. They also realize that services are in very short supply in the county and that they are inadequate in both type and number. The recent estimate of the

State Department of Social Welfare on the day care services needed to support the WIN program in the county shows a shortage of facilities for about 2,000 children whose mothers would be eligible for either the training or employment which could otherwise be made available to them.

"In relation to the county caseload, the problem is also in clear perspective. If six out of every seven of the 7,000 families on AFDC represents a mother on welfare (in contrast to the seventh or AFDC-U family with an unemployed father in the home), then the importance of providing facilities as a prerequisite to the training and employment of mothers becomes very evident. The dependency caused by early pregnancy, coupled with immaturity and inadequate education and work preparation, can only lead to further dependency, continued poor environment for young children in the home, and an increasing cycle of failure.

"At the same time a more positive program of day care services can help materially to develop mothers on AFDC so they may become contributing members of their community. Not only can they then take care of themselves economically, but they can also provide a better climate in the home for the development of their children. In other words, many elements of good Head Start-type programs can be used also to improve day care services, to the end that the environment of disadvantaged children can be greatly improved.

"Day care services must, however, be provided in new ways which meet the needs better than in the past."

MARVIN FREEDMAN, ASSISTANT DIRECTOR OF PROGRAMS, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC SOCIAL SERVICES

"We estimate there will be approximately 2,000 training positions for women in the WIN Program in Los Angeles County. In June of this year, we identified approximately 4,400 mothers receiving AFDC who were ready and able to enter a work or training program, if a reliable child care plan were available...

"Fortunately, Congress, in expressing its concern that low-income families have the opportunity to become self-supporting, indicated equal concern for the care of children. All of us are fully aware that expanding a program at this rate will present many problems. Nevertheless, those of us who have for many years been deeply concerned about what happens to children in out-of-home care, view this new program as a major contribution to the present and future development of children throughout this Nation."

THOMAS GWYNN, REPRESENTING BAY AREA URBAN LEAGUE

"The Urban League is also concerned that too many of the people who make policy decisions on child care programs for the poor seem to place the emphasis on getting people off welfare saying, 'Let's provide child care so that those mothers can get jobs and pay taxes.' We of the Urban League agree that an important consideration is the freeing of unemployed parents so that they may seek and find suitable employment. But, should not the emphasis be placed on the welfare of the children. This, it seems, would shift the orientation of Parent/Child Centers from a routine babysitting function to a more beneficial child development program. We say Parent/Child Centers because we feel it necessary that the parent have the opportunity and be encouraged to actively participate in the planning and operation of good child development programs...

"Let me close by repeating what I said initially -- there are not enough day care facilities to meet the needs of poor parents and children. The WIN program might avoid serious child care problems during fiscal year 1969 because of the priority on job training for male welfare recipients. But, as they move into fiscal year 1970, day care will be an even greater need. Do not make the mistake of waiting until it is too late to start planning, and be sure to involve the various poor communities from the planning stages through to execution."

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PROBLEMS IN EXISTING PROGRAMS AND SERVICES

Buildings

An adequate physical plant is the obvious first necessity for group services, whether public or private. The capital outlay required to establish a private propriety center is considerable, and the number of persons who at one and the same time have available financing and who are interested in child care as a business has been limited. Adequate outdoor play space has limited urban churches from utilizing the church building in many cases.

All of the government professionals testified that housing was a major problem. Costs of land and construction are high, and local school districts operating Children's Centers have almost always used an existing part of the school structure itself. The problem of space for regular school purposes is well known, and many of the older structures have been declared unsafe.

JOHN WEBER, SUPERVISOR, CHILDREN'S CENTERS PROGRAM, STATE DEPARTMENT OF EDUCATION

"Buildings, many of a temporary nature and not meeting the "FIELD ACT" for structural stability, have outlived their safety and

usefulness as centers and will have to be replaced. The need for children's centers where there are no such facilities available will have to be viewed as a part of the total problem of providing adequate services for children and families of our exploding population...

"Translating these concerns into dollars would entail the following additional expenditures for the fiscal year 1969-70:

"1. Construction funds for replacement of obsolete and unsafe facilities $10,000,000"

WILLIAM PERRY, ASSISTANT CAP ADMINISTRATOR FOR HEAD START, WESTERN REGIONAL OFFICE, U.S. OFFICE OF ECONOMIC OPPORTUNITY

"Housing remains our most pressing problem. Available construction funds are extremely limited. Usable facilities in each community are largely already committed to this or similar programs. Expansion of Head Start Day Care would be inhibited by the lack of adequate housing even if more program funds were immediately available."

* * * * *

Coordination

It became increasingly clear during the course of the Committee's work that there is an overriding need for a mandated state-level child care coordinating council.

State government involvement in child care is currently under the general supervision of four state departments -- Education, Social Welfare, Public Health, and Mental Hygiene, with subdivisions in each also involved. Complicating the task of these state entities is their necessary involvement with relevant federal departments -- notably Health, Education and Welfare, and the Office of Economic Opportunity (again with many sub-divisions each), and with local government bodies. Many programs and services of or bearing on child care are financed by the federal government, state government, local governments, and parent fees, but each is financed through a different combination.

The wish of private sector groups to join with government in providing services has been discouraged in the past by the enormous complexities and red-tape in setting up and operating a jointly funded facility.

In addition, if a community group wishes to establish a child care facility it may run into complications of licensing/eligibility/staffing from sections of the State Welfare and Institutions Code, State Education Code, State Administrative Code, Federal Social Security Act, Federal Economic Opportunity Act, plus its

own local laws, ordinances, and regulations, and will probably run into most of these in some combination.

Exhaustive study convinced the Commission that the problem cannot be met by designing a single agency to handle all phases of child care. Federal funds are involved in substantial amounts, and Congressional appropriations cannot be dictated by states. During World War II, Congress was willing to appropriate funds for day care for obvious reasons, but between 1946 and 1962, there was virtually no federal money at all. The federal government became interested in training welfare recipients in 1962, but appropriations were miniscule. In 1965 it added Head Start funds available to state and local community action agencies, and compensatory education funds available to state and local school districts -- and all of these funds have been used to provide child care services, singly or in combination.

The federal government, through the 1967 Social Security Amendments, now is promising a massive effort (on a matching basis) to train and provide child care for welfare recipients and potential recipients, and also will continue to make funds available to education programs and OEO programs.

Of equal importance is the fact that professionals from many disciplines are required if the wide range of factors are to be dealt with sensibly.

These reasons point strongly to the need for a coordinating council. The federal government has recommended that a coordinated approach, called the 4 C's, be adopted. Four C's stands for Community (or state) Coordinated Child Care.

BARBARA COUGHLAN, DEPUTY REGIONAL COMMISSIONER, SOCIAL AND REHABILITATION SERVICE, U.S., DEPARTMENT OF HEALTH, EDUCATION AND WELFARE.

"The basic concept of the '4 C's' program is that those agencies responsible for services required for a comprehensive child care program coordinate their resources for a more efficient and economical operation. Social, health and educational agencies must be included from both the public and voluntary fields. Among the ways such coordination may be achieved in the local community are:

"Chartering a central planning organization to oversee the needs of all children and setting priorities for types of care to be set up or expanded.

"Agreements covering the kinds of families and geographic areas to be served by each agency.

"Subcontracting by one agency with another to provide a total program of child care.

"Arranging for one agency to supply a specific service to other agencies, e.g., Head Start providing educational activities for pre-school children in family day homes.

"Establishing central training programs and depositories for lending equipment, books, etc.

"Such methods require a willingness on the part of the individual agencies to give up some of their autonomy. Also needed is similar coordination at the State and Federal levels from which public funds flow and where overall standards are established. Governors hopefully will establish coordinating procedures for State agencies in which State-wide voluntary organizations also will be asked to cooperate.

"Hopefully a coordinated program such as the '4 C's' will alleviate or overcome a number of problems, e.g.:

"The present lack of continuity of care which may occur when a funding source is terminated or when a parent completes a training program and takes a job.

"The limited number of specialists whose services could be pooled or utilized more effectively for training.

"High costs for administrative overhead, equipment, etc., which may be reduced through buying in quantity under a common purchasing unit and decreasing the number of office personnel and space needed.

"Lack of transportation to and from the child care facility which may be helped through a pooling of resources.

"Limited availability of special activities, e.g., health centers, summer camps, art, music which are difficult to provide on an individual basis particularly for family day care homes, but may be more readily provided jointly."

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The following are some examples of interrelationships of funding in programs.

CALIFORNIA CHILDREN'S CENTERS PROGRAM

"This year's California Children's Centers Program maintained by school districts and county superintendents will expend about 23-1/2 million dollars of California money. About 61 percent of this total comes from State sources, about 17 percent from parent fees, and the remaining 22 percent from district taxes levied for children's centers purposes, general school tax funds, and from miscellaneous sources.

"Source of Income 1968-69

State Apportionments	$13,390,202
State Construction Fund	1,000,000
Parent Fees (Estimated)	4,000,000
District Children's Center Override Tax	3,962,802
Incoming Transfers from General Fund (Estimated)	800,000
Miscellaneous Income, School Lunch, Breakfasts (Estimated)	350,000
Special Milk Program (Estimated)	75,000
Total Income	$23,578,004"

CALIFORNIA STATE O.E.O. MIGRANT DAY CARE

"Total day care expenditures in our program excluding construction from inception to the end of current season will be approximately $1,836,000. Of this amount, $1,536,000 has been provided from federal funds from the following sources: Economic Opportunity Act $1,007,000; Elementary and Secondary Education Act Title I (the Migrant Amendment) $238,000; and Social Security Act Title IV-A $288,000. The balance is from the State General Fund in the amount of $188,000, and rental income paid by parents in the amount of $115,000."

FEDERAL O.E.O. HEAD START

"Community Action Agencies are not limited to operating Day Care programs with Head Start funds. Some have Day Care programs in operation with funds from other Federal agencies, or programs that utilize several sources of funds. Joint funding of programs is encouraged."

MRS. JEANADA NOLAN, CHIEF, BUREAU OF COMPENSATORY PRE-SCHOOL EDUCATIONAL PROGRAMS, STATE DEPARTMENT OF EDUCATION

"At the present time, both the State Department of Social Welfare and the State Department of Education are involved in administration of pre-school programs/many of which involve day care/. The State Department of Education has programs being administered as follows:

"- Children's Centers, under the Bureau of Administrative Services

"- Parent Participation Pre-schools, under Adult Education

"- Programs for Pre-school Exceptional Children, under Special Education

"Experimental programs in pre-school under Title III, elementary and Secondary Education Act, and in the Office of Compensatory Education, the Bureau of Pre-school Educational Programs administers:

"- The State Pre-school Program

"- Pre-schools and/or pre-kindergarten, funded under Title I, Elementary and Secondary Education Act

"- Migrant Pre-school Programs in child care centers

"- Program services to Children's Centers, and liaison with O.E.O. Headstart"

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Staff Shortages

This problem is linked to a condition called "need for educational component". Few of California's institutions of higher learning give courses or provide a degree program for early childhood education. It is simply not true that "anyone can be a good 'babysitter'". And, a good deal of expertise is needed to run a group program--to train aides and volunteers, know about ordering of food and supplies, and plan a program for children that is not only safe but which will enhance their growth and development.

The Commission does not argue that all employees in programs should be academically trained, but insists that whoever shall head group programs must have some professional training so that they may train the others.

Because the colleges' teacher training is geared to the State's credential requirements, they do not provide early childhood education training to an adequate degree. Currently there is no credential requirement for early childhood education; hence, there is a lack of places where the professional or career person can get training, and a lack of places where the sub-professional, the aide, and volunteer can take part-time training.

As Dr. Norah Clancy, internationally noted authority and special adviser to the Committee, stated, "There is a dearth of trained people in the field because there were no, or very few jobs before the current rise of interest in the child. We need to draw in as many people as we can--volunteers, people in neighborhoods, and parents working closely with schools. This means bringing them knowledge of how children grow and what they need. Universities, colleges, and junior colleges must become more involved in offering courses in the field of early childhool education. Many problems arise from the operation of centers by inadequately trained and inexperienced people to head them."

Further testimony on these two interrelated problems follows.

BARBARA COUGHLAN, U.S. HEALTH, EDUCATION AND WELFARE

"While better utilization of existing human resources will help to some extent, there is still a critical need for trained teachers and other staff."

MARJORIE MORRIS, CALIFORNIA ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN

"Because we have never had a California teaching credential that is designed to prepare teachers of pre-kindergarten classes, and because the Kindergarten-Primary Credential (the nearest we ever had to a credential that would meet our needs) was removed from the credential structure several years ago, professional preparation for teachers of young children has been inadequate or non-existent (with a few notable exceptions) in most of our colleges and universities. Now that the Education Code includes words such as 'education', 'instruction', 'nursery school', 'teaching', etc., in sections pertaining to programs for pre-kindergarten children, we expect that such a credential will be approved in the near future. The result will be the addition of early childhood education courses to upper-division curricula, and many more courses will be available both to those who seek to earn credentials and to those who merely wish to extend their knowledge, but have no interest in completing the work that would be required for a credential.

"It has been clearly established and accepted by people knowledgeable in the field, that care and education of young children cannot be separated. It is impossible to educate a young child without caring for him in the process, and it is impossible to care for a young child without educating him in the process. The question is, will it be done well or badly.

"We know that if the teachers understand the importance of their work and are knowledgeable in child development and learning theory, the children they teach will be far more likely to find fulfillment in their adult years, to become economically independent, and be good parents to their own children.

"Few people would deny that this is the most important investment we can make in our society's future. But translating that belief into budgets and allocations often is complicated by other factors and pressures! Anyone who suggests that the kind of care and education needed for young children -- particularly children of low-income or disadvantaged families -- can be left entirely to poorly educated baby-sitters or to volunteers, is either sadly misinformed or outrageously unconcerned about the future of our society and its citizens."

DOROTHY SNYDER, LOS ANGELES CHILDREN'S CENTERS

"How can curriculum be planned without taking into account the

nature of the consumer of knowledge. Human beings learn by concept development. Curriculum for children then must be concept development. What do 2 year olds need to know in order that the next level of learning may take place? Concepts take the whole child, not just his feelings or just his intelligence but both together."

THOMAS GWYNN, BAY AREA URBAN LEAGUE

"In Hunter's Point we have stated that the purpose of child care should be to aid the child in mastering those developmental tasks which belong to the early years of childhood. In the preschool years these include such things as motor coordination, the unfolding of preceptual and cognitive function, development of personal identity and socialization skills. Further, a preschool setting should excite the child's curiosity about the world and stimulate his search for knowledge about that world."

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Continuity of Funding

The Committee learned that many problems are created in both public and private programs when funds are allocated for short time periods. Since there is a shortage of talented administrators for local programs, and since these administrators often are required to be the financial officer, purchasing agent, head teacher, training director for other staff, and general troubleshooter, their efficiency is necessarily diminished if substantial portions of their time each year must be spent in securing funds or appropriations.

Of even greater importance is the impact on the clients -- the families and children, if programs are cancelled abruptly. Continuity of funding is a major problem of programs throughout the society and there is no obvious or easy solution. The Commission suggests however, that long range planning efforts and efforts at coordination should include this problem as one for which solutions need to be found. The following testimony relates to this concern.

DIANA ELDER, COORDINATOR, TULARE COUNTY PROJECT

"At this time continuing, stable financing is impossible to find. Our present programs are underfunded, ill-housed and ill-equipped. Day care is the type of service which is essential to a community. I would suggest that two or even three year funding contracts would be helpful, with annual evaluations and audits."

FRANK HOWARD, STATE DEPARTMENT OF SOCIAL WELFARE

"The 1962 amendments to the Social Security Act appropriated "earmarked" funds to assist the states to provide for the care and protection of children whose parents were unable to do so because they were working or seeking work or for other reasons were unable to provide parental supervision for part of the day. These funds could be used for four groups of children: (1) Children from AFDC families where parents were working or seeking employment or were in training; (2) Low-income families where the parents were employed or in training or seeking employment; (3) Migrant farm labor families and (4) Mentally retarded children.

"The funds available for these services in California were extremely limited and did not begin to meet the actual need for day care. County welfare departments consistently requested additional funds which were not available. For fiscal year, 1964-65 these funds amounted to $222,047, in 1965-66 $265,000, and in 1967-68 $400,000. In most counties, these funds were used to provide day care for mothers who were employed or in training. A few counties supplemented these fund but most counties did not. The result was that frequently when funds ran out, training programs for parents had to be discontinued unless the parent could make some makeshift plan for day care."

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Segregation of Children by Economic Class

The Committee heard conflicting testimony on this issue, which after reflection, is not surprising in light of the widespread concern abroad in America today on this most pressing social concern. Difficult as the problem is, the Committee was heartened to discover that the greatest concern sprang from a desire to provide for the kind of care which would be best for children so that they would have a better chance to grow to wholesome adulthood. Difficult as the problems are surrounding this issue, -- both social and fiscal -- it would seem that there is some hope of resolution in the future if the underlying concern is one for children and the future of society.

MARY CHARLES, PRESIDENT, SOCIAL WORKERS ASSOCIATION OF CALIFORNIA

"The income limits set for all of the government subsidized child care programs now automatically insure segregation of the children served. There are only a limited group of eligible children whose parents are employed in essential occupations such as teaching and nursing who prevent the segregation from being total. In some communities this economic segregation is almost a guarantee of racial segregation of the youngest children who would most likely derive long-range benefits from an integrated group."

DIANA ELDER, COORDINATOR, TULARE COUNTY PROJECT

"It is also hard to justify having a special pre-school only for children of welfare recipients, as some state funded programs are now designed. It is not only a form of segregation, it is bad education. Part of the day care experience is to mix children of different backgrounds into common experiences. How much superior, as leaders of society, we would be to accompany our knowledge and goals of child enrichment with the integral purpose of day care. And it would be equally a misuse of public funds and a wasteful experience for children to be placed in a narrowly conceived day care program when enriching pre-school experiences could be easily built in."

MRS. ESPANOLA JACKSON, PRESIDENT, STATE WELFARE RIGHTS ORGANIZATION

"Why we want our own child care, pre-school and day care centers for welfare recipients: (1) to give adequate child care to our children; (2) to employ welfare recipients -- not give training as aides to those who live across town; (3) to give money to those in greatest need; (4) to employ our mothers over 40 years; (5) to show what we can do and have experience."

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Licensing

The history of licensing for day care services is outlined below in the testimony of Frank Howard, Assistant Chief, Bureau of the State Department of Social Welfare. In brief, day care programs administered by a government entity do not require a license, but all other services do, whether they are a group service, or whether service is provided in a family day care home. Both at the hearings and consultation the Committee learned of licensing problems for centers and for private homes mostly involving building inspection and fire regulations which vary from county to county. As one witness stated, "We found it ironic to find a public housing development which was only five years old which could not qualify for a license". The practical considerations were also expressed by a witness who said, "We were told that the latch for the gate in the play yard had to be high enough so the children could not reach it and get out in the street and hit by cars, yet the fire department insisted the latch be reachable by children in case they had to get out if there was a fire". While such problems will have to be worked out in each given instance where existing structures are concerned, it is clear once again here that in planning for the future, city planners, urban redevelopers, land developers and others need to be made aware of the need for neighborhood child care facilities of adequate standard as a part of overall development plans for the future.

FRANK HOWARD, ASSISTANT BUREAU CHIEF, STATE DEPARTMENT OF SOCIAL WELFARE

"The State Department of Social Welfare has been involved in day care in the form of licensing since shortly before World War I. This program gained great emphasis during World War II when large numbers of mothers of young children were employed. Since that time, employment of mothers has become an increasingly important factor in the culture of our country and the licensing of facilities for such care has grown with this development. The State Department of Social Welfare directly licenses group day care facilities and delegates to county welfare departments the responsibility for licensing family day care homes. The department is responsible for licensing all private, non-profit or proprietary day care centers. It does not license those operated by other public agencies.

"Licensing is a community service which indirectly protects children and their families as well as those who provide the service. The role of licensing is to ascertain that minimum standards of care and safety are met. Building safety is determined, and through conversations by social workers with applicants the interests and abilities of applicants to provide healthy, constructive care are assessed. The SDSW has long held that part of licensing is consultation aimed at improving quality of care. Therefore, the issuance of the license does not complete the Department's responsibility. The Department also carries responsibility for continued contact with the facility or family and assisting them to meet good standards. A license is issued for one year and must be renewed at the end of that time. Licensing staff works actively in the community with day nursery associations and with educational institutions in the development of courses for day care staff.

"At the present time, the State Department of Social Welfare requirements do not specify any educational standards for staff in day nurseries and day care centers. Regulations simply say "all staff members must be of good character and equipped by education, training, and/or experience for the work they are required to do". For many years the department has felt the need for upgrading educational standards of staff and at the present time, is proposing new regulations which go to this issue. The proposed regulations will be heard at the December public hearing of the Director of the State Department of Social Welfare. If approved, they will require that the directors of /new/ day nurseries have 15 units in early childhood education and a minimum of four years experience or four years of college or some combination thereof. These proposed regulations were written with the help of a day nursery advisory committee, day nursery organizations, early childhood education specialist and individual licensees."

MARVIN FREEDMAN, ASSISTANT DIRECTOR OF PROGRAMS, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC SOCIAL SERVICES

"We are aware that in our county, and I suspect in all counties, there are literally thousands of children, from infancy to teenage, who are cared for in homes that are unlicensed and unsupervised. This is largely due to the fact that the public at large does not know that State law requires any unrelated person who provides care for children under 16 years to secure a license. I am sure that none of us believe that a license, per se, will guarantee protection to children. It does, however, provide at least minimum safeguards for the thousands of children who are placed in family day care homes. It is our belief that there are probably more children receiving care in homes that are unlicensed than there are in the existing licensed homes. In view of the fact that an ever-increasing number of children will be spending some time in day care, the matter of unlicensed homes should be a matter of State-wide concern."

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NEEDS AND CONCERNS OF THE POOR

Especially since WIN will require child care solutions for welfare recipients and potential recipients, the Committee was gratified to have direct testimony and consultation with not only government professionals long involved in the field, but from welfare recipients and from migrant farm workers themselves.

Ancillary Services

There was considerable testimony about packaging delivery of services to the poor through the day care service. Most public schools in California provide a school nurse, periodic dental examinations, and a school psychologist. These have come to be accepted as good public health services. Pre-schoolers need them too, and much later trouble can be alleviated or prevented if attended to early enough.

THOMAS GWYNN, BAY AREA URBAN LEAGUE

"It is obvious to anyone who looks into the child care programs for the poor that there is a great need for considerable expansion of existing programs and improvement of existing services. Many of the programs provide little more than custodial services. The insufficiency of services results in part from poor facilities, inadequate numbers of teachers and minimal teacher training.

"Once we can decide that the development and welfare of children is the primary purpose of day care programs, then we realize that "babysitting" services are not acceptable. The National

Urban League feels that all children need and deserve access to certain services. Children and families should not be denied medical, dental, nutritional, psychiatric, and other related services because they are unable to afford the current costs of these services. These services should be available through the Parent/Child Centers -- this then becomes another way of improving delivery of services."

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Educational Component and Trained Staff

Much has already been written in this report about the need for an educational component and trained staff. The focus on it in this section rises from a concern that in the haste to get the WIN Program in operation, insufficient effort will be given to seeing that children benefit from the care they get.

If the parents feel the program is damaging, they simply will not use it. Head Start and Compensatory Education programs have clearly indicated that most children of the poor are in even greater need of educationally oriented programs and experiences than those of the middle class.

It is not maintained that all who take care of children need a college degree or even a high school diploma. It is asserted that the head person in a group program should have training, and that in family day care homes, and new devices such as neighborhood homes, even a short amount of training, or access to training, is highly desirable. The following testifies as to how this can work out for the benefit of both children and the trainee. The description is of the Tulare County Project.

"Hiring local parents or young people to work in the programs -- as is the practice in Tulare County -- opens up new job vistas as well. People can be hired that are not educationally qualified but are trainable. The six teachers in the program I coordinate were all hired from low-income, Mexican-American, farm working families. Thru working in the local program, observing other programs, participating in Head Start training and the local in-service training, all of them have developed an interest in education as a career. Four are now attending night school along with their regular work. Another is attending a four year teacher's college. At one center the entire staff, including the cook and the custodian, enrolled in child development classes. Child care, pre-school, is a field where natural ability and on-the-job training can provide avenues to rewarding careers. Day care can hire non-credentialed young people and as they move on and spread their developments into a community, new trainees can be absorbed."

The following is an example of Neighborhood Day Care with training as a component. *

"-- Neighborhood Family Day Care Project

One solution to this problem may be found in the development of Neighborhood Family Day Care homes. This program was established as a result of legislation in 1967, which appropriated $50,000 for a demonstration project. Los Angeles County was requested by the State Department of Social Welfare to develop the method for the selection and training of Aid to Families with Dependent Children (AFDC) recipients or potential recipients to become Family Day Care Parents. Upon completion of their training, they will be eligible to take Civil Service Examinations; and if successful, they will become employees of the Department of Public Social Services at a salary range from $406 to $502 per month. These employees will provide supervised day care, without charge, to children of other AFDC mothers, who will then be able to engage in work or training.

"Los Angeles County has budgeted salaries for six such positions during this fiscal year. If the program is as successful as we fully expect it to be, the number of positions will be increased in subsequent years. The new Family Day Care Program could result in:

"-- Providing quality child care in their own neighborhood for children of low-income families.

"-- Allowing mothers to become wage earners in a role that they are most fitted for: namely, caring for other people's children.

"-- Freeing other AFDC mothers for training or employment, secure in the knowledge that their children are well cared for.

"-- Showing the total community that when necessary resources are available, recipients who are able to do so are eager to become independent and resume their places as contributing, participating members of their community."

*Los Angeles County Department of Public Social Services

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Involvement of the Client in Planning

As indicated in previously quoted testimony, the poor themselves feel strongly that they should be included in planning day care solutions which will involve them and their children. As one welfare recipient testified, "It's great to make a center next to the park, but if I can't get there, what good is it to me?" Another said, "We are worried that all the planning will be left up to the education experts, which hasn't been able to educate our children even when they have 12 years to do it in".

Part of the 4 C's Plan calls for coordinated planning by local committees composed of both public and private representatives. In its recommendations, the Commission touches on the above concern by recommending that the local coordinating group include representation of relevant minority groups and the poor. This stems not from the philosophy of "participatory democracy", but from the practical necessity of knowing what the day-to-day realities and concerns are of the recipients themselves.

Communication can produce enlightenment -- and especially in this instance, where there is the strong common denominator of concern for children, this suggestion should be tried. The alternative is to dismiss the matter as an insoluble problem, thus ensuring the recurring cycle of problems as they exist today.

* * * * *

Children of Migrant Farm Workers

Day care for these families has been provided in the past under the administration of the Master Migrant Program, California Office of Economic Opportunity, with funds from a combination of parent fees and state and federal sources. The major portion of the funds was granted under the Economic Opportunity Act. The federal Office of Economic Opportunity discontinued the funding of day care in migrant programs in the spring of 1968. Thus, a new major funding source will have to be found for the 1969 season and thereafter.

The 1967 amendments to the Social Security Act, which incorporated an open-ended appropriation, declared that funds would be available for welfare recipients or potential welfare recipients (migrant families can be classified as potential welfare recipients). The federal funds must be matched at the state or local level on the basis of 85 percent federal, 15 percent state/local until July 1, 1969 and 75 percent - 25 percent thereafter.

The Commission recommends that the State allocate from the general fund or other appropriate source the needed "local match" which, when combined with the "federal match" and other funds used

for this purpose in the past (rental income from the parents and compensatory education funds available to the State Department of Education), will provide day care services to migrant families at least at the level of service provided in 1968. There may be other workable solutions in the future that a State-level Coordinating Council can devise, but time does not permit delay for this year.

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SPECIAL PROBLEMS

Transportation

Much testimony bore on inadequacies of transportation. Public transportation in California, by and large, is pitifully inadequate if all the wage-earner has to do is to get from home to work and back. A mother with more than one child who must take them to several places because of age restrictions of the facilities, faces an almost insurmountable problem.

DR. ADELE DAVIDSON, PROJECT DIRECTOR, WORKING MOTHERS SICK CHILD CARE PROJECT

"On the basis of the information obtained from interviewing 54 working mothers and one working father (raising his 2 year old son by himself) in the Western Addition District of San Francisco, 75% of these families had to make multiple arrangements for the care of their children. In a family with four children, for example, the mother might have to take her 2 and 4 year old to a babysitter's house (usually unlicensed), arrange for a neighbor to get the 7 and 10 year olds off to school and worry about what the older ones do when they came home from school. On school holidays the older children have to fend for themselves, and one mother stated that she was being cited by the District Attorney's office for child neglect and contributing to the delinquency of minors because she could not afford to hire someone to look after her children who were on their own after school.

"Testimony also made it clear that ghetto and other poor residents are very reluctant to take their children very far from their own neighborhoods."

MRS. ARNOLD ANDERSON, CHAIRMAN, SOCIAL SERVICES ADVISORY COMMITTEE, CONTRA COSTA COUNTY

"The Committee is in support of neighborhood services. While we recognize a need for trained supervision of children, we also find that transportation and other factors create resistance to leaving children very far from home. Without neighborhood

facilities, children are likely to be cared for on a much more casual basis."

* * * * *

Sick Children

Quite rightly, no child who is ill can be taken to a group center, even if he has only a "runny nose". It belabors the obvious to point out that children usually have measles, mumps, and chickenpox, as well as colds and influenza, and that these illnesses are to be expected. Even more serious illnesses also can occur, of course, and the last thing anyone would promote is less than the best possible care for a sick child, regardless of the problem created for the parents. The average-income working mother, however, is extremely liable to lose her job when her child is ill unless she is lucky enough to have a relative or neighbor who can assist.

Child illness with the low to average income mother who must work would appear to be "the original impossible problem". Clearly intensive study and long-range planning are indicated.

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Weekend and Night Shift Workers

A few of the Head Start Centers and a few of the Migrant Day Care Centers are open on Saturday -- but these are limited to the agricultural areas and season. A few licensed family day care homes may take children during these hours, but if there are any, none were known to those who gave testimony before the Committee. The following is testimony from San Diego.

MRS. AVIS RANA, CHIEF, SPECIAL PROGRAMS DIVISION, SAN DIEGO COUNTY DEPARTMENT OF PUBLIC WELFARE

"If we are concerned about the children of working parents, the usual operational concept of 6 a.m. to 6 p.m., Monday to Friday, is not appropriate for a sizeable group. Many of the recipient population and related groups work in service jobs at the entry level, requiring night and weekend work. The children in these families are probably at greatest risk in many ways and the community offers least help to these parents in protecting their children. Perhaps it is time to start talking about 'child care' if the discussion is to focus on needs of children rather than primarily on current facilities. 'Day care' seems to imply the hours that the sun is up, rather than part-time during the 24-hour day."

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Older Children

California currently has few or no facilities for children beyond the pre-school age. It is true that Children's Centers take school age children up to the age of 12 years, but they cannot begin to fill the need. Children 8 and up have grown beyond the kinds of activities that most nurseries provide. Even family day care homes have problems with providing supervised wholesome activities for older children, since the foster mother usually cannot leave the home to go to nearby playgrounds, museums, and other such facilities if she is also taking care of younger children.

A lot more knowledge is needed about this problem. Study about practical and reasonable solutions is indicated. One suggestion for school-age children was made as follows:

MRS. RUTH CHURCH GUPTA, LEGISLATIVE ADVOCATE, CALIFORNIA FEDERATION OF BUSINESS AND PROFESSIONAL WOMEN'S CLUBS

> "Could school facilities be made available to all children after school hours? If both parents are away from home from early morning until dinner time, school children are frequently without any supervision for several hours a day, to say nothing of vacation periods. While formal school hours may only require a child's presence for a portion of the day, the school itself could be made available to those families who request it for after school activities. The classroom teachers and administrative personnel should not be burdened with the responsibility for such activities, but perhaps the school plant itself could be utilized and programs which would interest children could be developed which might be helpful in reducing the number of 'dropouts.'"

* * * * *

Children Under 2 Years of Age

There is virtually nothing available for children under 2 years of age except a limited number of family day care homes. The Committee heard repeated testimony that this is a major problem. The California Welfare and Institutions Code prohibits group facilities from caring for infants.

The following is testimony which covers some of these special problems.

BERKELEY CHILD CARE COMMITTEE

"We are particularly concerned about the lack of facilities for children under 2, and for children who become ill or whose families have short emergencies; and the lack of adequately supervised, meaningful activities for older children."

DR. ADELE DAVIDSON, DIRECTOR, WORKING MOTHERS SICK CHILD CARE PROJECT

"Even when working mothers do have some kind of day care for their young children, either at a center or in a licensed or unlicensed home, the entire system fails when the child gets sick.

"As far as can be determined, there is no day care center facility or program in San Francisco which has day care for both well and sick children ranging in ages from 2 to 14 years of age. And since the California Welfare and Institions Code prohibits centers from caring for any children under 2 years of age there is not even a day care center for well children under this age. Implication: Young children should be with their mothers...a good argument if desired and possible. But the fact is that babies are now being cared for by untrained, unsupervised and unlicensed babysitters because mothers need to or want to work and they cope the best way they know how."

PROFESSOR LYDIA RAPOPORT, DEPARTMENT OF SOCIAL WELFARE, UNIVERSITY OF CALIFORNIA AT BERKELEY

"One of the crucial findings we wish to stress is that the mothers of 127 children (nearly 60%) of this population were working before the child was two years of age. Forty children had mothers who were at work before they were three months of age; 59 children had mothers who worked before the child was six months old. There are no adequate facilities for child care of a public, supervised nature for children under two. Only unsatisfactory make-shift arrangements are possible that contribute to the mother's anxiety about working and possibly to the child's unstable situation which may have an adverse effect on child development. There is an urgent need for social and community planners to rethink the issue of child day care services for the child under two years of age and to begin to provide adequate programs for infants and toddlers. In addition, more programs and more adequate child care facilities are needed for the pre-school child. All these centers had waiting lists. Again, the mothers would make unsatisfactory make-shift arrangements while they waited for a place."

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Covering a broad range of concerns are the following statements from three government experts -- one federal, one state, and one county.

BARBARA COUGHLAN, DEPUTY REGIONAL COMMISSIONER, SOCIAL AND REHABILITATION SERVICE, U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

"Licensing laws vary drastically between states and sometimes even between localities within the same state.

"Complex zoning regulations often hinder development of family day care homes as well as centers.

"Lack of adequate physical facilities indicate the need for federal funds to finance construction similar to that provided under the Hill-Burton Act for medical facilities."

FRANK HOWARD, ASSISTANT BUREAU CHIEF, CALIFORNIA STATE DEPARTMENT OF SOCIAL WELFARE

"The concerns of the SDSW in regard to the day care programs are in many instances the same as the concerns about child welfare programs in general. They include:

"1. The general lack of understanding on the part of the public of the importance as to the quality and depth of services needed for children whose parents need help in providing them the opportunity to grow and develop in a healthy manner.

"2. Insufficient funds to provide the constructive and helpful services needed and to guarantee protection for children.

"3. The lack of well trained, skillful people to provide the vast number of services required.

A major problem in day care is to train sufficient staff, professional, non-professional and volunteer. It is the non-professional trained worker who is going to have closest contact with children in day care and therefore the ones who will have the greatest influence on the children. These people must have training so that they can use their natural skills in a helpful manner.

"4. The lack of adequate facilities, both in quantity and quality.

"Some concerns that particularly apply to the field of day care are:

"1. Care for children whose mothers must work at unusual

hours, such as evenings and nights. We have not found entirely satisfactory answers for these children, and their number is growing.

"2. Care for infants for whom group care is emotionally and physically hazardous. Several thoughtful groups have recently expressed interest in experimenting with group care for infants and we recognize that group care may be needed where other facilities are not available. We are interested in how to reduce the hazards and make the experience a good one.

"3. The provision of adequate day care for children of migrant families.

"4. The provision of day care for children from poor housing areas where adequate physical facilities are so hard to find."

MARVIN FREEDMAN, ASSISTANT DIRECTOR OF PROGRAMS, LOS ANGELES COUNTY DEPARTMENT OF PUBLIC SOCIAL SERVICES

"I should like to discuss some of the operational problems facing local governments in implementing the state and federal regulations. As I have said before, day care will be expanding at a rapid rate in the coming months. This means increased activities in recruitment of Family Day Care homes; licensing activities; exploration of areas needing group homes; contracting for provision of group day care with private agencies and industry; providing social services to day care children and day care operators. All of this means employment of skilled Social Workers, administrators and auxiliary service personnel. The personnel recruitment problems in welfare are probably already known to you. The new emphasis on day care will compound that already serious problem.

"Beyond problems of recruitment and probable additional expenditure of county, state and federal funds, there is confusion in the method of payment for day care."

* * * * *

OTHER NEEDS AND CONCERNS

Children of College Students

The Committee found that facilities to accomodate children of students were inadequate to meet their needs. The married student whose wife works to put him through school has become a commonplace practice in the last decade. Day nurseries on college campuses could take great advantage of the proximity of teaching experts for the part-time in-service training of aides and volunteers, who

would later serve in centers throughout the community. Greatly expanded private sector involvement is clearly indicated.

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Children of Middle-Income Parents

"The great middle class in this country is being lost in the shuffle", stated Dr. Norah Clancy, special adviser to the Committee. She continues: "You don't get much attention unless you are very poor -- you must be a juvenile delinquent, a migrant, or some other classifiable unfortunate. There are too many children in this country who fall between the cracks because they don't fit into 'programs for the poor', programs for pre-school children, etc."

The Committee found that middle class families who can afford to pay for day care, nursery school, or something similar, cannot find facilities in metropolitan areas, and the surburban areas do not have enough nursery schools or day care facilities for people who can pay, often because of zoning laws and other regulatory barriers.

Such families have two other alternatives -- employing someone to live full time with the family, or employing someone who comes to the home daily. The dearth of suitable, dependable persons in either category (the latter greatly complicated by the transportation problem) is well known. Certainly upgrading the image of such employment will be necessary in the future; local child care coordinating councils should seek solutions to the zoning and regulatory barriers so that more private profit-making ventures can be encouraged; and employers should play their part in providing "pay-as-you-go" facilities for their women employees.

* * * * *

Long Range Planning

It is clear that both public and private services, and the government-imposed regulations affecting services, have "grown like topsy" -- without sufficient knowledge in one place to allow for intelligent and orderly planning.

The state has affirmed the wisdom of a policy of long range planning "on issues which are and will be facing the decision-makers of California... /and/ the role of state government with respect to these issues within the context of a creative relationship with local government, the federal government, and the private sector" (quote is from Governor Reagan's letter of transmittal which accompanied the Phase II Report of the California State Development Plan Program).

The Commission is convinced that the issue of child care is of sufficient complexity, importance, and proportions, that the same kind of policy of long range planning (taking into account population and work force trends as well as needs, problems, and resources) should be adopted by the State with reference to the future of child care within California.

* * * * *

Private Sector Involvement

Increased involvement by non-governmental segments of the society on a substantial scale are clearly called for, and there is evidence of interest by the private sector in such participation. The Commission has been applied to several times for consultive and technical assistance, which has of course been gladly given.

What is needed is an ongoing entity, properly equipped to do the job, which is responsible for encouragement of expanded participation of, and consultive assistance to, such private sector entities as:

.. City planners and real estate developers who can plan for inclusion of physical facilities for child care centers in urban redevelopment plans, in newly planned communities, and in public and private housing developments;

.. California business and industry employing substantial numbers of women, which will ensure that needs of both employers and employees are better served;

.. Church groups whose existing physical facilities can be used on weekdays;

.. Appropriate college and university groups, such as Faculty Wives Clubs, Student Wives Clubs, and YWCA's, which can institute facilities for children of students, and which can take advantage of the proximity of professional and student teachers;

.. Hospitals, which could solve some of the nursing shortage by providing built-in child care facilities, thus enabling married nurses to return to their profession either part or full time;

.. Private foundations which can assist demonstration and pilot projects for training of child care personnel, fund pre-operational costs of private non-profit local child care facilities, and like assistance;

.. Service organizations and professional associations which can work with local county governments to "audit" exist-

ing unused physical facilities which can be adapted for use as child care centers;

and, which is also responsible for other creative solutions which do not fall within the authorization or responsibility of existing departments of state government.

RECOMMENDATIONS

COORDINATION, AND PRIVATE SECTOR INVOLVEMENT

THE COMMISSION RECOMMENDS that the "Community Coordinated Child Care" (4 C's) approach proposed by the federal government be adopted within the state. Implementation of the 4 C's calls for coordinating councils at both the state and local level.

The state level coordinating council should be composed of representatives of state departments responsible for child care programs and services, relevant state advisory boards and commissions, and relevant professional organizations.

The state coordinating council should have sufficient authority so that interdepartmental planning and coordination is required. It should also be responsible for encouraging and providing assistance to private sector groups outlined in the Findings who can and should become involved in solutions to child care needs. The state level council should be provided with adequate staff to carry out its functions and duties.

The Commission recommends that local welfare planning councils or equivalent groups establish local coordinating councils, and that care be taken to ensure that parents of children who will be using the services be included in the membership of such local councils.

CHILD CARE NEEDS OF MIGRANT AGRICULTURAL FAMILIES

THE COMMISSION RECOMMENDS that appropriate legislative action be taken to provide the required matching funds during 1969 to support migrant day care programs, and that the state coordinating council (see above recommendation) examine workable alternatives for 1970 and thereafter.

SHORTAGE OF TRAINED STAFF

THE COMMISSION RECOMMENDS that legislative action be taken to add a specialization in early childhood education to the possibilities of specialization within the existing standard teaching credential, so that future professional teachers will be attracted to the field, and in turn can assist in the in-service training of child care aides and volunteers.

THE COMMISSION ALSO RECOMMENDS that the Coordinating Council for Higher Education give high priority to its study of the prob-

lems of transferrability of credits among the Community Colleges, the State Colleges, and the University, so that more professional teachers and aides can be trained in the development and learning processes of the preschool child.

THE COMMISSION ALSO RECOMMENDS that institutions of higher education work in conjunction with local school districts and community agencies to make available increased educational opportunities in the early childhood education field to full and part time students and to personnel currently working in child care programs.

DAY CARE LICENSING REGULATIONS

THE COMMISSION COMMENDS AND SUPPORTS steps being taken by the State Department of Social Welfare to ensure improvement in the quality of day care services rendered to the public.

TAX RELIEF FOR EXPENSES OF CARE OF DEPENDENTS

Section 214 of the Internal Revenue Code and Section 17265, the California counterpart in the Revenue and Taxation Code, provide that a working wife (or widower or husband whose wife is incapacitated or institutionalized) may deduct up to $600 for child care expenses for one child and $900 if he or she has more than one child. There is to be a dollar for dollar reduction in the deduction for every dollar earned over $6,000 per year. It is suggested that $600 is not an adequate deduction and it is still an economic burden on the mother or father, as the case may be, to hire someone to care for their children so they may be gainfully employed. Obviously the $900 top limitation (where there is more than one dependent) is wholly inadequate in the case of a large family. Likewise, the person who works should not have his deduction taken away by earning more than $6,000, particularly in the case of one supporting a large family.

THE COMMISSION THEREFORE RECOMMENDS that Section 214 of the Internal Revenue Code and Section 17265 of the Revenue and Taxation Code be amended by liberalizing the amount of the deduction to a taxpayer who presently qualifies under said sections by incurring child care or disabled dependent expenses for the purpose of enabling him or her to be gainfully employed; and further that either the top limitation of $6,000 be raised to a more realistic level or else that the amendment to said provisions eliminate the reduction in the amount of the deduction for amounts earned in excess of $6,000.

LONG RANGE PLANNING

THE COMMISSION RECOMMENDS that the State Office of Planning be authorized and enabled to develop a long range plan for child care services within the state, taking into account population and workforce trends as well as needs, problems, and resources, to ensure that:

1. Future public and private resources within the state are best utilized to meet needs for quality child care services of parents who are working, those in training for work, those attending school, and those who otherwise have legitimate need for child care services which cannot be met by a family member.

2. Information on unmet need can be gathered in orderly fashion.

3. Public and private non-profit services have a greater degree of continuity of funding.

4. Ways are found to structure, locate, and use group programs to avoid homogeneous grouping by economic class wherever possible.

5. New resources to meet overall needs be devised.

6. Adequate remedy be found for special needs and concerns including -- (A) single parent families whose "breadwinner" must work night or weekend shifts, (B) care for the sick child, (C) care for infants and the "older child," (D) licensing problems of potential family day care homes in older neighborhoods, and (E) shortages of trained personnel.

E D U C A T I O N

If one paramount fact--one insistent drum note--has sounded from the extensive work of the Education Committee, it is this: Today's educational counseling of girls and young women is not realistic, and is not preparing them for the life patterns of women as they exist today.

Counseling per se is inadequate throughout the educational system, but several factors in the last half century have drastically affected the life patterns of women, while those of men have remained substantially the same; from childhood, males have always been raised to prepare for and expect a life career of paid employment.

This is not a brief for encouraging all women to have careers, but rather for enlightened appraisal of how to make best use of a much longer life and changed life pattern in a world that bears little resemblance to that of only 50 years ago.

Until recently, there was no need to ask women to look at their life span seriously and objectively and prepare for it accordingly.

What has changed?

.. Women live substantially longer. The life expectancy of a woman in 1900 was 48 years; today it is 75 years. Women spend on the average 25 years in childrearing. What about the other 50 years of their lives?

.. Home labor savings devices have also given today's woman many added years of time.

.. Large numbers of women have found it economically necessary for them to be employed outside the home for substantial periods of their lives.

If society is to realize the benefit of the capabilities of its women citizens--over half the population--the educational and counseling system must become relevant to these changes in the lives of women.

Needed is education of the educators, education of the counselors, education of communications media, education of girls and young women, and education of their families in helping shape their mental preparation for the world as it actually is today.

At the beginning of its work the Education Committee examined these questions:

.. What does the term "education" encompass? When do the educational needs of women begin? When do they end?

.. Should we educate boys and girls differently? If so why, and in what way?

.. How has the biological revolution changed the educational needs of women? Has education been responsive to the changed needs?

.. Is today's continuing education geared for women of all ages?

In preparation for its task the committee reviewed reports, transcripts of public hearings and consultations on educational needs and opportunities of California women with representatives of public and private education, and attended and participated in national, state, and community conferences and meetings on the subject.

The Committee determined that one voice had not been heard--that of women, the "silent majority". Accordingly, four questionnaires were developed aimed at the following groups: teenagers, homemakers, business and professional women, and employers.

TEENAGER SURVEY

The Teenager Questionnaire was developed jointly by Mrs. Helen A. James, Project Administrator, Office of the Superintendent, Los Angeles County Schools, and Evelyn Lindy DeWit, Executive Director, Pasadena Girls Club. Its purposes were as follows:

1. To determine if young women have a realistic view of what their futures are likely to consist of;

2. To assess their view of present day counseling and their future educational needs;

3. To assess the basic self-image young women have of themselves.

The survey cut across every economic background, ethnic background and religion, and included rural, urban and suburban girls as well as a whole range of achievers from low to high. The number of respondents was 1,128. Questionnaires were administered in junior and senior high schools, to members of various girls organizations, to girls attending business education conferences, to teenage daughters of members of the American Association of University Women, and by girls assigned to the Ventura School for Girls. Answers came from the following geographic locations: Anaheim, Antioch, Fresno, Lakehead, Livermore, Los Angeles, Novato, Pacifica, Palo Alto, Pasadena, Pittsburg, Sacramento, San Rafael, Yorba Linda, and Ventura.

Ages of the girls were as follows (55 did not list their age):

Age	No. of Respondents
13	109
14	122
15	202
16	150
17	383
18	72
19	34

The girls were asked what field of work they would choose if given full freedom. The largest group, 27 percent, indicated teaching or one of the professions; second largest was 24.5 percent who picked secretarial, followed by 22.5 percent who chose some field of the Arts such as music, drama, painting, or dance. The other replies were science and technical field, six percent, business, ten percent, and a mixed group including recreation, social work and politics, 11 percent.

A striking 42 percent of respondents stated they were not sure they would be successful in their chosen field. Other answers to the question about problems in achieving goals were: lack of money, 26 percent; education or training inadequate, 16.5 percent; low grades, 18 percent; "don't know where to apply for this kind of job", 13.5 percent; and family objections, four percent.

Asked how schools could give better preparation, 58.5 percent felt counseling was inadequate, 59 percent felt more work experience opportunities should be available, and 28 percent felt more vocational education courses should be offered.

The girls were asked what roles, or combinations of roles they thought they would be filling at various periods in their lives. Their answers indicate awareness of certain realities, but a marked lack of how to deal with them.

For instance, only 50 percent felt they would be married at age 40 (which is very surprising in itself), yet few had picked fields of work in which much money can be made or in which advancement is possible, and only 30 percent of the total sample planned on a college education.

Almost none understood the concept that life-long education is necessary in an era of technology, obsolescence, and rapidly accelerating change. Half thought they would not be working at age 30, but only three percent saw any need for education at that point in their lives. Similarly, but more importantly because it is the age at which most homemakers' children are either in school or are nearly grown, 58 percent felt they would not be working at age 40, but only two percent saw any need for education.

Clearly, an awareness of how to plan for the sequential pattern of women's lives was missing throughout the entire sample.

Ambivalence about the roles and responsibilities of men and women also was marked: 95 percent felt women should have a chance to develop their own special abilities; more than 3/4ths felt men and women doing the same job should be paid the same money, yet 40 percent felt men should be paid more "because they support the family", with 20 percent "not sure".

Dismayed observers of the current younger generation will be heartened, as was the Commission, by teenage answers to two control questions: "If you could broadcast a message all over the world that would help make it a better place, what would you say?", and "If you knew you had only one month to live, what would you do?". Responses evinced (1) a high degree of altruism, and (2) a strong sense of religion and belief in deity.

"God" or "religion" occurred in the majority of answers to the first question, along with such concepts as "helping", "loving", and "understanding others".

"Be genuinely interested in the welfare of mankind and don't be interested in only promoting your own selfish interests."

"Do what you think is right and think of everyone as being equal".

"I would want to be able to know that I had, sometime in my life, been able to help another person."

"I would try to do, to the best of my ability, all I could to help those that were poor or without education. I'd try to put someone through college who needed and deserved it."

HOMEMAKER SURVEY

The Homemaker questionnaire was designed to learn what plans homemakers had for the period in their lives after their children were grown, whether they felt their workforce skills were out of date, if they felt training and/or counseling was needed and available, how counseling for young people should be improved, and based on their own experiences, what advice they would give to young women today.

The questionnaire was developed by the Committee with resource assistance from Mrs. Helen James and Dr. Mary Reed, Director of Instructional Services and Curriculum El Segundo Unified Schools. Homemakers were reached on a statewide basis by sending the questionnaire home with school children in one district, and through the cooperation of the California Federation of Women's Clubs, their Junior Membership Clubs, California Division of American Association of University Women, Parent-Teacher Associations, and other women's clubs. The 316 responses represented homemakers from every economic level, and covered rural, urban, and suburban areas.

The marital status of respondents was as follows:

	AGE			
	20-25 years	36-45 years	46-50 years	over 50
Married	100%	91%	87%	70%
Single		3%	2%	8%
Divorced		6%	7%	
Widowed			4%	22%

Homemakers were asked about previous career experience. Ninety-one percent of the total sample had been employed at some time in their lives, with the lowest percentage (82 percent) in the 46 to 50 age group. The number of years of employment was broken down by age group as follows:

	AGE			
	20-25 years	36-45 years	46-50 years	over 50
Under 5 years	53%	46%	41%	45%
Under 10 years	26%	18%	25%	22%
Under 15 years	16%	25%	17%	11%
Under 20 years	5%	11%	17%	22%

The educational attainment of the respondents was high, due in substantial part to the fact of heavy participation by members of the California Division, American Association of University Women. Forty percent of the total sample had bachelors degrees, and eight percent had master's degrees. Fifteen percent had completed two years of college.

Asked if they were considering a career for their third span of life after children were grown, 56 percent said yes, 18 percent said no, and 26 percent were unsure. Answers by age group were as follows:

	AGE			
	20-25 years	36-45 years	46-50 years	over 50
Yes	64%	56%	51%	42%
No	14%	12%	15%	42%
Unsure	22%	32%	34%	16%

Respondents showed little degree of awareness of changed and continually changing job and skill requirements in today's workforce. Fifty-six percent of the total sample felt their skills were up to date, yet the largest percentage in all age groups had been employed for less than five years. The answers would seem to indicate that too few were aware of the impact of automation and use of new techniques of data processing in most business and industry. Also, two traditional fields for women--nursing and teaching--have undergone substantial change necessitating retraining for women re-entering those fields.

An unrealistic percentage (77%) felt that opportunities for further training or retraining were readily available. Also unrealistic were their answers about availability of pre-admission educational counseling: 46% felt it was available in colleges, when in fact counseling is available (with only a handful of exceptions) only to the student who is already enrolled (and counseling for enrolled students is woefully inadequate).

Thirty-five percent of the sample intended to make homemaking a full time pursuit during their third span of life, 51 percent planned to be "part-time homemakers", and 14 percent were not sure. Fifty-six percent felt they would need counseling to determine how to use their third span of life.

Shown below are typical responses to the question "Knowing what you do now, what should have been included in your junior and senior high school counseling?

"An interest in me as an individual, not as a statistic."

"More training in money management and child care."

"More encouragement to attend college."

"Aptitude and ability testing."

"More personalized guidance in what interested me most, not just reading I.Q. charts."

"Have qualified people doing counseling--not just any teacher."

"Not foresighted enough."

"More guidance in choosing a major; some on-the-job training."

"More homemaking skills emphasized."

Respondents were asked what advice they would give young women today on planning for the sequential pattern of women's lives, on occupational preparation, on their partnership role in marriage, and on the responsibilities of parenthood. The following are typical responses:

Long Range Planning for the Full Life Span

"Prepare for vocation of interest in case of necessity."

"Education--college if possible. Work to learn about life, marriage and family."

"Start now to look for and plan programs to fulfill interests."

"Develop many interests, travel, read, seek, think."

"Learn to take advantage of opportunities available."

"Know yourself; keep active and interested."

Occupational Preparation

"Choose career that can be resumed after children are grown."

"Prepare for some vocation that interests you, college if possible."

"Learn a vocation that is of interest first; not means to an end."

"Testing programs and counseling toward developing potential."

"Fit themselves with skills for earning living."

"Up-date high school counseling programs; they don't push enough classes on students."

"Recognize that in today's world, every woman needs a satisfying skill or vocation in addition to that of wife and mother."

"Look ahead over the years and see what you might enjoy all your life."

The Partnership Role in Marriage

"Mutual understanding for each partner's goal."

"Marriage is 50-50. Can't expect own way always; share, learn."

"Consideration of partner over self."

"Provide love and support to husband and children, provide pleasant surroundings and freedom for each member of family unit to develop own potential."

"Stress financial costs of raising children--high cost of parenthood."

"Make children and husband a career."

"Realize that each person contains the seeds for his own happiness; it is unrealistic to expect all happiness to depend on another."

"Put husband first--over self or children. Love and understand."

Responsibilities of Parenthood

"Give undivided attention to pre-schoolers."

"Children should be first consideration in making decisions for outside activities."

"Prepare children for life, not sheltered, etc., but able to meet crises."

"Effects of broken homes on many children should be discussed."

"Allowing each child freedom to grow in his own way at his own speed."

"Raise the child those first five years--then resume career full time if desired."

BUSINESS AND PROFESSIONAL WOMAN SURVEY

Since such a large segment of the workforce today is women, the Committee utilized a questionnaire for business and professional women to determine whether they felt they were adequately prepared to meet the "world of work" as it is in terms of working relationships, existing attitudes about women workers, and in terms of advancement possibilities. The "question behind the question" is this: "If women in substantial numbers are finding obstacles in contributing their maximum potential in the workforce, what educational tools are necessary to overcome the barriers and how can the necessary educational job be done?"

The questionnaire was developed by Dr. Sylvia Boltz Tucker, noted educator and former Dean of Women at U. C. Riverside. The questionnaire was administered through the cooperation of the California Federation of Business and Professional Women's Clubs and answers came from all parts of the state. Of the 80 respondents, 88 percent were employed full time and 12 percent part-time; 25 percent had minor children and 10 percent had other dependents, such as mother, husband, or older children. Their marital status was--single, 9 percent; married 56 percent; divorced 19 percent; widowed 15 percent; separated 1 percent.

Percentagewise, their ages were as follows:

Age Bracket	Percent
25-29	3
30-34	1
35-39	3
40-44	16
45-49	21
50-54	16
55-59	24
60-64	12
65 and over	4

Shown below are typical responses to the question, "Are there major obstacles or blocks which you have encountered as a woman in the business or professional world?

"The company prefers men in supervisory positions."

"Not enough supervisory positions available for qualified women."

"In general, school administrators look at men, even if they are single, as the head of a family thus deserving of more money, yet overlook women heads of families."

"In my job I was made to feel 'you are just a woman so you can't be too smart and you don't need the salary a man demands.'"

"Not accepted as being as knowledgeable as men in the same position."

"The fact that it was unusual for a woman to be a personnel director of a manufacturing plant created some rough situations which were challenging."

"Salary scales are lower for women, although responsibilities are the same. Changes within departments are harder to initiate."

Respondents were asked their views on a number of "statements" about working relationships and advancement (answers are percentages of the total):

Statement	Agree	Neutral	Disagree	No Answer
Women feel comfortable in positions of authority	77	17	3	3
Men feel comfortable working for women	19	30	46	5
Women feel comfortable working for other women	61	26	10	3
I would feel comfortable working for a woman	79	9	9	3
Women must work harder for promotions	80	3	4	13
Competition for management jobs is keen	71	12	11	6
Women by and large have accepted their exclusion from management ranks	58	12	27	3
The rationale for exclusion of women is sound	9	9	79	3

Since preliminary study done by the Committee and by other Committees of the Commission indicated that negative attitudes about working women often exist, and that such feelings or views are held not only by men, but often by women themselves, the respondents were asked for their reactions to several statements:

Statement	Agree	Neutral	Disagree	No Answer
Prejudice against women in work outside the home is deeply rooted in our culture.	59	15	23	3
Men are more aggressive than women	42	8	50	-
A woman's place is in the home.	6	12	71	11
Women are too emotional	21	19	57	3
People feel women are less competent than men even if both are equally qualified	62	12	23	3
Women allow their personal feelings influence decisions	39	28	33	-

Statement	Agree	Neutral	Disagree	No Answer
Women are not willing to accept responsibility	14	12	74	
Women are out of place in meetings where arguments and table pounding exist	7	15	75	3
Women are concerned with details and fail to see the big picture	11	19	65	5

Respondents were asked what, in their opinion, could be done to improve, and make more meaningful, opportunities for working women--by business, by women themselves, by government, by professional associations, by educational institutions, and by women's organizations. Some of their suggestions are shown below:

Business:

"Keep an open mind."

"Put women in management positions."

"More competent women."

"Honestly giving women training opportunities."

"Make business conscious that women are willing and competent to assume responsibility. Hopefully, more men will become less prejudiced and women less critical of their own sex."

"Educate department heads to the basic potential of women, and benefits to the company when women are encouraged to advance."

"Have the same pay scale and enforce it."

"Higher education for women sponsored by business. This is done only for men as a rule."

"Educate employers that competent women should command the same respect and salary as a man doing the same job."

Women:

"Prove to employers your ability, stability and personality can handle the job."

"Encourage legislation."

"Train for a better job."

Women: (Continued)

"Dress in a businesslike way, simple styles, no extremes, no heavy make up."

"Better education."

"Make effort to not expect special consideration or concessions. Don't take advantage of being 'the weaker sex.'"

Government:

"Open doors for participation of women."

"Reduce self-employment tax for self-employed women and correct inequities in social security for married working women."

"Laws to provide equal opportunity. Banish discriminatory and protective labor laws."

"Fairer tax for single women."

"Enforce laws preventing discrimination based on sex."

"Laws should be enacted to revoke the quota of women accepted in some professional schools."

"Child care centers for working mothers."

"Training for older women who have no skills and need jobs."

Professional Associations:

"Leadership courses or seminars."

"Find means to coordinate programs oriented to women's advancement with activities already underway among similar organizations."

"Encourage qualified women to hold office or chair committees."

"Keep professional associations co-educational--we need to learn from each other."

"Broaden the knowledge of women and give them encouragement."

Educational Institutions:

"Encourage women to take courses in business management."

"Adequate counseling, comparable seminars, instead of stressing differences between men and women, teach at the same professional level."

Educational Institutions: (Continued)

"Make scholarships available, and have equal admittance opportunities for qualified women."

"Help women to upgrade their image, publicize achievements of talented women and their use of opportunities."

"Encourage girls to look to fields where their greatest talents lie, even if it is a new field for women."

"Placing the proper attitudes in the minds of our future leaders."

Women's Organizations:

"Be informed and get involved."

"Promote and encourage women."

"Familiarize high school students with opportunities in various fields."

"Alert public to companies with equal employment opportunities for women."

"Work with men's groups and not be isolated."

"Organize efforts, keep basic feminine qualities, don't try to dominate."

EMPLOYERS SURVEY

To complement the questionnaire for business and professional women, the Committee surveyed employers of women for their views about women in the "world of work", their educational needs, and related matters. Taking into account the different periods in women's lives in which they are likely to be employed, and the probable length of time of employment (35 years for a woman at age 30), the questionnaire also included questions about age barriers and possibilities for advancement to management positions.

The questionnaire was designed and administered by Dr. Dorothy Ford, internationally known educator, and Business and Distributive Education expert for Los Angeles County Schools. The sample consisted of 238 business and industry firms in Los Angeles and Orange Counties, 80 percent of whom stated that economic necessity was the number one reason their women employees were working.

About half of the employers felt that women applicants needed additional training for the positions they were applying for, with little difference in the answers from the two counties. Sample employer quotes indicate the following:

"More thorough knowledge of the 'state of the art'."

"Secretarial skills, clerical skills, general business training."

"Basic skills."

"Technical training, retraining, updating skills."

"Business administration."

"Accounting."

"Advanced training."

"Professional level skills."

"Taking tests."

"Supervisory, leadership, human relations."

Employers were asked in what ways they encouraged their women personnel to continue their education. A third indicated in-service training, 62 percent said adult education, 45 percent said junior college, 38 percent said four year college or university, and 17 percent indicated "other". Twenty-nine percent of the employers indicated they offered work-study opportunities, and 66 percent had on-the-job training programs.

Forty-five percent indicated they had "opened new positions for women in the past year". Those listed were: production, office manager, customer relations manager, sales, group leaders, engineers, personnel manager, data processing, systems management, accountant, quality control inspector, administrative assistant, technical, production supervisor, programmer, machine shop, management trainee, and middle management.

Almost three-fourths indicated they felt there were opportunities in management for women. It was interesting to note however, that in answer to the question if they felt women had equal opportunity with men to advance to management positions, 41 percent felt there was inequality of opportunity, with considerable difference in responses from the two counties; 47 percent of Los Angeles firms felt there was inequality, while Orange County firms totaled over 27 percent. Asked for reasons why equal opportunity did not exist, employers replied as follows:

"Management positions not suitable for women."

"Not as qualified, don't have basic training in fields."

"Not mechanically inclined."

"It is going to take longer than a man but it is coming."

"Men have not fully accepted women's ability to operate in a man's world."

"Lack of experience--educational requirements."

"Lack of acceptance by industry in general."

"Stronger competition by men and greater numbers employed."

"Physical demands go beyond either what women are permitted, or are willing to meet."

"Traditional."

"Electronics firm reports greater percentage of women in management positions than any other company worked for in ten years."

Fifty-seven percent of the employers said they encouraged women to train for management positions, and 52 percent reported that women in their companies were interested in taking classes in preparation for such positions.

Over 80 percent indicated that age was no barrier in hiring women. In fact most indicated they preferred the women "thirty-plus" over the girl just out of school if she was able to do the job and had the necessary skills and good health. There were some important "ifs" that had to be met--if they had brushed up on their skills, if they had provided care for children, and if they had the necessary drive. The overwhelming majority indicated they felt the "thirty-plus" woman brought with her more maturity and that she was more dependable and stable.

It was interesting to note that 55 percent said they take an applicant's volunteer community work into consideration when interviewing. Of importance was the relationship of the specific volunteer job done with the job being applied for, the degree of responsibility involved, public contact and sales experience gained, the ability to work with and get along with people, and the initiative shown by the individual.

Half the employers felt that more child care centers would affect their hiring of women, and while none operated centers, four indicated they were planning to do so.

The survey also indicated that the best opportunities for women occur in the newer fields of space, electronics, research, and computer industries /note that only a small percentage of the teenage sample indicated interest in these areas/, and that the younger industries are much more interested in the ability of the worker than in his or her gender per se.

* * * * *

In reviewing findings from the questionnaires, either singly, or in comparison with each other, the following points stand out:

.. 42 percent of the teenagers had lack of confidence in their ability.

.. The most promising opportunities for women would appear to be in the fields of space, electronics, research and the computer industries, yet only six percent of teenagers picked the science field, and only ten percent were interested in business.

.. Teenagers and homemakers were of the overwhelming opinion that counseling programs were inadequate.

.. Both teenagers and homemakers had almost no realization of the need for continuing education or the updating of skills even though significant proportions of both groups plan a return to the workforce after their children are grown.

.. Most of the teenagers picked "dead end" occupations, yet many indicated they would be self-supporting for much of their adult lives, and most women work from economic necessity.

.. A majority of homemakers felt they would need counseling for their third span of life, and too high a proportion (46 percent) felt it would be available "somewhere".

.. Women do not see themselves as "achievers" yet from the teenager answers, at least half of them will have to be unless they want to live well below the mainstream standard of living.

.. Prejudice against working women is a significant problem.

.. There is discrimination in some education institutions.

.. Women in very significant numbers do not have the necessary training at times in their lives when they need jobs.

.. There is inequality of opportunity for women's advancement in employment.

.. There is considerable ambivalence about men's and women's abilities, roles and responsibilities, and about what is "masculine" and "feminine".

.. Too few (only 30 percent) of today's young women plan a college education.

RECOMMENDATIONS

COUNSELING SERVICES FOR ADULTS

The impact of rapidly accelerating change in our technological society has greatly increased the need for educational and vocational

counseling for both adult men and women. Such services should be located geographically so as to be of maximum practical use and should be publicized so that all segments within the community are aware of them.

THE COMMISSION THEREFORE RECOMMENDS that Community College (Junior College) Districts throughout the state utilize their Community Service Tax Funds to staff and offer counseling courses for adult community residents, and that citizen advisory groups, representing all segments of the community, be formed to serve as a communication outreach to all residents in the district.

TRAINING OF PARA-PROFESSIONALS

Most cities within California face a shortage of professionals in the "helping professions". Para-professional training of mature women now being conducted at some California institutions of higher education can provide an important part of the answer. Such training offers adult women a wider range of opportunities for service, and at the same time makes available to communities an added resource of trained personnel for the solution to community problems.

THE COMMISSION THEREFORE RECOMMENDS that para-professional training courses be offered by colleges and universities throughout the state by utilizing Community Service funds under Title I of the 1965 Higher Education Act, and by other appropriate means.

FACTUAL MATERIALS FOR SCHOOL COUNSELORS

THE COMMISSION RECOMMENDS that a continuing Commission on the Status of Women, the State Department of Education, and the Division of Labor Statistics and Research of the State Department of Industrial Relations cooperate in the preparation and dissemination of fact sheets or pamphlets on women in the California workforce, their sequential life pattern and longer life span. The new materials should accurately reflect facts and trends relating to the degree of participation, age, marital status, and wages, of California working women, so that young women can be realistically advised of their probable future responsibilities and can plan for relevant training and education to ensure they are adequately prepared to meet them.

COUNSELING IN EDUCATION

THE COMMISSION RECOMMENDS that public and private schools at all levels of education expand in-service training programs for counselors, and that the State Department of Education and the Coordinating Council for Higher Education recommend steps by which educational counseling programs can be strengthened and expanded.

CONTINUING EDUCATION

THE COMMISSION RECOMMENDS that advisory committees of Continuing Education Programs throughout the state include in their membership appropriate representation of women's groups to ensure that programs include courses which meet the needs of adult women in the given community.

and further,

that Continuing Education Programs expand their efforts with public service divisions of local radio and television stations in publicizing their programs and courses so that more homemakers are reached.

COLLEGE-LEVEL EXAMINATION PROGRAM

The prestigious College Entrance Examination Board has developed a new series of tests which can measure non-academic learning in terms of college equivalency. Test results are being used in California by several institutions of higher education (California State College at Fullerton, Loyola University, Pepperdine College, San Diego State College, the University of San Diego, and the United States International University), and are also being used by employers for hiring or promotion of qualified employees who are normally ineligible because of educational requirements for the job.

THE COMMISSION RECOMMENDS widely expanded use of the College-Level Equivalency Examination by California's institutions of higher education, and by employers throughout the state.

EQUAL OPPORTUNITY IN HIGHER EDUCATION

THE COMMISSION RECOMMENDS that the state affirm its commitment to the educational development of all its citizens, and further recommends that co-educational institutions of higher education in the state adopt policies ensuring that standards for admisssion and for financial aid are identical for male and female applicants in undergraduate, graduate, and professional programs;

and

that action be taken to provide that California women who marry out-of-state residents are not required to pay out-of-state fees at public institutions of higher education, if the only factor which disqualifies them from resident fee status is the fact that the husband is not a legal resident of California;

and

that action be taken to waive out-of-state fees for non-resident American Indians who received their high school education in California.

CHILD CARE CENTERS ON COLLEGE CAMPUSES

THE COMMISSION RECOMMENDS that quality child care services be established on college campuses for children of students.

PARENT PARTICIPATION COURSES

THE COMMISSION RECOMMENDS that local school districts develop and offer parent participation courses on the impact of changes in our society on families, youth, and adults, so that family, employment, community, and other relationships can be strengthened.

INFORMATION EXCHANGE AND CONSULTIVE ASSISTANCE

THE COMMISSION RECOMMENDS that a continuing Commission on the Status of Women expand its "exchange of information" and its consultive assistance to local women's groups, service and professional groups, school counselors, and others who can implement programs which strengthen family life and which encourage girls and women to utilize their capabilities and adequately prepare themselves to meet future responsibilities.

STUDY OF NEGATIVE AND POSITIVE INFLUENCES

THE COMMISSION RECOMMENDS that a continuing Commission on the Status of Women explore appropriate avenues for funding and conducting of a study of the variety, source, and impact of negative and damaging influences on men, women and children regarding male and female "roles" in society, and which identifies effective means by which wholesome and non-divisive attitudes can be formed.

WOMEN'S GROUPS

THE COMMISSION RECOMMENDS that relevant women's groups--

1. Expand their efforts in offering their services to schools in group and one-to-one programs to encourage young women to take advantage of educational opportunities;

2. Work with the local business community in offering occupationally/vocationally oriented programs; and

3. Encourage local schools to bring to the attention of students dynamic volunteer opportunities in the community.

E M P L O Y M E N T

It is a fact, startling to most, that in the 68 years since the turn of the century women have come to comprise 35.7 percent of the California labor force -- 2,760,000 of the 7,725,000 total. In 1900 the 87,500 women workers in the State accounted for a mere 13.6 percent of the total (see appendix, page 82).

Other data uncovered by the Employment Committee clearly show that the changes have indeed been startling:

.. more than half of today's young women will work full time for 25 or more years.

.. the percentage increase of California women workers in the last 9 years has been nearly 50 percent (48.3).

.. nearly half of all women in the nation were employed in 1968 (48 percent between the ages of 18 and 65).

.. in 1920 the average women worker in the nation was single and 28 years old; in 1968 the median age was 40, and the average woman worker was married.

.. nearly 60 percent of women workers in the nation are married; 20 percent are widowed, separated or divorced; and the remainder are single.

.. since 1900, the life expectancy of women has increased from 48 years to 75 years.

.. nearly 1 in 10 families in California is headed by a woman.

What has caused such massive change? Understanding the change is as simple and as complex as understanding that the American way of life bears little physical resemblance in 1969 to 1900, when most Americans lived on farms, few owned their own homes, few went to college, automobiles and penicillin were unknown, as were basic labor saving devices. It is a fact that most American families today cannot expect to own their own home, provide adequate family health care, pay their taxes, send the children to college, and maintain a decent standard of living if only one parent works.

The California economy depends in significant part on women workers, and women workers need the earnings their employment provides. Women with no other breadwinner obviously must work for their very survival, and most married women work for the reasons stated above.

Are these changes of a temporary nature? It would not appear so. What seems more likely is that even greater numbers of women, who today have many years of robust health beyond the time when

their children are grown, will also join the workforce.

Two questions, then, present themselves:

1. As a society, are we preparing women for the fact that many of them will work most of their adult lives and that most of them will work at least 25 years?

2. As a society, are we receiving from women the best they are capable of?

To find answers, the Employment Committee used several methods. It extensively reviewed documents in the field, including transcripts of hearings and reports of its (1965-67) predecessor committee, yearly reports of the National "commission", relevant publications of the Women's Bureau of the U.S. Department of Labor, and materials on Title VII of the 1964 Civil Rights Act and on Presidential Executive Order 11246 which relate to the employment of women.

It concluded that a special study was needed. Accordingly, the Commission contracted with the Los Angeles Chapter of the American Society for Training and Development Community Affairs Program (ASTD-CAP) for sample study involving employers and women employees. The study was designed to learn more about (1) the self-image of women who are applying for jobs or working on jobs, (2) the environment of women in an industrial organization as far as opportunities are concerned, and (3) how industrial employers see the hiring and training of women.

The ASTD-CAP survey covered, with direct interview and questionnaire, 100 working women and job applicants. It also embraced by questionnaire 41 employers in business and industry ranging from 1 to 25,000 employees. Direct interviews also were conducted with 14 of these 41 employers.

THE WOMEN

Since the number of women surveyed was exactly 100, the data following represent, of course, both numbers and percentages.

Of the group, 7 were in their teens, 32 were in their twenties, 23 in their thirties, 22 in their forties, and 16 were over 50. Nearly half (48) were married. Most of the single women were in their 20's; 27 of those married were in their 20's and 30's; 22 were over 40. The 25 divorcees were divided 11 in the 20's and 30's; 14 were over 40. There were 2 widows, 1 in her 20's and the other over 50. Sixty-five of the group had children, totaling 162 in all. The ages of their children broke down as follows: 71 from 1 to 13; 51 from 13 to 21, and 40 who were grown and on their own.

The largest single group was 46 in office-clerical work: 4 in their teens, 15 in their 20's; 12, 30's; 6, 40's; and 9 over 50.

Next largest identifiable group (not counting "other", which totaled 18) was semi-professional: 11, spread almost evenly across the four age brackets after teen-age (which included none). The other sprinkling of occupations was: professional, 8; supervisory-administrative, 8; and sales, 2.

Among other questions, the employed women were asked what jobs they aspired to. Twenty-one women listed supervisor-manager as their job goal; 14 listed stenographer-secretary; 7, data processing; 3, engineering-mathematician; 2 each listed law enforcement, public relations, school teaching, placement worker; and 1 each listed pharmacist, research analyst, reporter, bank clerk, architect, research assistant, interior decorator, doctor, fashion designer, broker, and stewardess. Thirty-six had no stated aspirations.

They were also asked what problems they encountered in connection with their jobs, employment in general, and what problems they felt would have to be overcome to achieve advancement.

The following range of typical answers is broken down by age group:

Teens and Twenties

"Not enough money."

"I work for too many people."

"Buses don't go to jobs, take exam after exam, wait too long for result."

"The age barrier."

"Impossible, I am not smart enough."

"I cannot find time to return to school because of my child."

"A man can do the same work as a woman, but he will be given a supervisor's position title, while a woman will be classified as a clerk."

Thirties and Forties

"Finances to afford the course."

"Can't quit work and go back to school, as I support myself and baby daughter."

"I don't have the ability."

"It's not realistic for me."

"Finding time for additional training while also working full time."

"The company does not recognize any woman as being capable above the routine work level."

/Transportation was mentioned as the most common problem./

Over Forty

"Lack of education."

"No degree."

"Financial."

"Clerical positions limit opportunity."

"Not enough time for additional training."

"Higher positions not open to women."

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Attitudes and concerns of women looking for work (both formerly employed and entry applicants) were also surveyed. Each of the women in this category had a pressing financial need to become employed as soon as possible. The following are the Study Coordinator's comments:

"1. Actually getting hired was uppermost in their minds. They felt they would be able to get transportation, experience, child care, and further education for advancement once their 'foot was in the door'. The job was the ticket to solution of pressing problems.

"2. They had not visualized or conceptualized details of their responsibilities and opportunities beyond the skills of the job. They did not understand the importance of the environment of who they work for, how the workgroup is organized, etc.

"3. There was a need, at first, for set working hours because of child care or family commitments. After the first few weeks they felt they could be more flexible about working extra hours.

"4. A common statement was 'After I get settled in a job I will plan further education -- right now I have to get things set before I think further about training or education'.

"This kind of 'not right now' can mislead an interviewer into thinking an applicant is not interested in extending herself,

when in truth, further discussion reveals that most are highly motivated, but are temporarily immobilized with immediate problems that will be solved by a job.

"5. There is little awareness of help available in agencies to get a job. They are impatient with the 'red tape' of job opportunity agencies".

Listed in order of frequency of response, the surveyers found the following significant trends of opinion or self-image of women employees and applicants:

1. 36 percent indicated no employment aspirations;
2. 21 percent aspired to be supervisors/managers;
3. "Need further education" was the most common self concept;
4. "I'm helping my husband/family".
5. Want just 40 hours of job involvement.
6. Men get preference automatically.
7. Need more experience.
8. Women are underpaid.

THE EMPLOYERS

Of the business and industry firms surveyed, 6 fell in the 1-to-49 employees bracket; 4, 50 to 499; 5, 500 to 999; 11, 1,000 to 4,999; and 15, 5,000 to 25,000.

Women comprised 60.6 percent of the 1-to-49 employee bracket companies, to a low of 23.2 percent in the 500-to 599 bracket. Female employment by the 15 employers of 5,000 to 25,000 averaged 34 percent.

The 500-to-999 and 1,000-to 4,999 employee companies were unanimous in their opinion that certain positions were "basically female". Half of the two smaller groupings shared that opinion. In the 5,000-to-25,000 bracket, 80 percent felt that some positions were "basically female".

Some typical explanations -- pro or con -- were: "Could be filled by either sex", tradition and/or public acceptance, pay differential, "women have more patience for routine/tedious jobs", physical restrictions and/or requirements.

A majority of all companies (ranging from 50 to 83 percent) said, however, that these "typically female" jobs could be filled by men -- "with proper training", "with proper dexterity and patience". Some qualified their "yes" answers by saying there

were few male applicants for such jobs or that "tradition" or company "image" was a negative consideration.

More than half (ranging from 50 to 60 percent) of the three middle-bracket employers (50-499, 500-999, 1,000-4,999) felt there were "peculiarities" to "female" jobs. The 1-to-49 companies felt less strongly about this (34 percent "yes") and only 6 percent of the 5,000-and-over companies replied "yes".

Again "culture" was cited by the "yes" respondents as the reason for their belief, along with "those occupations requiring dexterity and patience", and women's "disposition, drive, acceptance of supervision".

Employers ranged from 50 to 94 percent in replying "yes", that they believed certain of their jobs were "basically male". Cited most often was the "weight-lifting law", or that jobs like truck driver, automotive mechanic, tractor trailer, and garageman are "typically" male. Less convincing was an argument that customers prefer male loan officers, and subject to question was the assertion that there were no women applicants for the positions the companies felt were "basically male".

Yet, in each instance a paradoxical proportion conceded that the "typically male" positions could be filled by women. (For example, 94 percent of companies in the 5,000-to-25,000 employees bracket felt certain of their jobs were "typically male", yet 40 percent of these employers felt these jobs could be filled by women).

More than half said there were peculiarities to male positions, citing heavy manual work or physical size and strength as a primary requirement.

An overwhelming majority (except in the 1-to-49 employees bracket) stated they had jobs continually difficult to fill. They cited such occupations as programmers, cold heading setup operators, tool room machinists, floral designers, machinists, maintenance mechanics, rebar detailers, engineers (various), technician stenographers, and registered nurses.

An extremely high percentage (except in the 1-to-49 employees bracket -- 50 percent) stated they followed normal procedures for recruiting for the demand occupation jobs.

In all companies surveyed, clerical/secretarial work was performed 100 percent by women. The only other significantly large categories employing women were assembly and processing.

An average of about half the companies said there were more male than female job applicants, citing most frequently "desire to work", "ability", and "minimum skill" as reasons for the disproportion.

An overwhelming majority of the companies (60 to 100 percent) provide on-the-job training, with most asserting there are organization educational stipends or reimbursement arrangements for advanced training. Responses were as follows:

"Does your organization provide planned on-the-job training?"

COMPANY SIZE	YES	NO	NO ANSWER
1 to 49	100%		
50 to 499	100		
500 to 999	60	40%	
1000 to 4999	91	9%	
5000 to 25000	86	7%	7%

"For what types of positions is on-the-job training provided?"

COMPANY SIZE	ALL	CLERICAL	TECHNICAL	PROFESSIONAL	MANAGERIAL	MISC.
1 to 49	--	50%	50%	67%	33%	--
50 to 499	--	75%	50	25	--	--
500 to 999	--	40%	20	20	20	40%
1000 to 4999	27%	9%	27	--	9	46%
5000 to 25000	53%	--	26	--	7	13%

"How many of your employees participate in on-the-job training?"

COMPANY SIZE	0-25%	25-75%	75 to 100%	NO ANSWER
1 to 49	33%	17%	50%	
50 to 499	75	--	25	
500 to 999	20	--	--	80%
1000 to 4999	36	9	36	19
5000 to 25000	27	7	53	13

"Of those who participate, how many are female?"

COMPANY SIZE	0-25%	25-75%	75 to 100%	NO ANSWER
1 to 49	17%	67%	16%	
50 to 499	75	--	25	
500 to 999	--	20	--	80%
1000 to 4999	18	9	27	46
5000 to 25000	20	33	20	27

"Are there organization educational stipends or reimbursement arrangements for advanced training?"

COMPANY SIZE	YES	NO	NO ANSWER
1 to 49	67%	33%	
50 to 499	50	50	
500 to 999	60	20	20%
1000 to 4999	36	9	55
5000 to 25000	80	13	7

"For what types of positions are stipends paid or reimbursement granted?"

COMPANY SIZE	MANAGERIAL	PROFESSIONAL	TEACHERS	CLERKS	TECHNICIANS	ALL
1 to 49	20%	20%	20%	20%	20%	17%
50 to 499	--	--	--	--	--	50
500 to 999	--	20%	--	20%	--	20
1000 to 4999	20%	--	--	--	--	36
5000 to 25000	40%	--	--	--	--	67

"How many of your employees participate in advanced training?"

COMPANY SIZE	0-25%	25-75%	75-100%	NO ANSWER
1 to 49	16%	25%	33%	26%
50 to 499	50	--	--	50
500 to 999	60	18	--	22
1000 to 4999	27	--	--	73
5000 to 25000	67	7	--	26

"Of those who participate, how many are female?"

COMPANY SIZE	0-25%	25-75%	75-100%	NO ANSWER
1 to 49	17%	33%	--	50%
50 to 499	--	50	--	50
500 to 999	60	--	--	40
1000 to 4999	18	--	--	82
5000 to 25000	67	--	--	33

* * * * *

Some comments of the Study Coordinator who conducted personal interviews with employers follow:

"The economic imperative is that females do belong in the labor market, are unequivocably needed, and from all indications will remain. Their numbers will increase in the ranks of labor and management.

"Businessmen have reacted traditionally in hiring and promoting women rather than acting independently and creatively. Established precedents have been the guidelines. Certain positions which have been filled by men have been steadfastly held in the minds of management as being physically and mentally suited only to the male of the species."

"In recognition of traditional behavior, it was determined that progressive managerial personnel are desirous of shedding the ragged cloak of habit and prefer to done a looser garb which will allow movement and freedom to hire and retain the talents and capabilities of persons without regard to their gender."

Based on the study, ASTD-CAP made the following observations:

REGARDING EMPLOYERS

1. There is great misconception on the part of employers (management and line supervision) and employees of the weight lifting law. The reason given most often for not hiring or assigning women to jobs was "the weight lifting law".

2. Employers often mentioned the precendents "set by our culture" or "tradition" as reasons women are not used on some jobs.

3. Employers say some jobs are not for women because women don't apply for them.

REGARDING THE WOMEN THEMSELVES

1. Too many women seemed unaware of their opportunities.

2. Most women see themselves as "second class citizens" in the business world.

3. Women could fill some of the continually difficult to fill jobs listed by employers.

4. The negative self-image of women as being able to be successful in the business world needs to be preempted in their early teens.

RECOMMENDATIONS

OCCUPATIONAL COUNSELING

The ASTD-CAP study underscored the business and industry problem of continually unfilled jobs (demand occupations) on the one hand, and the lack of training, and timely awareness of the need for training on the part of women.

Further, Commission research with counselors and school administrators clearly indicates that adequate and realistic

programs of occupational counselling are sadly deficient. Few young women know that the majority of them are likely to work full time for upwards of a third of their lives, and that they will actually live and enjoy good health for 25 years more than their grandmothers did. Early motivation is thus lacking, with the result that much potential talent is wasted, and great hardship ensues in those cases where an untrained woman finds she must work to support herself or her family.

THE COMMISSION THEREFORE RECOMMENDS that toward the complementary goals of (1) assisting California business and industry to better fill "demand occupation" jobs, and (2) providing more realistic counselling of girls and young women, that local school districts should take steps to train junior high school, high school, and community college counselors in more effective use of existing tools and materials, such as the California State Employment Service materials, occupational and counselling publications of the U.S. Department of Labor, and like resource materials.

THE COMMISSION FURTHER RECOMMENDS that a continuing Commission on the Status of Women work with relevant existing organizations to develop dynamic new educative and occupational counselling tools for school use.

THE WEIGHT LIFTING LAW

The California Labor Code (Sections 1250-1252) prohibits women employees from being "requested or permitted to lift any object weighing 50 pounds or over." The California Industrial Welfare Commission is authorized by law to provide for flexibility in the statutory law governing weight lifting. The IWC Orders, having the force of law, actually set a 25-pound limit, but with the proviso that the limitation can be increased to 49 pounds maximum if a permit is granted by the Commission's enforcing arm, the Division of Industrial Welfare.

The Commission (ACSW) asserts that the health of men is equally important as the health of women, and that the individual lifting job and its circumstances (how heavy, how often, how far, etc.) and the individual worker doing the job are more relevant than whether the worker is male or female.

THE COMMISSION THEREFORE RECOMMENDS that appropriate action be taken to cover men as well as women under the weight lifting law and "open end" the maximum number of pounds to be lifted by either men or women, giving the Division of Industrial Welfare authority and discretion to set the maximum in individual cases by its use of existing permit procedures.

PUBLIC INFORMATION ON THE WEIGHT LIFTING LAW AND EXEMPTION PROVISION

The interviewer for the ASTD-CAP survey found that 9 out of 10 employers (management and line supervisors) cited "the weight lifting law" as a reason for not hiring women for or promoting women to certain jobs, which almost universally they stated to be a flat 25-pound limitation.

As noted above, the statutory limit is 50 pounds, and a permit may be granted by the Division of Industrial Welfare for weights between 25 and 49 pounds for women workers. Permits may be requested by the employer or the employee. It is safe to say however, that many of the state's employers, and most women workers are either uninformed, or are misinformed about the law itself and the permit provision. Whether the law is changed or stays the same, clear and adequate information should be available to those affected by it, which is currently not the case.

THE COMMISSION THEREFORE RECOMMENDS that the State Department of Employment and the Division of Industrial Welfare of the State Department of Industrial Relations cooperate in the publication and wide dissemination of an informational pamphlet which explains the weight lifting law, and which calls attention to the procedures which either employers or employees may initiate to request that the Division issue a permit for weights over 25 pounds.

PUBLIC INFORMATION ON THE EQUAL PAY LAW

The California Equal Pay Law was first passed in 1949, and was amended in 1965 and in 1968. Essentially, the law states than an employer cannot have men and women employees in the same plant location doing identical work under the same circumstances and pay one more or less than the other. The employer may do so if factors other than the gender of the worker apply, to-wit:

> "Seniority, length of service, ability, skill, difference in duties or services performed whether regularly or occasionally, differences in the shift or time of day worked, hours of work, or restrictions or prohibitions on lifting or moving objects in excess of specified weight, or other reasonable differentiation factor or factors other than sex, when exercised in good faith."

The law also outlines enforcement authority (Division of Industrial Welfare) and states procedures employees may use in filing a complaint.

The 1968 amendments (1) made it possible for a man to file a complaint (hitherto restricted to women) and changed the word

"female" to "employee of the opposite sex", thus bringing men under the law's jurisdiction and protection, and (2) prohibited an employer from lowering the wage of any employee in order to comply with the law.

Because information about the Equal Pay Law has not had widespread dissemination in the past, and since the 1968 amendments make important changes in the law --

THE COMMISSION RECOMMENDS that the State Department of Employment and the Division of Industrial Welfare of the State Department of Industrial Relations include in the weight lifting law pamphlet recommended above, or prepare and disseminate a separate pamphlet which covers explanation of, and employee remedy procedures under, the California Equal Pay Law as amended in 1968.

FAIR EMPLOYMENT PRACTICES

The California Fair Employment Practices Commission is currently empowered to investigate complaints of discrimination based on race, religious creed, color, national origin, or ancestry. The act creating the Commission states:

> "It is the public policy of this State that it is necessary to protect and safeguard the right and opportunity of all persons to seek, obtain, and hold employment without discrimination or abridgment on account of race, religious creed, color, national origin, or ancestry.
>
> "It is recognized that the practice of denying employment opportunity and discriminating in the terms of employment for such reasons foments domestic strife and unrest, deprives the State of the fullest utilization of its capacities for development and advance, and substantially and adversely affects the interests of employees, employers, and the public in general."

The California act at the present time does not include sex discrimination as an unlawful act.

Two federal instruments do:

1. The 1964 Civil Rights Act (Title VII), which applies to employers engaged in interstate commerce or affecting interstate commerce.

2. Presidential Executive Order 11246 as amended by Order 375, which applies to employers who do business under contract with the federal government.

The Commission finds that discrimination based solely on the sex of the employee is on its face unjust, and to paraphrase the language of the FEP Act "...deprives the State of the fullest utilization of its capacities for development and advance, and substantially and adversely affects the interests of employees, employers, and the public in general."

The Commission also finds as follows:

Since more than a third of California's workforce are women, and half of all adult women today are working, the number of California citizens concerned is a major segment of workforce and population;

Since the percentage of workforce jobs held by women in California has increased by more than 250 percent since the turn of the century and 48 percent in the last decade alone, it is clear that the number of persons affected will continue to grow;

Since the overwhelming majority of women who work do so from economic necessity whether or not married, and over one million California women workers have no breadwinner in the family aside from themselves (and visualizing the added welfare costs if the latter category did not work and did not pay income tax), the financial need of women workers becomes abundantly apparent, as does the State's economic self-interest;

Since 75 percent of welfare families in California are headed by women, and the State and Nation are engaged in turning welfare checks into paychecks by training welfare recipients for work, these women should not be denied jobs for which money has been spent training them, solely because they are women;

And, if the daughters in welfare families are to have a new example to emulate, if they can be encouraged as young women to educate and train themselves so the welfare cycle is not perpetuated, and if they are to have a prospect for self dignity based on achieved self-worth, then surely the public policy of California should affirm that their efforts will not "die aborning" solely because they are women.

THE COMMISSION THEREFORE RECOMMENDS <u>that California's Fair Employment Practices Act be amended to include prohibition of discrimination in employment because of sex</u>.

FURTHER RECOMMENDATIONS

TAX RELIEF FOR UNMARRIED HEADS OF HOUSEHOLD

An unmarried person who maintains as his home the principal place of abode of certain relatives qualifies for a tax rate structure less favorable than married couples but more favorable than single persons. If a person has this status he or she should not lose it, because in many cases expenses do not actually decrease. The most frequent example would be a widow with children who go away to college. The home would no longer be the principal abode of the child, but the widow would need to maintain the home for the child to return to on weekends and during vacation periods.

THE COMMISSION THEREFORE RECOMMENDS that the definition of "Head of Household" as found in section 1(b)(2) of the Internal Revenue Code and Section 17042 of the Revenue & Taxation Code be liberalized to provide that if an unmarried taxpayer qualifies as head of household on or after reaching the age of forty, such taxpayer will not lose the status of head of household even though he or she no longer thereafter maintains as his or her home a household which constitutes the principal place of abode of a named dependent; and that such person by reason of loss of said status will not thereafter revert to the status of single individual for tax reporting purposes.

NON-FAULT GROUNDS FOR DIVORCE, AND MARRIAGE AND DIVORCE COUNSELING

The report of the task force on Family Law and Policy to the National Citizens Advisory Council on the Status of Women (April 1968) recommended as one of the principles which should guide revision of state divorce laws that "the concept that there must be a guilty party to any divorce is unrealistic and unnecessarily creates hostility between the parties, which is often detrimental to their children." The Governor's Commission on the Family (December 1966) reached the same conclusion.

The traditional approach to divorce which is commonly referred to as the "matrimonial offense" or "fault theory" has been criticized by many experts in the field of divorce law and human relations. To the practicing attorney and his clients the necessity in every case of proving one of the statutory grounds verges on hypocrisy and perjury, bringing the whole system of law into disrepute. It has been pointed out that there already exists a gulf betwen divorce statutes and the actual practice courts follow to allow dissolution of a marriage in cases where a marriage in fact no longer exists.

The Supreme Court of California has already recognized in DeBurge V. DeBurge, 39 Cal. 2d 858 (1952), that "Public policy does not discourage divorce where the relations between husband and wife are such that the legitimate objects of matrimony have been utterly destroyed."

The opportunity for counseling in certain cases with an actual analysis of the real cause of the family problems will do more for society's interest in preserving marriage than adherence in every case to the "guilt theory" and the requirement of adversary procedures in all cases.

THE COMMISSION THEREFORE RECOMMENDS that legislative action be taken to provide for divorce on non-fault grounds,

and further recommends

that marriage and divorce counseling be made available in appropriate cases through the courts in cooperation with accredited private and community facilities.

MINORS STATUTE OF LIMITATIONS REGARDING PUBLIC ENTITIES

When a person wants to sue a public entity, i.e. the State of California, a county, city, hospital district, city school, city busline, etc., he must comply with the special claim requirements of the California Government Code. If a claim is not filed according to said code no suit may be maintained against the public entity.

The Government Code and California Courts hold that a minor, the same as an adult, must file a claim within 100 days of the accrualof the cause of action (in most cases when the person was injured). There is a late claim provision but it is discretionary whether the late claim is allowed. After the claim is filed the public entity has 45 days in which to deny the claim. If the claim is not denied by then it is automatically denied. The person then has six months from the denial in which to file suit.

However, a recent California Supreme Court decision, Williams v. Los Angeles Metropolitan Transit Authority, 68 Cal. 2d 599, held that a minor must file a claim within 100 days, but does not have to file a suit before the general Statute of Limitations date for minors (Code of Civil Procedure, Section 352)--one year after reaching majority.

However, if no one files a claim for a minor within the 100 day period, the minor loses the right to ever bring an action. Usually this is through no fault of the minor.

To insure the fairness and justice of the Government Code regarding claims and lawsuits by minors, the minor should not lose his or her rights until that minor fails to properly act after reaching majority. By amending the Government Code, a minor's claim will be viable until the minor fails to act, not if someone else fails to act.

THE COMMISSION THEREFORE RECOMMENDS that the California Government Code be amended to change the filing date for minors' claims against public entities from 100 days after the accrual of the cause of action to 100 days after minor reaches his or her majority.

LOCAL COUNCILS

Throughout its work the Commission has worked with women and women's groups and has been heartened by the willingness shown by women's groups to work together. In several cities, women's groups have risen to the challenge of joining forces to survey local resources needed by women, to identify gaps, to work creatively to fill gaps, and to find new ways of getting information about existing resources to people who need it. This work has just begun and should be greatly expanded throughout the state.

THE COMMISSION THEREFORE RECOMMENDS that to meet needs of women on the local level in solving problems related to vocational and aptitude testing, employment and job training, child care, educational opportunities, volunteer opportunities, and other concerns, that local councils or committees of women be formed to gather and coordinate information on local resources, to work together to fill gaps, and to find new ways of disseminating such information that are effective in the given community.

CONTINUATION OF THE ADVISORY COMMISSION ON THE STATUS OF WOMEN

Many of the Commission's recommendations involve actions which could and should be taken by existing entities and organizations throughout the state--schools and colleges, women's organizations, business and industry, professional associations, and government, all of which will need technical and consultive assistance if solutions are to be implemented and progress achieved.

THE COMMISSION THEREFORE RECOMMENDS that a continuing Commission on the Status of Women expand its consultive and technical assistance to schools and colleges, women's organizations, business and industry, professional associations, government, and others in efforts to bring about greater realization of the full potential of California women.

Several other recommendations--"Factual Materials for School Counselors", "Information Exchange", "Study of Negative and Positive Influences", "Occupational Counseling", and "Local Councils"--cited elsewhere in this report, deal with tasks for a continuing Commission. Much remains to be done, and the Commission is the logical vehicle to assume that task.

THE COMMISSION THEREFORE RECOMMENDS that the Advisory Commission on the Status of Women be continued.

EMPLOYMENT APPENDIX, TABLE I

TOTAL CIVILIAN EMPLOYMENT, BY SEX, CALIFORNIA, SELECTED YEARS, 1900 - 1968

Year	Number			Percent of Total	
	Total	Women	Men	Women	Men
1900	642,446	87,546	554,900	13.6	86.4
1910	1,105,731	174,625	931,106	15.8	84.2
1920	1,510,590	286,341	1,224,249	19.0	81.0
1930	2,498,956	557,145	1,941,791	22.3	77.7
1940	2,475,581	654,264	1,841,317	25.6	74.4
1950	4,154,000	1,221,000	2,953,000	29.4	70.6
1960	5,953,000	1,929,000	4,004,000	32.5	67.5
1961	6,036,000	1,984,000	4,052,000	32.9	67.1
1962	6,262,000	2,074,000	4,185,000	33.2	66.8
1963	6,457,000	2,161,000	4,296,000	33.5	66.5
1964	6,659,000	2,247,000	4,412,000	33.7	66.3
1965	6,855,000	2,338,000	4,517,000	34.1	65.9
1966	7,218,000	2,496,000	4,722,000	34.6	65.4
1967	7,444,000	2,626,000	4,818,000	35.3	64.7
1968	7,725,000	2,760,000	4,965,000	35.7	64.3

Division of Labor Statistics and Research, State Department of Industrial Relations, Human Relations Agency - February 1969

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EMPLOYMENT APPENDIX, TABLE II

GROWTH OF CALIFORNIA WORKFORCE 1960 - 1968**

	Growth Number	Percent Increase
Women	792,900	48.3
Men	941,400	28.9

**Non-agricultural wage and salary workers

Source - Division of Labor Statistics and Research, California Department of Industrial Relations

February 1969

ADVISORY COMMISSION ON THE STATUS OF WOMEN

Enabling Legislation

Senate Bill 675, Chapter 1378 of the Statutes of 1965 created an Advisory Commission on the Status of Women to be operative until June 30, 1967. In 1967, the Legislature approved Senate Bill 564 which continued the life of the Commission until June 30, 1969, and which added 2 public members to the Commission, one each to be appointed by the Speaker of the Assembly and the Chairman of the Senate Rules Committee. The Governor signed the bill on July 21, 1967, and the amendment is carried in Chapter 854 of the Statutes of 1967. The effective language of the Statute as amended reads:

Section 1. The Legislature finds and declares that despite the fact that women apparently have greater equality in California than in many states, they still are not able to contribute to society according to their full potential. With a view to developing recommendations which will enable women to make the maximum contribution to society, the Legislature has hereby created the Advisory Commission on the Status of Women.

Section 2. There is in the state government an Advisory Commission on the Status of Women. The commission shall consist of 17 members: 3 Members of the Senate and one public member appointed by the Senate Committee on Rules, 3 Members of the Assembly and one public member appointed by the Speaker, the Superintendent of Public Instruction, the Chief of the Division of Industrial Welfare in the Department of Industrial Relations, and 7 members of the public appointed by the Governor, with the consent of the Senate.

Section 3. (a) Each member of the commission shall be entitled to receive his actual necessary expenses while on official business of the commission.

(b) The commission shall select annually from its membership, a chairman and vice chairman.

Section 4. All meetings of the commission shall be open and public and all persons shall be permitted to attend meetings of the commission.

Section 5. The Commission shall have the powers and authority necessary to carry out the duties imposed upon it by this chapter, including, but not limited to, the following:

(a) To employ such administrative, technical and other personnel as may be necessary to the performance of its powers and duties.

(b) To hold hearings, make and sign any agreements and to do or perform any acts which may be necessary, desirable or proper to carry out the purposes of this chapter.

(c) To cooperate with, and secure the cooperation of, any department, division, board, bureau, commission, or other agency of the state to facilitate it properly to carry out its powers and duties hereunder.

(d) To appoint an advisory committee, consisting of not more than 15 members, which shall be broadly representative of the following fields: homemaking, religion, labor, business, education, social work, law, medicine, law enforcement, and the judicial branch of the government. Section 11009 of the Government Code is applicable to the advisory committee.

(e) To accept any federal funds granted, by act of Congress or by executive order, for all or any of the purposes of this act.

(f) To accept any gifts, donations, or bequests for all or any of the purposes of this act.

Section 6. The Commission shall study the following:

(a) Public and private employment practices relative to women, including, but not limited to, wages, hours of work, leaves of absences and working conditions.

(b) State laws concerning hours, working conditions, benefits, and the like.

(c) State laws in regard to the civil and political rights of women, including pensions, tax requirements, property rights, marriage and divorce provisions, and similar matters.

(d) Educational needs and educational opportunities, particularly in connection with the needs of the mature woman.

(e) The effect of social attitudes and pressures and economic considerations in shaping the roles to be assumed by women in the society.

The Commission shall report its findings and recommendations to the Legislature not later than the fifth legislative day of the 1969 Regular Session.

Section 7. This act shall be operative only until June 30, 1969.

Section 8. The sum of thirty-five thousand dollars ($35,000) is hereby appropriated from the General Fund to the Advisory Commission on the Status of Women to carry out the purposes of this act.

INSTITUTIONS AND ORGANIZATIONS COMMENDED BY THE COMMISSION FOR THEIR ASSISTANCE TO WOMEN

Association for Women's Active Return to Education (A.W.A.R.E.) for its assistance to women returning to education and its scholarship program.

California State College at Los Angeles for its para-professional training project "GROW".

The Center for Continuing Education of the Claremont Colleges for its counseling assistance for adults.

Chico State College for its innovative Women's Conferences.

The College Entrance Examination Board for development of the College-Level Examination Program which makes possible expanded educational opportunities for qualified but informally educated persons, and which makes possible wider hiring and promotion opportunities for qualified employees in business and industry.

The following colleges and universities for granting appropriate academic credit to applicants who qualified by virtue of successful performance on the College-Level Examination Program's equivalency tests:

California State College at Fullerton
Loyola University
Pepperdine College
San Diego State College
United States International University
University of San Diego

El Camino College for its annual Woman's Week Program.

Everywoman's Village for its unique and dynamic contribution to the personal and educational enrichment of women.

Humboldt State College and its Center for Community Development Status of Women Conference and community-wide service to women.

Los Angeles Pierce College for its new Community Counseling Center which serves adult community residents and which was instituted on findings of the Commission.

San Mateo High School District for its "Girls and Parents Counseling Program" (GAP) which was instituted on findings of the Commission.

University of California at Los Angeles for (1) its outstanding continuing education programs for women; (2) its new interdisciplinary course "The World's People: Half or Whole?", and (3) its training courses for para-professionals.

University of Southern California for its Women's Leadership and Management Training Programs.

Youthpower USA Vocational Education Counseling projects made possible by business and industry and participating women's groups.

OTHER COMMENDATIONS AND ACKNOWLEDGEMENTS

The Commission commends the Children's Centers Program of the State Department of Education for its outstanding contribution to California parents and children.

The Commission commends the Office of Compensatory Education and Bureau of Preschool Educational Programs of the State Department of Education for their efforts to improve the quality and quantity of child care programs, and their cooperative actions with other entities to solve staff shortage and training problems and emergency child care problems of communities.

The Commission commends the State Department of Social Welfare for steps it is taking which will ensure improvement in the quality of child care services throughout the state.

* * * * * *

The Commission gratefully acknowledges the assistance of the following organizations in the work of the Commission:

Altrusa, International

California Congress of Parents and Teachers

California Federation of Business and Professional Women's Clubs

California Federation of Women's Clubs

California Federation of Women's Clubs Junior Membership

California Home Economics Association

California State Division, American Association of University Women

League of Women Voters

Soroptimist, International

Zonta, International

* * * * * *

The Commission expresses its special appreciation for the assistance and contribution of Mrs. Madeline Codding Mixer, Regional Director, Women's Bureau, U.S. Department of Labor

ADVISORY COMMISSION ON THE STATUS OF WOMEN

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COMMISSION VICE CHAIRMAN, and
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* * * * *

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ABSTRACT - The Clean Air Act, as amended in 1967, requires that a study be made to determine manpower needs in the field of air pollution control and to consider the use of existing federal programs to train the needed personnel. This report quantifies these manpower needs and describes both present and planned actions to meet them. The report predicts that personnel requirements of state and local programs will triple in the next 4 years, requiring increases in specialized short courses and improvements in recruitment and salary offerings. The appendixes describe in detail state, local, and regional agency salaries, vacancy rates, and program availability. Manpower requirements are given for the private sector, as well as for public agencies. (BH)

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2d Session } { No. 91-98

MANPOWER AND TRAINING NEEDS

FOR

AIR POLLUTION CONTROL

REPORT

OF THE

SECRETARY OF HEALTH, EDUCATION, AND WELFARE

TO THE

CONGRESS OF THE UNITED STATES

IN COMPLIANCE WITH

PUBLIC LAW 90-148

THE CLEAN AIR ACT, AS AMENDED

JUNE 1970

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SENATE RESOLUTION 431

Submitted by Mr. Randolph of West Virginia

IN THE SENATE OF THE UNITED STATES,
Agreed to August 7, 1970.

Resolved, That there be printed as a Senate document, with illustrations, a report of the Secretary of Health, Education, and Welfare, entitled "Manpower and Training Needs for Air Pollution Control," submitted to the Congress in accordance with section 305(b), Public Law 90–148, the Clean Air Act, as amended, and that there be printed two thousand five hundred additional copies of such document for the use of the Committee on Public Works.

Attest:

FRANCIS R. VALEO,
Secretary.

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LETTER OF TRANSMITTAL

THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE,
Washington, D.C., June 30, 1970.

Hon. SPIRO T. AGNEW,
President of the Senate,

Hon. JOHN W. MCCORMACK,
Speaker of the House,
Washington, D.C.

GENTLEMEN: In accordance with section 305(b) of the Clean Air Act, as amended, we are pleased to transmit the enclosed Report on Manpower and Training Needs for Air Pollution Control.

This report contains projections of the manpower, recruitment, and training needs of Federal, State, and local governmental agencies and the private sector, and describes the programs through which the Department of Health, Education, and Welfare proposes to help meet these needs.

We regret the delay in transmittal of this report. The additional time has enabled us to reflect in the report a needed reorientation of our manpower development and training activities to meet more directly the needs of State and local air pollution control agencies, and to take into consideration the impact of the administration's proposed amendments to the Clean Air Act.

Sincerely,

ELLIOT L. RICHARDSON,
Secretary.

INTRODUCTION

The 1967 amendments to the Clean Air Act (42 U.S.C. 1857–1857l), while restating that the control of air pollution at its source is the primary responsibility of State and local governments, provided for Federal intervention if State and local governments fail to carry out their responsibilities according to the timetable set forth in the Act. Recognizing that the availability of trained manpower at the State and local level would be a precondition for effective and responsive State and local action, the act directed the Secretary of Health, Education, and Welfare to review these needs and make a report to the Congress.

This directive is contained in section 305(b) of the act, which states, in part, that the Secretary shall "make a complete investigation and study to determine (1) the need for additional trained State and local personnel to carry out programs assisted pursuant to this Act and other programs for the same purpose as this act; (2) means of using existing Federal training programs to train such personnel; and (3) the need for additional trained personnel to develop, operate, and maintain those pollution control facilities designed and installed to implement air quality standards."

This report surveys the manpower needs of the public and private sectors and describes what steps have been and will be taken to meet the manpower and training needs in the air pollution control field. There is included in the Appendix detailed information on non-Federal control agency manpower needs; the salaries paid by State, local, and regional agencies; the vacancy rate of non-Federal control agencies; the manpower needs for air pollution control by the private sector; and what training programs are available to develop personnel in the air pollution control field.

SUMMARY

The 1967 amendments to the Clean Air Act created the potential for a major expansion in air pollution control activities on a nationwide basis. Further amendments to the Clean Air Act proposed by President Nixon on February 10, 1970, will accelerate this expansion. An increased need for State and local agency employment from 2,300 in 1969 to 8,000 in 1974 is projected. An increase in positions in the National Air Pollution Control Administration from 1,000 to 2,900 is likewise projected. The amount of effort required by the private sector is forecast to increase from 20,000 to 40,000 man-years to meet the compliance requirements of State and local laws and regulations. A need for training 400,000 combustion equipment operators and 600,000 automobile mechanics is likewise identified.

Recruitment is the main obstacle to staffing State and local agency programs. With the exception of specialized air pollution control technicians, private industry is expected to be able to meet its air pollution control manpower requirements through normal recruitment procedures. Federal agency needs likewise are expected to be met through accepted recruitment efforts.

A variety of programs are underway to provide solutions to the problem of State and local agency personnel recruitment, career development, and retention. These programs include Federal recruitment and detail of personnel to State and local agencies, support for undergraduate training, post-graduate training for State and local agency employees, centralized job registers, and improvements in State and local agency salaries and merit system classifications.

A substantial increase in National Air Pollution Control Administration-supported programs for technician training and short-course, post-entry training by the Institute for Air Pollution Training is required. Technician level training programs established to meet State and local agency needs will also provide the appropriate structure for meeting the specialized technician needs in the private sector. Other Federal training programs such as those authorized by the Manpower Development and Training Act and possibly other programs administered by the Office of Education, DHEW, are available to meet the need for training combustion equipment operators and auto mechanics in procedures to minimize air pollution from both stationary and mobile sources.

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MANPOWER AND TRAINING NEEDS FOR AIR POLLUTION CONTROL

Chapter I. AIR POLLUTION AS A NATIONAL PROBLEM

The problem of air pollution in the United States has only recently come to the forefront of public attention. Although smoke control ordinances in some of our largest cities date back to the early part of the 20th century, concern about air pollution was primarily local in nature. As late as 1962, only 11 States had legislation providing basic State authority to control air pollution, and the broad national interest in clean air was just beginning to emerge. Federal research and development activities were first authorized in 1955, but it was not until 1963, with the passage of the Clean Air Act, that a national commitment was made to bring the resources of the Federal Government into the effort to clean up the Nation's air resource. The Clean Air Act of 1963 provided for direct, but limited, Federal abatement authority and for Federal assistance to State and local air pollution control agencies; amendments in 1965 provided for national emission standards to control the emissions from new motor vehicles. In 1967, the Clean Air Act was further amended to structure an integrated Federal-State-local system for the control of air pollution.

Air pollution at its source is considered to be primarily the responsibility of State and local governments, with the Federal Government being given a role as both a catalyst for, and a reviewer of, State and local program commitments. The Federal Government establishes atmospheric areas, designates air quality control regions, and publishes air quality criteria and control techniques documents for a given pollutant or combination of pollutants. The issuance of these documents to the States commits those States in which an air quality control region or a portion thereof has been designated to take a series of steps which, 15 months later, result in legally enforceable regulations to control the emissions of a given air pollutant into the atmosphere.

Ninety-one air quality control regions will have been designated by the end of the summer of 1970. Five sets of criteria and control techniques have been issued—sulfur oxides and particulate matter in February 1969 and hydrocarbons, carbon monoxide, and oxidants in March 1970.

On February 10, 1970, President Nixon announced that further amendments to the Clean Air Act would be sought to both increase the role of the Federal Government in the control of air pollution and to extend the protection afforded by the Clean Air Act to the totality of the Nation's population. These proposals were incorporated into the Administration's legislative program through introduction into the Congress of S. 3466 and H.R. 15848. The Administration's proposals are under consideration. Whether or not this legislation passes, a vast increase in activity by both the public and private sector will be required to control the pollution of the Nation's air.

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Chapter II. MANPOWER NEEDS

Introduction

The implementation of the Clean Air Act has proceeded in a deliberate manner. The 1967 amendments established a system whereby States, for an air quality control region or their portion thereof, initially adopt ambient air quality standards and subsequently adopt an implementation plan to achieve these ambient air quality standards within a "reasonable period of time." The concept of adoption of ambient air quality standards and basing emission restrictions upon the degree of improvement required from existing ambient air quality levels was an unfamiliar procedure to almost all of the States. Such a system requires adequate knowledge of existing ambient air quality levels, detailed emission information from a wide variety of sources, and information on prevailing meteorologic conditions which affect the diffusion and transport of emitted pollutants. The initial announcements of regions to be designated provided for the designation of air quality control regions in such a manner that each of the 50 States, Puerto Rico, the Virgin Islands, and the District of Columbia would become involved in the standard-setting and implementation plan development process.

The initial designations involving all States and the additional interstate region designations announced subsequent to the President's Message on the Environment of February 10, 1970, will extend the protection afforded by the Clean Air Act to some 60 percent of the Nation's population. Stationary source emission regulations adopted to meet air quality standard requirements will impact on a comparable percentage of American industry. State, local, and private sector manpower requirements to carry out these programs will increase in fiscal year 1971 and, as additional regions are designated or as the Clean Air Act is amended to provide for national ambient air quality standards, the additional manpower requirements will accelerate during fiscal years 1972 and 1973 and begin to stabilize in fiscal year 1974.

This chapter discusses the projected manpower needs of both the public and the private sectors to meet the requirements of the Clean Air Act.

A. THE PUBLIC SECTOR

1. State, Local, and Regional Air Pollution Control Programs

The Clean Air Act clearly states as a fundamental premise that control of air pollution at its source is primarily the responsibility of State and local governments. It is the responsibility of State and local control agencies to effectively monitor the quality of the ambient air, to adopt control regulations which impact on the various pollution sources which contribute to deteriorating air quality, to answer complaints and conduct inspections to assure that air pollution sources are operating in compliance with applicable regulations, to develop evidence and bring the sanctions in the law and regulations to bear

on noncomplying emitters, and to operate permit systems or their equivalent to assure that air pollution is prevented where and when it can be. The carrying out of these activities requires employment by State and local agencies of engineers, chemists, meteorologists, sanitarians, and other professionals as well as less highly trained inspectors and technicians.

As a result of the expression of national interest in air pollution as as a problem, as reflected in the Clean Air Act of 1963 and the availability of Federal financial support for State and local control programs in 1965, a major expansion has taken place in State and local efforts to control air pollution. In 1963 only 11 States had adopted basic control legislation. By the end of calendar year 1970, all 50 States will have a basic statute authorizing State activity to control pollution of its air resource. In 1962, programs to control air pollution were inadequate at the local level, and only 85 local agency air pollution programs were in existence. Today, more than 200 State, local, or regional air pollution control agencies are in existence, and there were three times as many positions budgeted for State and local agency control programs in 1969 than there were in 1962.

The past 7 years' growth in budgeted positions on State and local agencies' staffs has taken place in two distinct stages. First, relatively small increases, primarily among local agencies prior to 1964, and second, rapid growth since 1965, when the Department of Health, Education, and Welfare began to make grants to State and local agencies under provisions of the Clean Air Act of 1963. From 1965 to 1969, there have been increases of approximately 13 percent per year among local agencies and 32 percent per year among State agencies. The combined growth rate has been 22 percent per year. This growth has been associated with increases in numbers of agencies in operation and increases in individual agency size. Amalgamation of local programs into larger, more comprehensive ones has been occurring in some locations. However, most control agencies are still small in terms of staffing. Fifty percent of State agencies have fewer than 10 full-time positions, and 50 percent of the local agencies have fewer than seven.

It should be noted that the staffing growth rate for non-Federal control agencies reflects budgeted positions. In 1969, the vacancy rate for State, local, and regional agencies was 20 percent (appendix C). Recruitment of competent personnel has been difficult. For example, during the period 1967–69, approximately one-half of the positions for which State, local, and regional control agencies were recruiting remained unfilled over the entire timespan.

In order to estimate the manpower needs on a nationwide basis, a predictive model was developed and used. The modeling procedure, which is described in detail in appendix A, assumes that the workload involved in an air pollution control program is related to certain economic-geographic-demographic characteristics (land area, number of manufacturing establishments, population, and rate of new capital expenditures for industrial plans) of the area served and to the nature and extent of the regulatory functions of such a program.

Based upon the stated assumptions and the economic-demographic data available in 1969, the model indicates that State and local agency staffs need to be increased from 2,837 (the level of budgeted

positions in 1969) to about 8,000. Manpower needs by occupational category are summarized in figure II–1. The greatest needs are for engineers, administrative and clerical personnel, inspectors, and technicians.

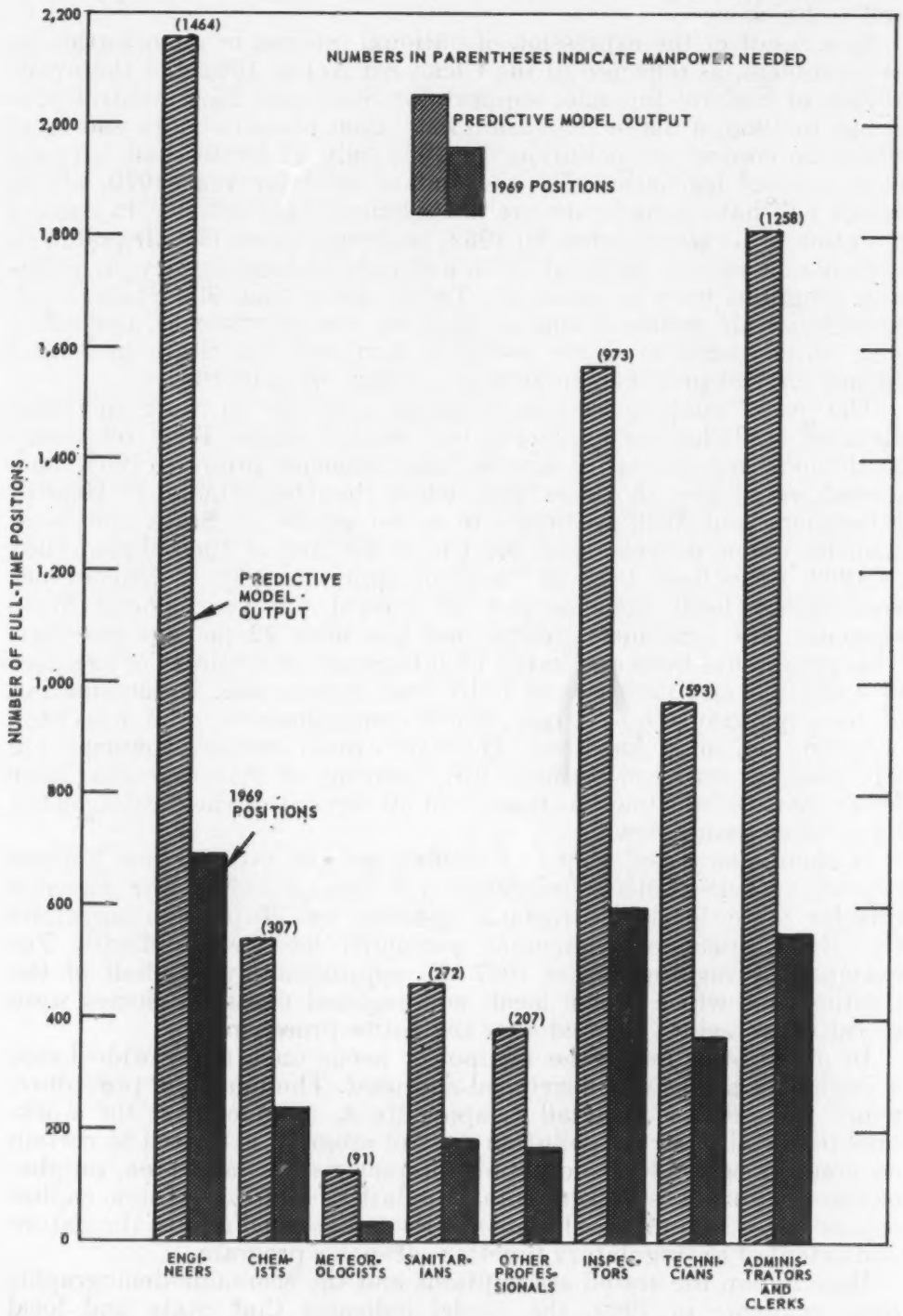

Figure II-1. Manpower needed, by occupation.

A staffing level of 8,000 to be achieved in 1974 represents an increase of 180 percent over the number of positions budgeted in 1969 and an increase of 270 percent over that year's actual employment. Since the predictive model was based on the assumption that the entire Nation would be covered by comprehensive and effective State, local, or regional agency programs, the proposed 1970 amendments will not materially affect State and local manpower requirements. However, it should be emphasized that the projected requirements are estimates and the realities of air pollution control on a nationwide basis may demonstrate that they are on the conservative side. A staffing need of 8,000 should be taken as a target figure for 1974 with subsequent increases after that date contemplated on the basis of actual experience.

In large part, the needs of State, local, and regional agencies for air pollution control can be met through the hiring of individuals who have acquired basic skills as engineers, chemists, meteorologists, or in other professional disciplines without any specialized air pollution control training. Air pollution expertise can then be acquired through intensive short-term training in various subject matter areas and through on-the-job experience. The basic need for State and local agencies thus is one of recruitment of individuals, who by virtue of their generalized expertise, have the option of pursuing a number of career lines.

The existing vacancy rates do not bode well for the ability of State and local agencies to recruit the number of persons required to carry out their clearly defined functions and responsibilities.

One of the major factors contributing to the high vacancy level is the low salaries paid by control agencies (appendix B). In a 1967 study, it was found that "State and local median salary levels for engineers and scientists are as much as 20 to 50 percent below the median for industry as a whole." [1]

These salary differences were particularly acute at the entrance level. For example, at that time the median entrance level salary for junior engineers in State and local agencies was $8,000. The 1967 beginning salary for engineers of comparable skills entering the Federal Government was $9,000. Pay adjustments since that time have not served to decrease this differential.

Often, State and local merit system regulations restrict agencies' ability to attract new manpower. For example, some air pollution control technician classifications require a 4-year college degree in science. At the professional level, some agencies specify experience in public health as a job requirement, thus eliminating the private sector as a manpower source. In other cases, only local manpower can be considered because of residence requirements. The lack of comparable fringe benefits also hinders control agency recruitment efforts. One fringe benefit frequently absent relates to the important area of professional advancement. Many control agencies do not provide the opportunity of long-term training to their employees.

Ways to improve the ability of State and local agencies to recruit and retain professional manpower will be discussed in chapter III, "Meeting the manpower and training needs."

[1] Cluster, R. C., "State and Local Manpower Resources and Requirements for Air Pollution Control," *Jour. APCA*, Vol. 19, No. 4, pp. 217–223, April 1969.

2. Federal Agencies

The National Air Pollution Control Administration (NAPCA), of the Department of Health, Education, and Welfare, is the lead agency in the Federal Government's program of air pollution research, development, and control. NAPCA is responsible for assuring a coordinated and effective Federal effort to protect and enhance the quality of the Nation's air resource. In many instances, other Federal agencies' programs of research and development related directly or indirectly to air pollution control are financially supported by NAPCA. In all cases, close liaison is maintained to assure that the air pollution control potential of new technology is adequately exploited. Executive Order 11507 requires all Federal departments and agencies to be exemplary in the prevention and control of air pollution arising from their respective facilities.

National Air Pollution Control Administration

The program administered by NAPCA under the existing law includes six major areas of activity:

Implementing the Clean Air Act's provisions for regional control of air pollution, including designation of air quality control regions, development of air quality criteria and reports on control techniques for air pollutants, and review of State air quality standards for air quality control regions and their plans for implementing the standards.

Providing financial and technical support to State, local, and regional air pollution control programs, including the detail of personnel.

Training of manpower for work in air pollution control programs.

Promulgating national standards to control air pollution from new motor vehicles.

Maintaining adequate air quality surveillance.

Conducting research and development activities pertaining to the nature, extent, and effects of air pollution and to methods of preventing and controlling these emissions.

To carry out these functions, NAPCA employs engineers, scientists, physicians, lawyers, and administrators. Total NAPCA staffing in fiscal year 1970 was approximately 1,000.

NAPCA anticipates a multiplying demand on the part of State, local, and regional agencies for technical and financial assistance. The regional mechanism embodied in the Clean Air Act for control of air pollution requires States to define the extent of their air pollution problem in air quality control regions and to take appropriate action to bring it under control. The States first involved in the regional control mechanism were generally those experiencing the most acute air pollution problems and those possessing the most familiarity in dealing with air pollution problems.

Regions now being designated in many cases are located in States which presently have neither the experience nor the staff to effectively deal with air pollution. As the protection of the Clean Air Act is extended to a larger percentage of the Nation's population, requirements for Federal technical and financial assistance will multiply.

As agencies both large and small develop programs capable of restricting new sources of air pollution as well as being capable of effec-

tively dealing with existing pollution sources, technical assistance will be required. Highly specialized technical problems will increasingly be encountered beyond their level of expertise. To meet these needs, the NAPCA staff should increase at a rate generally commensurate with the demands for assistance and with the requirements for air quality standards and implementation plan review. Likewise, the development of a more comprehensive air monitoring network, and an intensification of research and development activities on problems of both stationary and mobile sources of air pollution are indicated.

In addition to increasing NAPCA's manpower requirements under the Clean Air Act's current authorities, the proposed amendments to the act will create additional manpower demands. The major provisions of the Administration's clean air proposals are for national air quality standards, national emission standards for stationary sources emitting pollutants that are extremely hazardous to health, and national emission standards for new stationary sources of air pollution that contribute substantially to endangering public health or welfare. For mobile sources the proposed amendments request authority to conduct assembly line testing of new motor vehicles, and regulation of fuels and fuel additives used in transportation.

NAPCA has made various projections of its long-range budget and personnel requirements under the existing and proposed legislation based on assumptions as to rates of development in Federal and in State and local programs and other factors. NAPCA estimates that if its annual budget increase under the new legislation from the fiscal year 1970 level of slightly over $100 million to a level of about $235 million in fiscal year 1974, this would call for expansion of NAPCA employment from the fiscal year 1970 level of about 1,000 to about 2,900 in fiscal year 1974. This expansion rate would include an initial increment in fiscal year 1971 which would be devoted principally to regulation of fuels and additives, assembly line testing of motor vehicles, establishment of emission standards for stationary sources, and expanded Federal enforcement activities.

NAPCA's projection of the annual employment levels from fiscal year 1971 to fiscal year 1974 to reach 2,900 in fiscal year 1974 appears in table II–1. The scientists, engineers, and other types of manpower contained in the overall employment figure of 2,900 are displayed in table II–2.

Executive Order 11507 requires other Federal departments and agencies to abate pollution from their own facilities. NAPCA surveyed 20 other Federal departments and agencies on what they anticipated their manpower needs to control air pollution would be through fiscal year 1974. These agencies replied that only a modest increase in personnel would be needed.

In summary, the NAPCA is probably the Federal environmental agency most in need of additional manpower. However, no major difficulty is foreseen in the recruiting of individuals who possess the basic scientific and technical qualifications required to carry out an expanded program. Their working experience in NAPCA will provide the "on-the-job" training required to make them effective workers in applying their functional expertise. This on-the-job training will be supplemented by NAPCA-sponsored short-course training as required.

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TABLE II-1. *Projection of National Air Pollution Control Administration Manpower Requirements, fiscal year 1971 through fiscal year 1974*

[Based upon NAPCA's 1974 budget projection of $235,000,000]

Fiscal year and staffing:	
1971	[1] 1,141
1972	2,070
1973	2,485
1974	2,900

[1] Included in President's 1971 budget request; does not include new positions for expanded programs in 1970 President's legislative proposals.

TABLE II-2.—NAPCA'S PROJECTION OF THE TYPES OF MANPOWER REQUIRED TO IMPLEMENT PROPOSED LEGISLATION

[Based upon NAPCA's 1974 budget projection of $235,000,000]

Discipline	1970	1974
Engineers	208	752
Chemists	82	271
Meteorologists	24	102
Statisticians	36	102
Physical scientists	17	59
Biological scientists	70	170
Other professional	46	138
Technicians	208	664
Administrative-clerical	309	642
Total	1,000	2,900

B. PRIVATE SECTOR

The demands placed on the private sector to abate air pollution have steadily increased over the past few years. As governmental agencies adopt new control regulations covering a greater spectrum of pollutants and sources and as they increase compliance pressure through the threat of enforcement sanctions, specific air pollution abatement actions will be increasingly required. This increased aggressiveness on the part of air pollution control agencies is expected to accelerate. The private sector, in order to comply with new and more stringent regulations must expand its expenditures for air pollution control and the staff required to operate the control equipment that is installed and to develop plans for new construction.

In 1969 it was estimated that industry devoted approximately 20,000 man-years to controlling emissions from stationary and mobile sources. By 1974 this commitment will double. Approximately 7,500 additional new man-years of effort will be needed at the professional level, primarily to comply with State, local, and regional permit systems and to develop air pollution control hardware. There will also be a need for 12,000 new man-years of technician and supplemental maintenance time devoted to the continuing operation of control hardware.

The supply of professional manpower needed for air pollution control work by the private sector will come from the existing manpower recruitment channels. Industry prefers to hire individuals possessing a basic knowledge of engineering or science. Training in air pollution control will be on-the-job and through short courses. Industry foresees no difficulty in hiring professional personnel. It does, however, foresee difficulty in acquiring the necessary number

of trained technicians for air pollution control work. Instrument technicians in particular are expected to be in short supply (appendix D).

In addition to the specific air pollution control requirements, there are within the private sector other occupational categories whose job duties have a direct bearing on the levels of air pollution. The most important of these occupational categories are auto mechanics and combustion equipment operators. Air pollution from motor vehicles can be significantly reduced with proper servicing of emission control systems. Mechanics employed by franchised dealers generally have a greater awareness of the maintenance specifications than do those employed by independent garages or service stations. However, the NAPCA estimates that 73 percent of the Nation's motor vehicles are serviced outside the franchised dealerships, clearly indicating a need to extend training opportunities in the servicing of emission control systems. Competent auto mechanics are likewise in short supply. Approximately 300,000 are employed to meet today's engine servicing needs. This number is expected to increase to 500,000 by 1974.[2]

Combustion equipment operators are responsible for the operation of coal, residual fuel oil, and incineration equipment. Much combustion equipment operation takes place in communities already burdened by high air pollution. In addition, emissions from this type of operation often are emitted close to the ground level in multifamily residential areas. Some 400,000 persons are engaged in the operation of combustion equipment in standard metropolitan statistical areas. Few combustion equipment operators are schooled in methods to minimize air pollution. The NAPCA is planning programs to train both combustion equipment operators and automobile mechanics. These programs are discussed in chapter III, "Meeting the manpower and training needs."

The Clean Air Act provides for Federal grants to States to assist them in setting up inspection programs designed to insure that pollution control equipment installed in new motor vehicles is properly maintained. It is expected that such grants will be made only after appropriate instrumentation and test procedures have been developed and cost-benefit relationships determined. For this purpose, NAPCA now has projects underway.

Since automotive emissions are primarily a problem in urban areas, a manpower estimate has been made on the assumption that all States with 80 percent or more of their population in urban areas will set up inspection systems. Six States meet this criterion—California, New York, Illinois, New Jersey, Massachusetts, Rhode Island—as well as the District of Columbia.

The State of New Jersey, assisted by a grant from NAPCA, is developing and establishing a statewide motor vehicle emission inspection system. This system is being designed with a capability of performing over 4 million inspections per year on a vehicle population of approximately 3 million. Present staffing plans include 156 inspectors, three supervisors, and an instrument technician.

If the New Jersey data are extrapolated to the seven areas listed above, then approximately 47 million inspections will have to be made

[2] Average of information provided through personal communications with major American automobile manufacturers.

in 1974, and on the basis of manpower estimates for the proposed New Jersey system, approximately 1,800 full-time inspectors, supervisors, and instrument technicians will be needed.

If inspections are made by licensed, private garage personnel, and if it is assumed that approximately 10 percent of a private inspector's time will be used for motor vehicle emission inspections, the requirement increases from 1,800 full-time inspectors to approximately 18,000 part-time inspectors.

SUMMARY

State and local agency requirements are expected to increase from the 2,300 persons actually employed in 1969 to an estimated 8,000 in 1974. No specific shortage in any special disciplines has been identified at this time. The need is to channel broadly trained individuals into air pollution control work. The number of permanent positions in the National Air Pollution Control Administration is projected to increase from 1,000 to 2,900. Demands on the private sector to control stationary source emissions are expected to increase from 20,000 to 40,000 man-years of effort over the same time period. The commitment of private industry to control emissions at their source must therefore be doubled over the next 4 years. The activity of 400,000 combustion equipment operators will contribute materially to the success or failure of programs designed to limit emissions from fuel and refuse combustion sources. In the more densely populated urban areas, efforts must be made to assure that combustion equipment is properly operated. The major effort to reduce the emissions of harmful pollutants from mobile sources, particularly the automobile, may fail if 600,000 automobile mechanics are not skilled in the recommended maintenance practices for servicing emission control systems.

Chapter III. MEETING THE MANPOWER AND TRAINING NEEDS

Both the public and private sectors have a need for additional manpower to bring the Nation's air pollution problem under control. The Federal Government as well as private industry foresee no major difficulty in meeting their anticipated manpower needs, with the possible exception of some technician categories for the private sector. State, local, and regional air pollution control programs are expected to have difficulty in meeting their manpower requirements. To meet the projected 8,000 personnel needed and to take care of attrition, State and local agencies will have to recruit professionals and subprofessional technical personnel according to the following approximate schedule. The projected recruitment schedule assumes an acceleration in the process of ambient air quality standard adoption and implementation plan promulgation beginning in fiscal year 1971 and continuing into fiscal year 1973. The manpower required for air quality monitoring and for enforcement of the implementation plans will increase over the same time period. The basic staffing requirement should be reached in fiscal year 1974. Requirements for administrative and clerical personnel have been excluded from the table. The subprofessional and technical recruitment needs include requirements for both technicians and inspectors. About two-thirds of the total is for inspectors, and it is assumed that State and local agencies will be able to recruit inspectors.

	Professional recruitment	Subprofessional technical recruitment	Total recruitment
Fiscal year:			
1971	390	260	650
1972	520	345	865
1973	790	520	1,310
1974	900	605	1,505

It should be again emphasized that the major portion of the need for professional personnel can be met through the hiring of individuals who are trained in basic professional disciplines such as engineering and chemistry, rather than as air pollution control specialists. In this context, preentry training of professionals should be viewed as a recruitment device primarily designed to interest qualified students and professionals in a career in air pollution control work at the State and local level and obtaining their commitments. Post-entry training, other than short course, should likewise be evaluated not only in terms of skill acquisition, but as an incentive, through professional development, to encourage qualified professionals to remain in State and local agency air pollution control programs.

To meet the recruitment and training needs of State and local agencies, NAPCA manpower recruitment and training programs must be both expanded and reoriented.

1. Inadequate salary levels have been identified as one obstacle to be overcome if State and local agencies are to make up their existing and projected manpower deficits. Since entrance level salaries in the Federal Government service are in most cases more competitive with private industry offerings than State and local levels, NAPCA will use its authority to detail employees to State and local agencies to assist them in meeting their manpower needs.

Specifically, during fiscal year 1971 NAPCA will recruit and detail 100 new professional employees for a period upward to 2 years to State, local, and regional control agencies. This program will be augmented and maintained in future years at a level commensurate with its effectiveness in meeting State and local agency needs. Once assigned, an employee will be under the direct supervision and guidance of the recipient control agency officials but receive his salary from the Federal Government. After the 2 year inservice period, these employees will be terminated as Federal employees with the expectation that many of them will choose to remain with the assigned agency or another control agency. State and local agencies thus will have a period of up to 2 years for each assigned individual to work out a merit system classification to pay him a salary commensurate with what he would earn elsewhere. Even in the event of nonretention, this program would facilitate a continuing influx of younger individuals into control agency work and make productive use of their energies over a 2-year time period. They would likewise constitute a manpower pool for employment in other air pollution control activities.

2. The interest of undergraduate students in entering air pollution control programs can be enhanced if they receive pregraduation exposure to the operation and challenges of State and local control agencies. In the summer of 1970, NAPCA will initiate a program which will provide college students, generally juniors, with a 6-week training course in air pollution control followed by 6 weeks of work experience with a control agency during the summer. Upon successful completion of the summer program a student will be offered employment with a control agency after his college graduation. To further attract students to control agency employment, agencies are being requested to support the senior year academic expenses of the enrollees of this program. Exposure to State and local control agency work prior to graduation, coupled with academic support, is expected in many instances to counteract low entrance salaries. This will be particularly true for those college graduates who feel a strong desire to remain in a specific area of the country.

NAPCA will operate one program this summer for approximately 35 students. The instruction portion of the 1970 program will be conducted at the University of Houston and employment opportunities worked out with control agencies in the gulf area. In the summer of 1971, NAPCA anticipates operating six of these programs to cover a broad geographic area with an enrollment of 200 to 250. An additional six programs are planned for the summer of 1972, bringing the total enrollment to 400 to 500. It is anticipated that approximately 80 percent of the enrollees will accept employment by control agencies.

3. The requirements for technicians frequently call for highly specialized activity, for example, the operation and maintenance of pollution monitoring equipment. Difficulty in recruiting specialized technicians exists not only for State and local control agencies, but for industry as well. The basic educational requirement for most technicians is an associate degree. Two technician training programs are being supported in 1970. NAPCA will support seven technician training programs in 1971 and, if successful, expand this training area to 20 institutions which will produce some 400 technicians annually. The content of these technician training programs will be carefully tailored to the specific needs of State and local programs for specialized personnel.

4. As part of the efforts of filing the subprofessional technical manpower gap, the NAPCA will encourage the use of other Federal training programs (appendix E) available to train individuals for employment in the air pollution control field. Under a number of statutes, funds are available to train mainly the unemployed and underemployed for careers in government and private industry. The Massachusetts Health Department has indicated an interest in using a program designed under the Manpower Development and Training Act to meet the needs for air pollution control inspectors. Efforts are being made to begin this program in late fiscal year 1970 or early fiscal year 1971. During the same period a similar public service careers program will be initiated for air monitoring technicians in the New York City area. NAPCA is currently attempting to enlist the support of other air pollution control programs throughout the country for their participation in programs of this type.

5. To assist control agencies in recruiting professional personnel as well as facilitating the retention of employees in State and local agency work who may, for personal or professional reasons desire to move elsewhere, NAPCA in conjunction with a nonofficial professional organization is establishing a system whereby both a list of vacancies of State and local air pollution control agencies and a list of qualified individuals interested in employment in air pollution control can be matched. Thus, a clearinghouse will be maintained for those interested in either beginning or transferring employment in the public sector air pollution control programs and for government agencies needing qualified personnel. This register system will be instituted in the fall of calendar year 1970.

6. However, for State and local air pollution control agencies to meet their manpower requirements over the long-term, general salary levels must be increased, and the conditions of employment must be made more attractive for highly motivated professional personnel. Critical to the latter factor is provision of a wider opportunity for graduate training of such personnel. This is discussed on page 14.

Among the mechanisms expected to be effective in increasing the salaries paid by State, local, and regional agencies and making existing merit systems more responsive to agency needs are:

(*a*) The continuing review and analysis of air pollution control programs by NAPCA to inform agencies of the deficiencies in their pay scales and merit systems. This review has been successful in assisting several agencies in overcoming salary and related problems.

(*b*) The Office of State Merit Systems of the Department of Health, Education, and Welfare is developing sets of standard job specifications for air pollution control personnel employed by State, local, and regional control agencies. These specifications are expected to be available by March 1971 and will assist in overcoming the lack of standardization in the air pollution control field and result in revised job specifications which, in many cases, will either open up employment opportunities to inividuals not now considered qualified or permit reclassifications and increased salaries.

The six programs described above, if fully implemented, should assist in meeting presently projected State and local agency manpower needs. The success of these programs in meeting State and local needs will receive continuing evaluation. The most difficult recruitment problem is in attracting engineers to air pollution control work at State and local levels. If the problem of engineer recruitment proves insurmountable, then it may become necessary to consider the awarding of undergraduate scholarships or loans to engineers to pursue a course of study which includes core courses in air pollution control and who are willing to commit themselves to public service employment upon graduation. Such a program would require new legislative authorizations.

Specialized Training

Long Term

Historically, training programs supported by the Public Health Service and other Government agencies have been at the graduate level, particularly Ph. D., and the need for training manpower has been primarily defined as a need for people in the research and teaching areas (appendix E). As is evident from tables III–1 and III–2, the recipients of NAPCA-sponsored training in the period 1963 to 1969 were, as of April 1, 1970, only minimally employed in State and local control programs. Less than 10 percent were in State and local agencies, while more than one-quarter had gone to work for industry. Of the doctoral and postdoctoral trainees, almost one-half remained in university research and teaching positions.

TABLE III–1.—LOCATION OF NAPCA TRAINING GRANT RECIPIENTS 1963 THROUGH 1968 (AS OF APR. 1, 1970)

	Type of training									
	Post Doctorate		Doctors		Masters		Bachelors		Technicians	
Post training employment	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Federal Government			11	10.0	27	16.1				
State and local government			3	2.7	31	18.6	2	6.0	6	7.6
Industry			31	28.2	53	31.7			37	46.8
Academic	7	50.0	32	29.1	16	9.6			4	5.1
Military	1	7.1	6	5.5	11	6.6	1	3.0	2	2.5
Student	4	28.7	23	20.9	16	9.6	22	66.7	23	29.1
Other	2	14.2	4	3.6	13	7.8	8	24.3	7	8.9
Total	14	100.0	110	100.0	167	100.0	33	100.0	79	100.0

TABLE III-2.—LOCATION OF NAPCA FELLOWSHIP RECIPIENTS 1963 THROUGH 1969
(AS OF APR. 1, 1970)

Post training employment	Type of training					
	Post Doctorate		Doctors		Masters	
	Number	Percent	Number	Percent	Number	Percent
Federal Government			7	10.8	8	30.8
State and local government			3	4.6	1	3.8
Industry	2	10.5	18	27.7	5	19.2
Academic	12	63.2	29	44.6	3	11.6
Military			2	3.1	2	7.7
Student	2	10.5	2	3.1	5	19.2
Other	3	15.8	4	6.1	2	7.7
Total	19	100.0	65	100.0	26	100.0

With the critical needs of State, local, and regional control agencies for manpower, the NAPCA is shifting its focus to the development and support of bachelor and associate degree training programs. As previously indicated, bachelor level training should be as much a device to commit people to State and local control agency work as it is special skill development. Associate degree training is intended to meet the need for technicians with specialized air pollution skills. Graduate level training will continue to be supported on a limited scale. The National Air Pollution Control Administration will give priority to support of masters degree training of persons who are employed by a control agency and who plan to return to public service upon graduation. This approach will have the dual benefit of upgrading personnel in State and local agency work and of providing an incentive for those already in the field to stay. Graduate level training will be supported primarily in those universities who group together as a consortium to provide a nucleus for the undertaking of air pollution research and training programs tailored to the needs of the State and local agencies in their immediate geographic area. Air pollution research needs are frequently highly localized in nature, and the needs of State and local agencies for consultation and technical assistance are likewise frequently unique to a given area of the country. In air pollution, university-based expertise must become more responsive to the problems of the local communities. Also, for such expertise to make a meaningful contribution to solving air pollution control problems, it must maintain continuing awareness of state-of-the-art developments in air pollution control and relate to new problems on the frontiers of technology. Support of graduate level training will serve to assure that the required degree of expertise is both developed and maintained.

In addition to training structured to meet degree requirements, highly specialized training of intermediate duration is also provided to meet certain trained manpower requirements of State and local air pollution control agencies. A course of this nature in air pollution control administration, sponsored by NAPCA and presented by the University of Southern California has been developed. The course is 3 months in duration and has been offered on a twice-a-year basis with 20–25 students in attendance at each course. Seventy percent of these students are projected to enter State and local agencies. The course will be presented three times in fiscal year 1971.

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Short-Term

The NAPCA Institute for Air Pollution Training offers short, intensive courses (appendix E), normally 1 week in duration, in various aspects of air pollution to orient persons entering the field and to update and expand the skills of individuals already engaged in air pollution control.

New professional employees entering the air pollution field who have not had specialized air pollution training should receive 2 to 3 weeks of training during their first year of employment. For example, a new engineer should take courses such as Introduction to Air Pollution Control, Control of Particulate Emissions, and Control of Gaseous Emissions. Employees already engaged in air pollution control, in order to keep abreast with the newer technical developments, should have a minimum of one training course annually. This is recommended for both professionals and technicians. Table III–3 represents the estimated training needs of the personnel increments outlined on page 11 and of the residual staff.

TABLE III–3.—SHORT-TERM TRAINING NEEDS OF STATE AND LOCAL PERSONNEL MAN-WEEKS OF TRAINING REQUIRED

Fiscal year	Professional needs	Subprofessional needs	Total
1970	1,628	1,210	2,838
1971	2,091	1,493	3,584
1972	2,702	1,898	4,600
1973	3,712	2,560	6,272
1974	4,636	3,199	7,835

Since 1958, when a short-course training program was initiated, the National Air Pollution Control Administration has presented courses to over 8,000 enrollees, 80 percent of whom represented Federal, State, local, and regional agencies. During fiscal year 1970, 65 weeks of training courses were presented by the faculty of the Institute. These offerings provided 2,284 man-weeks of training and met about 57 percent of the State and local needs. Eighty-two course weeks of post-entry will be offered in fiscal year 1971.

To facilitate the attendance of a greater number of State and local personnel at training courses, in fiscal year 1971 the NAPCA will regionalize the Institute for Air Pollution Training and offer courses in six regional air pollution training centers. Although the exact location of the centers has not been determined, the areas under consideration are those in closest proximity to those control programs which have the major training needs—California, gulf coast, New England, Chicago, Ohio, and the New York metropolitan area. The Institute for Air Pollution Training will be fully regionalized in 1972 when 12 regional air pollution control training centers will be operational. It is planned to increase number of courses offered so that by 1974 the annual need for State and local training will be met.

Major efforts are required to meet the training needs of auto mechanics and combustion equipment operators. The Office of Education plans to include instruction in servicing of automotive emission control systems as part of the various training programs it sponsors in the auto maintenance field. It is planned to train approximately

100,000 mechanics in the servicing of this type of equipment in fiscal year 1971.

Negotiations are underway to develop an air pollution training program for combustion equipment operators of oil burning equipment and incinerators. Such a program would initially train a total of 30,000 operators a year for the New York, Chicago, Boston, Pittsburgh, Cleveland, and Baltimore metropolitan areas.

SUMMARY

To meet the projections suggested by the predictive model, employment of individuals in State and local air pollution control programs must increase by almost 300 percent over the next 4 years. State and local agencies are expected to experience major recruitment problems in meeting their needs for professionals and for subprofessional technicians. NAPCA is reorienting and will expand its efforts to meet these needs through recruitment and detail of professional personnel, through university and community college sponsored training to increase the supply of individuals available for State and local employment, and through the establishment of a job register referral system for State and local employment opportunities. Efforts will also be made to improve State and local agency salary schedules. The offering of specialized training, through intensive short courses, must likewise be increased to meet the post-entry air pollution training needs of the increased staffing of State and local agencies. These needs will be met through an expansion in the number of course offerings and a regionalization of the Institute for Air Pollution Training.

APPENDIXES

Appendix A.—Predictive Model for Non-Federal Control Agency Manpower Needs

A predictive model was developed and used to estimate the manpower needs of State and local air pollution control agencies. The modeling procedure assumes that the workload involved in an air pollution control program is related to certain economic-geographic-demographic characteristics (land area, number of manufacturing establishments, population and rate of new capital expenditures for industrial plants) of the area served and to the nature and extent of the regulatory functions of such a program.

For the purpose of estimating manpower needs, it was necessary to formulate definitions of various types of air pollution control programs and their respective responsibilities. Four types of programs were defined:

1. State programs that are considered responsible for comprehensive enforcement activities in any areas of the State not covered by a comprehensive local or regional program and having certain functions that are specific to a State agency.
2. Comprehensive local or regional programs (at least countywide in jurisdictional area) that have been defined with boundaries generally described by standard metropolitan statistical areas (SMSA) or combinations thereof. Comprehensive regional programs are considered to be able to conduct all functions without support from the State.
3. Noncomprehensive local or regional programs, for which the boundaries are fixed by SMSA boundaries or combinations thereof. These programs, by definition, do not have sufficient resources to conduct engineering activities. For these cases, supplemental manpower is provided at the State level.
4. Minimal regulatory programs that are considered responsible for the operation of sampling equipment, answering of complaints, and annual inspections of boilers and incinerators. The minimal regulatory programs are defined as cities outside SMSA with population of 25,000 to 50,000, or SMSA's not sufficiently large to support a comprehensive or noncomprehensive regional program.

The model assumes that the workload for a comprehensive regulatory effort is predictable from economic-geographic-demographic data for the area under consideration. In practice, the amount of time that an air pollution control agency spends on a given function depends on an array of factors. The primary ones are:

1. The age of an agency: During its growth, an agency will place different priorities on different functions. For example, a new agency must necessarily devote considerable time to the conduct of emission

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inventories and the establishment of air monitoring systems. With time, these functions become relatively routine, but new priorities arise in areas of enforcement and operation of permit systems.

2. The size of an agency: Many functions that can be identified as specialities within larger organizations (such as plan review and field patrol) tend to become part-time jobs of generalists in smaller agencies, or, in many cases, are performed by persons outside the organization.

3. The number and type of regulations: Each new regulation influences the workload of an agency. In some cases, regulations (such as bans on open burning and fuel use restrictions) may reduce workload, while others may increase the workload. The type of regulation (that is, the sources it controls and the manner in which it controls them) will also influence the competency required, insofar as the agency staff is concerned.

4. Correction vs. Prevention: The nature of work performed by an agency concerned with "preventing" pollution is obviously different from that performed by an agency that must "correct" an already bad situation. This is particularly true in relation to permits and scheduled inspections.

With respect to the above factors, no two agencies are exactly alike. To compensate for all possible differences, it would be necessary to conduct a detailed analysis specific to each agency and area in the Nation. Because such a comprehensive analysis was not deemed necessary for purposes of this report, the predictive model is related to an ideal agency, meeting the following general criteria:

1. The agency can perform all assigned functions with its own manpower and resources.

2. The agency has been in existence long enough to have overcome initial problems and standardize all functions.

3. Regulations on visible emissions, open burning, and emission of solids, liquids, and gases are in effect.

4. Preventive and corrective procedures are uniformly enforced.

The model itself is developed on the basis of specific job functions, or combinations of job functions. The functions performed by an agency fall into three categories:

1. Those functions for which the workload is primarily determined by factors external to the program are called *external* functions.

2. Those functions for which the workload is primarily established by agency policy, by administrative decision, or by operating technique are called *internal* functions.

3. Those functions for which the workload results from activities in external and/or internal functions are called *resultant* functions.

A list of these functions, grouped according to the administrative unit generally responsible for their conduct, is presently in Table A–1 in the body of this report. For each function shown in Table A–1, a quantitative *predictor* and *manpower* factor have been developed.

By definition:

1. A *predictor* is that factor or group of factors that determines the workload for a function. Predictors for external functions are tied to readily available community data.

2. A *manpower factor* is a term that expresses the man-years generally devoted to a function, assuming an acceptable standard of performance. For internal and resultant functions, predictors are established in terms of man-years in other selected functions

As constructed, therefore, the model defines a group of core functions for which the workload is estimated from economic-geographic-demographic data. The total calculated man-years for these external functions then become the basis for estimating an average resource allocation to those functions categorized as internal. Resultant functions are estimated from the man-years in those external and internal functions that create work for the function being considered. A basic rule used in the development of predictors and manpower factors was that they should represent simple combinations of data, unless other treatment is clearly justified.

Manpower factors were delineated by analysis of data in National Air Pollution Control Administration files for selected existing agencies, by means of in-depth interviews with officials of several State and local programs,[1] and from the data gathered by the National Air Pollution Control Administration in its 1967 survey of State and local manpower. The factors used represent tentative results pending the availability of a larger data base. In practice, when a statistically reliable data base becomes available, the need for a model will have diminished.

EXTERNAL FUNCTIONS

External functions are those functions for which the workload is primarily determined by factors external to the program. By definition, the predictors for these functions are to be readily available community data. In this section, the scope of each function and the rationale behind the selection of predictors will be discussed.

1. Function 1h: Statewide training operation: In this model, the State program is defined as being responsible for formal technical training of professional and non-professional technical and scientific manpower for all programs (State, regional, and minimal regulatory programs), except when training frequency and/or number of technical personnel in a particular local or regional program are large enough for that program to provide for such formal training (for example, smoke evaluation training). This function does not include on-the-job training. The magnitude of the State training operation is considered to be dependent on the total staff of regional programs. The training function is coordinated by training specialists, with technical instruction provided by the staff from other program functions.

2. Function 1i: Air Quality Control Region planning and evaluation: The development of air quality standards and implementation plans for air quality control regions is the responsibility of the State program. Development of an initial implementation plan will require considerable input from other functions. As plans are implemented, planning and evaluation is a function that (1) evaluates progress, (2) modifies plans as needed, and (3) provides general coordination necessary between the State program and local and regional programs in air quality control regions. Data necessary for making evaluations are provided by other functions, including 2b operation of monitoring network, and 2d special studies.

[1] Los Angeles County Air Pollution Control District; Maricopa County Health Department, Phoenix Arizona; Pima County Health Department, Tucson, Arizona; New York City Department of Air Resources Management; and New York State Department of Health, Division of Air Resoures.

Staff size in each regional program is indicative of the complexity of the region; hence, the predictor used to determine the magnitude of the State planning staff is the total regional program staff. Planning and evaluation do not relate in a direct ratio to staff size; therefore, an exponential function is used. This function is considered to be performed by a professional staff consisting of engineers, meteorologists, urban planners, and other specialists.

3. Function 2b: Operation of monitoring network: This function relates to the routine servicing and operation of air sampling and meteorological instruments deployed in the field for continuous surveillance of air quality and diffusion characteristics. The data generated is used as input to diffusion models for prediction of future air quality and the development of control regulations; to determine the effectiveness of agency operation in reducing and/or preventing air pollution; to forecast episode conditions; and for public information and education purposes. Depending on the number, locations, and nature of air pollution sources in an agency's jurisdictional area, sampling networks are highly variable in terms of pollutants measured and the numbers and types of stations used.

For a regional program, land area, terrain, and land use are deciding factors in establishing a network of air sampling and meteorological instruments. Naturally, metropolitan areas with high land-use factor would require more intensive coverage than rural areas. For the purpose of estimating the workload involved in this function, land use was assumed to correlate with the number of manufacturing establishments; hence, the number of establishments is defined as a predictor. In two areas with the same degree of land use, a more extensive network will be required in the larger area. The network would not, however, be increased in direct ratio to the land area; rather, some exponential increase is indicated. For the predictive model, regional agencies were assumed to operate continuous sampling stations. This reduces the need for laboratory analysis, as compared to that required if intermittent sampling is the rule.

Monitoring in areas not covered by regional programs is assigned to the State. Routine operation of the equipment, however, is defined as being carried out by a person located in close proximity to the station. Thus, the function does not include traveltime from a central headquarters. One intermittent monitoring station was assigned to urban areas that were classified as supporting only a minimal regulatory program.

The staff required to perform this work is, for the most part, in the technical, subprofessional category. Personnel assigned to a continuous station are specifically trained in the duties of that station. Present practice indicates that one technician can maintain one to two continuous stations, including routine servicing, if specialized maintenance and calibration are available. One technician could usually maintain a network of five to eight intermittent sampling stations, assuming reagents and sample analysis are provided.

4. Function 3a: Scheduled inspections for permit renewal: This function relates to the activities required of an air pollution inspector to determine whether all sources of pollution, operating under a permit are in compliance with the terms of that permit. The function includes traveltime, inspection, and report preparation. As defined for the model, an inspection generally covers more than one permit;

also, some inspections may take minutes whereas others may consume days. A distinction also exists between a first inspection (function 4b) and followup inspections.

The efficiency of an inspector in performing these functions will depend on his ability, the development of efficient inspection schedules, and the amount of detail that must be reported. Inspectors in large agencies tend to become specialized. Some agencies use categories, such as boiler inspector or mechanical inspector, and others specialize by source category. For the most part, the job requires some technical and mechanical ability and some basic public relations skills. Additional knowledge is obtained through on-the-job training and experience.

For this function, an annual inspection is considered a program standard. For areas not covered by regional programs, the State is considered to have responsibility for inspection of manufacturing establishments. Boilers and incinerators in cities with populations greater than 25,000 are considered to be inspected by persons resident in those cities. The man-years required for inspection of boilers and incinerators are tabulated under minimal regulatory program.

5. Function 3b and 3c: Complaint handling and operation of field patrol: For purposes of this model, these functions are grouped together. Inspectors on field patrol, hopefully, will respond to nuisance situations before a complaint is formally registered. Patrol officers can issue a citation for violation of air pollution control regulations. The regulations usually enforced by this mechanism include those applying to open burning, smoke, plume opacity, and odors.

Patrol officers require only minimal education. Special training is needed in the specific regulations of the agency, operating policy, and office procedures. Secondary personnel involved in this function would be limited to radio-telephone operators, if used.

Although no reports are available that clearly relate complaints to community or air quality parameters, the indications are that the wealthier segment of the population is more likely to respond to adverse conditions than is the less wealthy. Because complaints appear to originate more from families than from individuals, the number of families with income of over $10,000 was defined as a predictor for regional programs. For nonregional programs, an assignment of a partial man-year has been made for each place supporting a minimal regulatory agency.

6. Function 3e: Enforcement of episode prevention procedures: During periods when air pollution episodes are occurring or may occur, all agency personnel would be called upon to activate and enforce any procedures that have been established for dealing with such situations. Engineering personnel would concentrate on reducing industrial emissions; field sampling personnel would increase their data-gathering operations; and patrol officers and inspectors would be in the field to insure that emission reduction procedures were being followed. Thus, essentially all normal activities are intensified or preempted by the emergency. Man-years for this function are not considered in the model.

7. Function 3f: Source identification and registration: The purpose of this function is to record pollution-producing operations. A variety of mechanisms and degrees of coverage are practiced at present. These fall into three categories: (1) Registration of combustion equipment,

often by an agency such as a building department, and general inventory of industrial establishments with air pollution potential; (2) formal registration of sources with the air pollution control agency, with or without information relative to pollutant emission rates; and (3) primary registration by a permit system, with follow-up by inspectors and patrol officers as part of their routine duties. The last approach is being used in the predictive model under Functions 3a and 4b. Because this approach would require more resources than the others, no additional estimates of man-years are required.

8. Function 4b: Plans review and inspections for operating permits: This function covers all the work involved in reviewing plans for potential new sources of air pollution; consultation with builder, owner and/or other interested parties to effect changes, where necessary, making inspections to insure that what is done conforms to the plans; and appearing before hearing boards to substantiate findings. The permits processed in a year are likely to vary both in complexity and number from one agency to another. The permits issued are influenced by changes in existing source control regulations and addition of new regulations, growth in number of sources of pollution, changes in ownership and location of sources, major technological changes within a source category, and process changes at a specific source. Capital expenditure for new industrial plants and expansion of existing facilities has been defined as the predictor for this function. This predictor was chosen because it definitely relates to four of the above factors influencing the workload involved in operating a permit system. Change in ownership, one of the remaining factors, does not require a capital expenditure, nor does it call for a major effort on the part of the control agency. The remaining factor, changes in regulations, may or may not call for a capital expenditure.

Personnel involved are chemical or mechanical engineers, with some experience in industrial processes. In large agencies, the engineers usually will specialize in specific source categories or industrial processes. The range of engineering competencies required makes it difficult for small regulatory agencies to operate an effective permit system. For the predictive model, therefore, it was decided that an agency with an estimated number of man-years of less than 2.0 for this function would be classified as non-comprehensive. For such programs, all functions listed under engineering services were deleted and redefined as State responsibilities. State agencies, therefore, are defined as being responsible for this function for all areas outside those served by comprehensive regional programs.

INTERNAL FUNCTIONS

Internal functions are those for which the workload is determined primarily by the agency policies and operating techniques. To facilitate computation, the predictor for all internal functions is the total man-years in external functions.

1. Functions 1a, 1c, 1d, and 1f: Policy, public relations, intergovernmental relations, and development of control strategies and plans: These functions include the variety of special activities required of an agency director and his immediate staff in order to conduct a meaningful and dynamic control program. As an agency increases in size, specialists, such as systems analysts, public relations experts,

and technical writers, are required. For large metropolitan areas, these functions require a team of experts. Compared to other operations, however, the number of man-years involved is small. For this report, therefore, these functions were considered as a group in estimating man-years.

2. Function 1g: Staff training and development: This function includes the activities of training officers and supervisors in providing on-the-job or formal group training. Time required for this function increases with high rates of personnel turnover, cumbersome administrative practices, improper job-entry requirements, and other similar factors. Civil service rules and regulations can create unnecessary training problems and/or limit the methods used to provide proper training. In general, a relatively small percent of agency man-years was assigned for this function, because, by definition, the agency defined for modeling is well established.

3. Function 2d: Special studies: This function includes a variety of special studies conducted for purposes of locating sampling stations, determining contribution of specific sources to ambient air pollution levels, and determining need for new regulations. As such, it is an ongoing activity of an agency, the extent of which is determined by administrative decision and general capabilities of the technical services staff. The staff employed would consist of technical subprofessionals for direct operations, with a variety of technical-professional personnel, such as chemists, engineers, and meteorologists, acting as project directors and consultants.

4. Function 4a: Calculation of emission estimates: This function relates to the work done in estimating emission rates from various sources and source categories to provide information on program effectiveness, potential future problems within an agency's area of jurisdiction, location of sampling stations, and need for new regulations. It is an engineering job requiring an initially high expenditure of manpower. With time, however, the job becomes more and more routine. This is generally balanced by attempts at greater detail and accuracy. The use of automatic data processing equipment facilitates the process. In general, it is considered a normal function of each engineer, although a small number of personnel may be assigned special, full-time projects.

5. Functions 4d, e, and f: Development of control regulations, [illegible]aration of technical reports on control and design of control plan [illegible] episodes: Assignments in these areas are generally project-oriented or considered part-time responsibilities of the engineering staff.

RESULTANT FUNCTIONS

Resultant functions are those for which the workload is primarily determined by the workload in external or internal functions. For simplicity, predictors have been defined as the sum of the man-years in any function that contributes work to the resultant function being considered.

1. Function 1b: Administration and clerical support: This function includes budgeting, recordkeeping, filing, typing, and related work, as normally required to operate an agency. All clerical staff of the agency were included in this category for ease of tabulation.

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2. Function 1e: Legal counsel: In smaller agencies, this function is handled by lawyers not directly included on the agency payroll, although portions of the counsel's salary may be carried on budget statements. In larger agencies, full-time counsels may be assigned to, or employed by, the agency. The man-year commitment is so small, however, that man-year estimates were not made in this model.

3. Function 2a: Laboratory operations: This function includes all laboratory support activities necessary to the conduct of source sampling, ambient air monitoring, and special studies. In most larger agencies, it is a part of direct operations. In some smaller agencies, the function is conducted by a central laboratory in the local health department or at the State level. The amount of work is directly dependent on the instrumentation available for sampling. Personnel include chemists and chemical technicians.

4. Function 2c: Data processing: This function includes data reduction, processing, and statistical treatment for air sampling, meteorology, permit processing, emission calculations, and development of inspection schedules. If automatic data processing equipment is used, the necessary manpower generally will be concentrated in one organizational unit. For this report, it was considered to be part of technical services.

TABLE A-1.—PREDICTIVE MODEL OUTPUT FOR REQUIRED MAN-YEARS BY FUNCTION AND AGENCY TYPE

	Function	Local: Comprehensive (agencies) Man-years	Local: Comprehensive (agencies) Percent	Local: Noncomprehensive (agencies) Man-years	Local: Noncomprehensive (agencies) Percent	Local: Minimal regulatory Man-years	Local: Minimal regulatory Percent	State Man-years	State Percent	Combined Man-years	Combined Percent of total	Combined Percent of subtotal
	OFFICE OF THE DIRECTOR											
1acdf	Policy, public relations, intergovernmental relations, and systems analysis	403.5	8.8	28.8	9.8	64.4	20.0	268.2	9.5	764.9	9.5	23.8
1b	Administrative and clerical support	1,085.2	23.8	77.5	26.4	64.4	20.0	720.4	25.4	1,947.5	24.3	61.0
1g	Staff training and development	202.0	4.8	15.3	5.2			145.9	5.1	381.2	4.8	12.0
1h	Statewide training operations							47.3	1.7	47.3	.6	1.4
1i	AQCR planning and evaluation							63.0	2.2	63.0	.8	1.8
	Subtotal	1,708.7	37.4	121.6	41.5	128.8	40.0	1,244.8	43.9	3,203.9	40.0	100.0
	TECHNICAL SERVICES											
2a	Laboratory operations	187.8	4.1	11.3	3.8			133.5	4.7	332.6	4.2	26.2
2b	Operation of moritoring network	214.0	4.7	20.3	6.9	64.4	20.0			298.7	3.7	23.8
2c	Data reduction and processing	159.4	3.5	3.7	1.3			143.5	5.1	306.6	3.8	24.4
2d	Special field studies	110.1	2.4	7.4	2.5			73.3	2.6	190.8	2.4	15.2
2e	Instrument maintenance and calibration	90.5	2.0	7.2	2.4			44.4	1.6	142.1	1.8	10.4
	Subtotal	761.8	16.7	49.9	17.0	64.4	20.0	394.7	13.9	1,270.8	15.9	100.0
	FIELD SERVICES											
3a	Scheduled inspections for permit renewal	556.9	12.2	46.2	15.8	64.4	20.0	366.5	12.9	1,034.0	12.9	62.0
3bc	Complaint handling and field patrol	375.2	8.2	65.5	22.4	64.4	20.0			505.1	6.3	30.0
3d	Preparation for legal actions	74.8	1.6	9.8	3.3			43.2	1.5	127.8	1.6	8.0
	Subtotal	1,006.9	22.1	121.5	41.5	128.8	40.0	409.7	14.4	1,666.9	20.8	100.0
	ENGINEERING SERVICES											
4a	Calculation of emission estimates	91.4	2.0					60.8	2.1	152.2	1.9	8.3
4b	Operation of permit system	684.9	15.0					500.9	17.7	1,185.8	14.8	63.7
4c	Source testing	161.8	3.5					124.9	4.4	286.7	3.6	15.3
4def	New regulations, engineering reports, and emergency procedures	146.5	3.2					97.7	3.4	244.2	3.0	12.7
	Subtotal	1,084.6	23.8					784.3	27.7	1,868.9	23.3	100.0
	Grand total [1]	4,562.0	100.0	293.0	100.0	322.0	100.0	2,833.5	99.9	8,010.5	100.0	

[1] Differences in man-years and number of positions reported for State and local agencies due to rounding of numbers.

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TABLE A-2.—NATIONAL SUMMARIES OF NUMBERS OF LOCAL AGENCIES AND BUDGETED POSITIONS AS FUNCTION OF AGENCY SIZE RANGES

Agency size range (full-time positions)	Number of agencies [1] in range				Number of positions [1] in range				Average number of positions per agency in range			
	1961	1967	1969	Model	1961	1967	1969	Model	1961	1967	1969	Model
0 to 2	50	72	88	239	70	52	72	310	1.4	0.7	0.8	1.3
3 to 4	9	20	31	5	33	75	106	20	3.7	3.8	3.4	4.0
5 to 8	11	19	38	35	72	151	237	221	6.5	7.9	6.2	6.3
9 to 16	6	14	16	23	70	174	184	281	12.0	12.0	12.0	12.0
17 to 32	6	7	12	29	133	185	288	630	22.0	26.0	24.0	22.0
33 to 64	1	4	4	19	52	151	161	843	52.0	38.0	40.0	44.0
65 to 128	1	1	2	9	74	75	154	793	74.0	75.0	77.0	88.0
128 plus	1	3	3	7	373	695	638	2,070	373.0	232.0	213.0	296.0
Total	85	140	194	365	877	1,558	1,840	5,168	10.3	11.1	9.5	14.1
Total for agencies over 3 full-time positions	35	68	106	127	807	1,506	1,768	4,858	23.0	22.1	16.7	38.2

[1] Published data indicate a total of 100 agencies and 1,150 budgeted positions in fiscal year 1965. The data, however, are not amenable to treatment by agency size, except in general terms.

TABLE A-3.—NATIONAL SUMMARIES OF NUMBERS OF STATE AGENCIES AND BUDGETED POSITIONS [1] AS FUNCTION OF AGENCY SIZE RANGES

Agency size range (full-time positions)	Number of agencies [2] in range				Number of positions [3 4] in range				Average number of positions per agency			
	1961	1967	1969	Model	1961	1967	1969	Model	1961	1967	1969	Model
0 to 2	9	8	7	------	8	10	8	------	1	1	1	------
3 to 4	2	4	8	2	6	12	26	8	3	3	3	4
5 to 8	2	10	5	3	15	73	37	23	8	7	7	8
9 to 16	1	8	13	6	14	96	142	78	14	12	11	13
17 to 32	2	3	9	8	42	67	224	203	21	22	25	25
33 to 64	1	1	1	11	62	44	36	570	62	44	36	52
65 to 128	------	3	2	18	------	266	177	1,646	------	88	89	91
128 plus	------	------	2	2	------	------	347	306	------	------	174	153
Total	17	37	47	50	147	568	997	2,834	8.6	15.4	21.2	56.7

[1] Full-time budgeted positions.
[2] Published data indicate a total of 34 agencies in fiscal year 1965 (ref. 4).
[3] Excludes State-operated local agencies.
[4] Published data indicate a total of 406 full-time budgeted positions in fiscal year 1966 (ref. 5).

TABLE A-4.—TOTAL STAFFING NEEDS, BY STATES

States	Predictive model staff [1]			1969 budgeted full-time staff			Staff increase needed	Rank by number needed
	State program	Total local agencies [2]	State total	State program	Total local agencies	State total		
Region I:								
Connecticut	41	109	150	27	25	52	98	21
Maine	49	5	54	2	0	2	52	29
Massachusetts	72	166	238	[3] 14	40	54	184	10
New Hampshire	28	5	33	3	0	3	30	37
Rhode Island	4	38	42	10	0	10	32	34
Vermont	15	1	16	1	0	1	15	41
Region II:								
Delaware	24	11	35	11	0	11	24	39
New Jersey	74	287	361	166	10	176	185	9
New York	121	702	823	181	280	461	362	2
Pennsylvania	61	414	475	67	124	191	284	5
Region III:								
Washington, D.C.		12	12		5	5	7	48
Kentucky	68	46	114	25	13	38	76	23
Maryland	21	83	104	8	47	55	49	30
North Carolina	140	58	198	13	25	38	160	12
Virginia	98	47	145	18	9	27	118	15
West Virginia	30	44	74	30	1	31	43	32
Region IV:								
Alabama	81	51	132	4	14	18	114	16
Florida	68	108	176	[3] 36	69	105	71	25
Georgia	106	50	156	14	20	34	122	13
Mississippi	67	13	80	3	2	5	75	24
South Carolina	84	19	103	8	7	15	88	22
Tennessee	69	59	128	6	23	29	99	19
Region V:								
Illinois	58	429	487	25	154	179	308	4
Indiana	125	159	284	10	36	46	238	8
Michigan	102	305	407	8	65	73	334	3
Ohio	125	361	486	9	79	88	398	1
Wisconsin	98	102	200	3	19	22	178	11
Region VI:								
Iowa	89	27	116	0	5	5	111	17
Kansas	48	24	72	9	6	15	57	28
Minnesota	56	70	126	9	13	22	104	18
Missouri	48	113	161	11	51	62	99	20
Nebraska	28	16	44	([4])	3	3	41	33
North Dakota	13	5	18	2	0	2	16	40
South Dakota	12	3	15	0	0	0	15	42
Region VII:								
Arkansas	63	11	74	7	0	7	67	26
Louisiana	84	45	129	10	0	10	119	14
New Mexico	18	7	25	4	6	10	15	43
Oklahoma	35	32	67	3	5	8	59	27
Texas	166	226	392	32	87	119	273	6
Region VIII:								
Colorado	16	40	56	18	35	53	3	50
Idaho	25	5	30	2	0	2	28	38
Montana	29	6	35	3	0	3	32	35
Utah	4	20	24	10	0	10	14	44
Wyoming	9	2	11	1	0	1	10	47
Region IX:								
Alaska	8	1	9	([4])	3	3	6	49
Arizona	13	25	38	12	15	27	11	46
California	115	685	800	110	436	546	254	7
Hawaii	7	8	15	3	0	3	12	45
Nevada	8	6	14	([4])	15	15	−1	51
Oregon	55	41	96	19	32	51	45	31
Washington	56	66	122	30	61	91	31	36

[1] Numbers for State program and local agencies are predictive model output only. Actual distribution of staff in a State is determined by the role defined for the State agency and local agencies either by State law or by present practice.
[2] Total for comprehensive, noncomprehensive, and minimal regulatory programs.
[3] Excludes State-operated local agencies. Staff for such agencies is included in column "Total local agencies."
[4] No program.

TABLE A-5.—BUDGETED POSITIONS FOR 1969 AND MODEL OUTPUT BY OCCUPATION FOR STATE AND LOCAL AIR POLLUTION CONTROL PROGRAMS

[A=Predictive model positions. B=1969 budgeted positions.]

Programs by DHEW region	Total		Engineers		Chemists		Meteorologists		Sanitarians		Other professionals [1]		Inspectors		Technicians		Administrative and clerical	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Region I:																		
Connecticut	150	52	41	7	9	9	4	0	7	10	6	2	30	5	21	7	32	12
Maine	54	2	13	1	2	0	1	0	5	0	2	0	11	0	7	0	13	1
Massachusetts	238	54	56	11	14	3	3	0	13	3	8	0	51	31	26	0	62	6
New Hampshire	33	3	8	1	2	0	1	0	5	0	1	0	7	0	3	2	6	0
Rhode Island	42	10	11	1	2	1	1	0	2	0	2	0	12	7	4	0	8	1
Vermont	16	1	4	1	1	0	0	0	1	0	0	0	4	0	1	0	5	0
Total	533	122	133	22	30	13	10	0	38	13	19	2	115	43	62	9	126	20
Region II:																		
Delaware	35	11	16	2	2	1	1	1	0	0	1	0	3	4	6	0	6	3
New Jersey	361	176	95	39	27	4	5	0	3	24	19	8	82	57	49	19	81	25
New York	823	461	166	110	63	29	9	2	11	18	43	40	232	73	106	71	193	118
Pennsylvania	475	191	135	69	33	13	7	3	6	1	25	12	101	40	58	26	110	27
Total	1,694	839	412	220	125	47	22	6	20	43	88	60	418	174	219	116	390	173
Region III:																		
Washington, D.C.	12	5	0	1	0	1	0	0	6	1	0	0	0	0	1	2	5	0
Kentucky	114	38	40	9	9	5	2	0	8	0	5	3	13	6	12	6	25	9
Maryland	104	55	31	11	6	2	2	1	6	24	5	0	20	8	12	0	22	9
North Carolina	198	38	63	11	13	5	1	0	14	8	8	0	32	6	24	4	43	4
Virginia	145	27	45	6	8	3	1	1	17	1	5	0	18	3	16	5	35	8
West Virginia	74	31	30	9	5	4	1	1	3	0	1	0	10	1	7	10	17	6
Total	647	194	209	47	47	20	7	3	54	34	24	3	93	24	71	27	142	36
Region IV:																		
Alabama	132	18	32	5	8	2	3	0	23	0	7	0	17	5	13	3	29	3
Florida	176	105	43	25	12	14	4	2	13	7	6	6	34	13	23	21	41	17
Georgia	156	34	42	9	9	2	2	0	16	10	7	0	28	0	17	5	35	8
Mississippi	80	5	24	2	5	0	1	0	11	1	3	0	9	0	9	1	18	1
South Carolina	103	15	34	4	7	3	1	0	9	2	6	1	13	2	11	0	23	3
Tennessee	128	29	45	8	7	3	2	0	5	1	5	1	21	5	13	5	30	6
Total	775	206	220	53	48	24	13	2	77	21	33	8	122	25	86	35	176	38

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Region V:																		
Illinois	487	179	120	44	33	10	7	2	8	0	26	11	123	60	58	17	112	35
Indiana	284	46	94	9	17	4	4	0	21	1	14	3	35	15	33	4	66	10
Michigan	407	73	128	26	27	6	7	0	7	2	21	4	79	23	46	1	92	11
Ohio	486	88	152	16	29	13	9	0	13	5	27	2	93	29	55	11	108	12
Wisconsin	200	22	55	5	12	1	2	0	16	0	10	0	40	10	23	2	42	4
Total	1,864	408	549	100	118	34	29	2	65	8	98	20	370	137	215	35	420	72
Region VI:																		
Iowa	116	5	30	1	8	2	1	0	21	1	5	0	13	0	13	0	25	1
Kansas	72	15	22	5	4	2	1	0	9	1	2	0	10	0	9	4	15	3
Minnesota	126	22	33	6	8	2	2	0	7	0	6	2	28	5	14	3	28	4
Missouri	161	62	46	13	11	4	4	0	4	10	7	2	35	17	20	4	34	12
Nebraska	44	3	12	1	3	1	1	0	9	1	1	0	4	0	5	0	9	0
North Dakota	18	2	3	1	1	0	1	0	5	0	0	0	2	0	2	1	4	0
South Dakota	15	0	3	0	1	0	1	0	3	0	0	0	2	0	1	0	4	0
Total	552	109	149	27	36	11	11	0	58	13	21	4	94	22	64	12	119	20
Region VII:																		
Arkansas	74	7	17	1	4	1	1	1	11	0	4	1	12	0	8	2	17	1
Louisiana	129	10	42	2	8	2	2	0	11	4	6	1	19	0	13	0	28	1
New Mexico	25	10	4	1	2	0	1	1	7	3	1	1	3	0	2	3	5	1
Oklahoma	67	8	16	2	5	1	1	0	7	3	2	1	14	0	8	0	14	1
Texas	392	119	105	16	26	12	5	1	41	29	22	11	57	8	47	23	89	19
Total	687	154	184	22	45	16	10	3	77	39	35	15	105	8	78	28	153	23
Region VIII:																		
Colorado	56	53	15	8	4	5	2	1	4	9	2	2	11	12	6	5	12	11
Idaho	30	2	8	0	2	0	1	0	5	1	1	0	4	0	3	0	6	1
Montana	35	3	9	1	2	1	1	0	6	0	1	0	4	0	4	1	8	0
Utah	24	10	7	3	1	1	1	0	0	0	1	4	7	0	2	0	5	2
Wyoming	11	1	3	1	1	0	0	0	2	0	0	0	1	0	1	0	3	0
Total	156	69	42	13	10	7	5	1	17	10	5	6	27	12	16	6	34	14
Region IX:																		
Alaska	9	3	3	1	1	1	0	0	1	1	0	0	1	0	1	0	2	0
Arizona	38	27	11	7	2	3	2	1	2	3	1	1	8	3	4	6	8	3
California	800	546	179	137	63	37	8	7	28	0	46	42	170	127	116	77	190	119
Hawaii	15	3	3	1	0	2	0	0	5	0	0	0	1	0	2	0	4	0
Nevada	14	15	3	2	1	2	0	1	5	0	0	1	1	5	1	1	3	3
Oregon	96	51	28	16	6	9	2	[illegible]	4	1	4	0	20	6	12	8	20	10
Washington	122	91	31	24	7	6	2	3	8	1	7	12	26	12	17	11	24	22
Total	1,094	736	258	188	80	60	14	13	53	6	58	56	227	153	153	103	251	157
National total	8,002	2,837	2,156	692	539	232	121	30	459	187	381	174	1,571	598	964	371	1,811	553

[1] Occupations include: Public information specialists, statisticians, technical and administrative assistants, political scientists, urban planners, training specialists, and attorneys.

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Appendix B.—Salaries of State and Local Air Pollution Control Personnel

In the 1967 National Air Pollution Control Administration survey, agencies were requested to list salary data that pertained to each job class rather than to the individuals holding positions within that job class. For example, if an agency had positions budgeted for the job class air pollution control engineer II, it was requested to list only the starting and maximum salaries for that class as a whole.

Table B–1 summarizes the national salary structure for personnel employed by State and local air pollution control agencies. The occupational category having the highest median starting and maximum salaries was the professional management and administrative group. Personnel in this category tend to occupy higher level positions within the larger agencies. The category "other scientists" had the second highest median maximum salary, but ranked below engineers, meteorologists, and statisticians in median starting salary. The lowest paid professional occupational category was sanitarians, both in terms of starting and maximum salaries.

TABLE B-1.—SALARIES OF AIR POLLUTION CONTROL PROGRAM PERSONNEL, 1967

Occupational category	Starting salaries			Maximum salaries		
	Number agencies reporting	Mean	Median	Number agencies reporting	Mean	Median
Engineers	114	$8,999	$8,970	114	$12,487	$11,510
Chemists	59	6,900	7,217	56	10,114	9,468
Meteorologists	12	9,156	8,436	12	11,824	11,500
Statisticians	7	8,497	8,365	7	10,903	10,668
Other scientists	24	7,532	7,723	----------	11,369	12,177
Sanitarians	44	6,423	6,342	42	8,701	8,561
Professional management and administration	13	10,197	11,412	13	14,020	13,872
Technicians	49	5,609	5,832	47	7,791	7,508
Inspectors	52	5,833	5,874	50	8,254	7,930
Miscellaneous	71	5,169	3,958	67	8,328	6,972

TABLE B-2.—COMPARISON OF MEDIAN SALARIES OF ENGINEERS EMPLOYED IN STATE AND LOCAL AGENCIES

Agency type	Median starting salary		Median maximum salary	
	Senior	Junior	Senior	Junior
State	$9,060	$7,737	$14,340	$9,888
Local	10,000	7,995	12,931	10,038
Total	9,811	7,786	14,000	10,027

Of the two nonprofessional categories, inspectors had both higher median starting and median maximum salaries than technicians. In some large central-city agencies inspectors in charge of enforcement had salaries exceeding engineers in many medium size and smaller agencies. Top technicians' salaries on the other hand did not vary much above the median for all technicians.

Table B–2 compares the median starting and median maximum salaries of engineers in State and local agencies. The median starting salaries for both junior and senior engineering positions were higher for local agencies than for State agencies. The median maximum salary level for junior engineering positions was also slightly higher for local agencies. On the other hand, the median maximum salary for senior engineering positions was significantly higher for State agencies than for local agencies.

Local agencies' median salary levels are directly related to the size of an agency's jurisdiction. Table B–3 shows the median starting and median maximum salaries of senior and junior air pollution control engineers of selected agencies by population size. Agencies serving larger jurisdictions have generally higher salary structure for engineers than do smaller agencies, and are, therefore, in a better position to attract qualified engineering personnel.

Appendix C.—Vacancy Rates of Non-Federal Air Pollution Control Agencies

Since they give some indication of potential staffing problems, vacancy rates are important in evaluating State and local agency growth. In 1967, the average vacancy rate of all agencies was approximately 17 percent; in 1969, the average was 20 percent. This increase in vacancy rate was primarily associated with State agencies, which were undergoing a 32 percent per year increase in budgeted positions. In local agencies, high vacancy rates were associated with smaller agencies, as shown in figure C–1. As seen from this figure, the vacancy rate for local agencies budgeting more than 20 positions was only 11 percent.

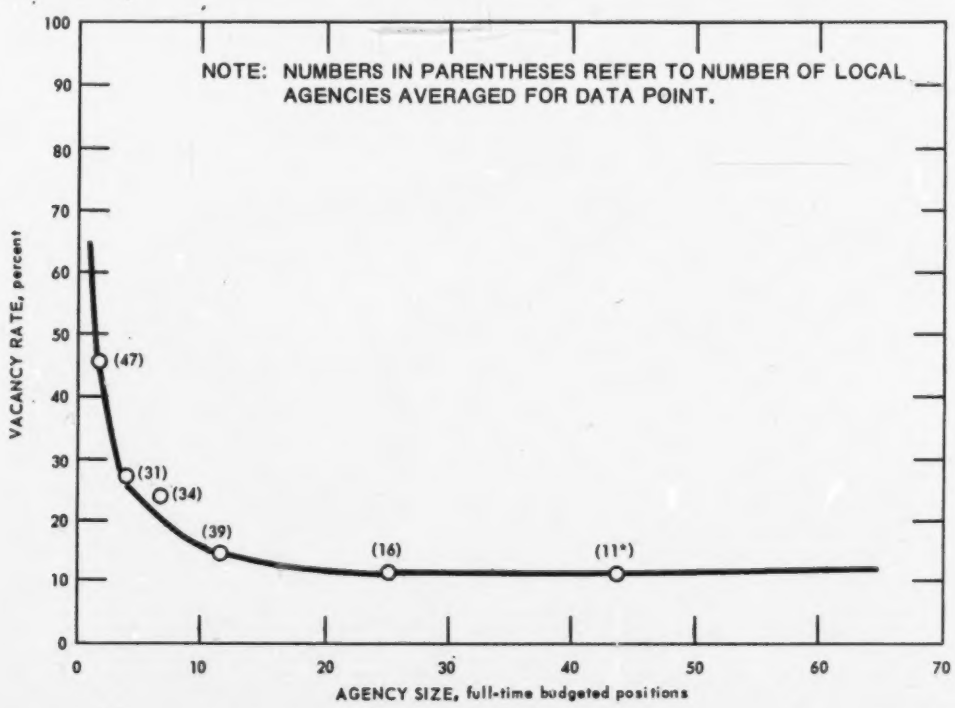

Figure C-1: Relationship between local agency size and vacancy rate as of October 1968.

Appendix D.—The Private Sector

MANPOWER NEEDS TO CONTROL AIR POLLUTION

Organizations in the private sector may be divided into two general classes with respect to air pollution manpower requirements for air pollution research and control: Those which develop, design, or manufacture air pollution control equipment and instrumentation and those which use the equipment and instrumentation to control emissions of air pollutants.

Each of the above classes is divided into various categories, and each category is discussed with respect to factors influencing manpower utilization, current manpower commitment, and additional manpower needs associated with implementation of the Clean Air Act, as amended.

Estimates of future manpower requirements are based on the numbers of plants currently operating, unless otherwise indicated. Because air pollution control work in the private sector generally is not a full-time responsibility, manpower estimates are provided in man-years instead of numbers of individuals involved.

MANUFACTURERS OF CONTROL EQUIPMENT AND INSTRUMENTATION

The manpower needs of control equipment and instrumentation manufacturers, such equipment and instrumentation are separated into three categories: Equipment for stationary sources; instrumentation; and equipment for mobile sources, particularly motor vehicles.

Stationary sources: Air pollution control equipment for stationary sources is manufactured by two types of companies: (1) Those whose products are oriented primarily toward gas cleaning and air pollution control, and (2) those whose air pollution control equipment line is only incidental to other manufactured items.

Air pollution control equipment often serves other purposes, as well. Grain milling operations, for instance, need fabric filters to prevent product loss and used this type of equipment long before air pollution control became important. In this analysis, all equipment designated as air pollution control equipment by the manufacturer was considered.

Basic types of manpower employed by this industry are little different from those used by manufacturers of other industrial equipment. A typical matrix is shown in table D–1. As indicated, needed manpower includes administrators, sales engineers, research personnel, design engineers, draftsmen, production workers, test "engineers", and service "engineers". The title "engineer" is used broadly and often denotes a technician with experience in a specific job. A typical manpower mix for an equipment manufacturer would be 15 percent professionals (chiefly engineers), 3 percent administrators, 20 percent technicians, and 62 percent production workers.

TABLE D-1.—AIR POLLUTION CONTROL EQUIPMENT MANUFACTURER TYPICAL OCCUPATIONAL MATRIX

Job titles	Work functions	Training and experience required
Chief engineer, project engineer, field superintendent and similar.	Administration, including contracts, and project supervision.	B.S. engineering plus 10 years' experience.
Sales engineer	Liaison between company and customer.	B.S. engineering.
Research engineer	Research and development	B.S. and M.S. engineering plus 2 years' experience.
Test engineer	Aid to research engineer	High school plus 2 to 3 years' experience.
Design engineer	Design of equipment and components.	B.S. engineering plus 2 years' experience.
Draftsman	Preparation of engineering drawings.	High school, some college, or trade school.
Service "engineer"	Checking new installations; repair and maintenance as required.	High school plus in-service training.
Shop workers (various mechanical trades)	Production and assembly of parts and equipment.	High school plus union requirements.

Approximately 20 manufacturers of air pollution control equipment currently supply 85 percent of the market in the United States.

Implementation of the Air Quality Act over the next 5 years will create a substantial demand for air pollution control equipment to be installed in existing industrial plants and other stationary sources. Equipment demands during this period probably will exceed current production capacity. After the backlog of demand for existing plants is satisfied, sales will involve equipment for new plants and replacement of equipment in older plants. Assuming an orderly expansion in manufacturing facilities so that backlogs do not exceed 1 year's sales, the estimated additional manpower required by 1974 by all equipment manufacturers is 400 engineers, 675 technicians, and 1,725 shopworkers (primarily skilled laborers).

Instrumentation: Air pollution measuring instruments range from simple high-volume air samplers to highly sophisticated instrumentation used primarily in research. Generally, instruments needed in the air pollution field are manufactured by companies making a broad line of instruments for laboratory and industrial use.

Manpower needed for the design, manufacture, and sale of air pollution instruments is no different from that already employed in the industry. Physicists, chemists, and engineers are employed for research and development, and no specific experience in air pollution work is required.

The greatest manpower need at the present time is for qualified instrument technicians. As the demand for instruments increases, the shortage of such technicians may become critical.

It is estimated that manpower currently employed in air pollution work by instrument manufacturers and sales organizations is equivalent to 100 man-years in research and development, 150 man-years in skilled labor, and 100 man-years in sales engineering.

Manpower requirements by 1974 depend largely on the nature and amount of monitoring activity to be conducted by regulatory agencies and the extent to which industries may be required to monitor emissions from their facilities. It is predicted that air pollution manpower needs by instrument manufacturers will require a doubling of the present work force.

Motor Vehicles: Development and production of motor vehicle pollution control systems are primarily the responsibility of automobile manufacturers and suppliers of automotive equipment.

An estimated annual equivalent of 1,200 professional man-years is being spent by automobile manufacturers and their subsidiary companies in work related to motor vehicle pollution control. The ratio of subprofessional manpower to professionals varies from 2 to 1 in research to more than 10 to 1 in testing, particularly where test drivers are required. Of the 1,200 professional man-years mentioned above, 10 percent may be designated as staff or executive personnel. Approximately 25 engineering man-years and 250 supporting man-years are used on assembly lines in activities related to emission control.

Another 125 professional man-years are devoted to motor vehicle pollution control research and development activities by independent companies outside the automotive and petroleum industries. Supporting technicians number about 150 man-years. About 35 man-years of administrative and executive time are allotted to the effort. Specific air pollution training for professionals in this area is not anticipated in the near future.

AIR POLLUTION CONTROL SERVICES

Air pollution control service organizations include contract research laboratories, testing laboratories, architectural and engineering firms, and consultants. Services of a similar type are rendered by various equipment manufacturers and industrial organizations.

The field of services as a whole involves a wide range of disciplines, including engineering, chemistry, physics, meteorology, biology, and more recently a field known broadly as environmental science.

The annual air pollution research effort in contract research laboratories is estimated to be 125 man-years. An equivalent amount of subprofessional support is associated with these operations. Any increase in manpower brought about by the Air Quality Act will be supplied, according to the discipline required from other related programs conducted by these laboratories.

The chief activities of testing laboratories involve chemical and physical analysis of ambient air and emission samples. Historically, most ambient air and emission measurements have been conducted by control agencies, equipment vendors, and industries. As a consequence, the 800 to 1,000 commercial testing laboratories in the United States have had little involvement in air pollution work.

Current testing laboratory manpower input to air pollution activities is approximately 50 to 60 man-years, evenly divided between chemists and technicians. Even if requirements were to increase markedly in the next few years, the required manpower is already available in existing laboratories.

The chief function of architectural and engineering firms is design, and sometimes, construction of structures and related facilities for both public agencies and the private sector. Air pollution and other environmental control activities represent a comparatively small segment of the total business. Current manpower utilization in the air pollution field is estimated not to exceed 150 man-years.

The term "air pollution consultant" embraces a wide variety of disciplines and an equally broad range of activities and organizational forms. Engineers, chemists, and meteorologists dominate the field. Physicists, economists, and biologists also are engaged in air pollution consulting activities to a moderate degree.

The number of consultants that will be required by 1974 is unknown. The need for consultants will be met by increased activity of existing consulting firms and by entrance of experienced individuals into the consulting field.

INDUSTRIAL PLANTS

Air pollution research and control activities in industry involve a broad spectrum of personnel, ranging from top management to equipment operators and maintenance men. In nearly every department of a manufacturing organization, there is an interaction between the specific departmental activity and air pollution control.

One function of corporate management is to be aware of regulations and trends that affect company operations. In this report, environmental control represents an area of rapidly increasing importance. Most large companies with multiplant operations assign at least one man to the field of air and water pollution. In many cases two or three men work in this area, so that it is not uncommon for an equivalent of 1. man-years to be devoted to air pollution control. In addition to personnel at corporate headquarters, one employee, usually an engineer or chemist, is assigned full time to air and water pollution problems in each of the larger plants of the organization. At the plant level, aid is given to the plant manager on matters pertaining to local regulations, public complaints, effectiveness of controls, and liaison with local authorities.

Process and equipment design is important in any operation, where either the process must be modified to prevent pollutant formation or pollutants must be captured before discharge into the atmosphere. Where collection equipment is required, this function is often shifted to the manufacturer of the equipment.

Research and development is particularly important in industries with the greatest air and water pollution problems. Research and development time is required for solution of specific problems. In the chemical industry especially, new process developments need evaluation as to their impact on air and water quality.

Process control is a necessity even after air pollution control equipment is designed and installed, because the equipment can seldom be operated continually at the desired efficiency without monitoring. Technical manpower, usually engineers, chemists, and technicians, are required to monitor operating procedures, equipment efficiency, stack emissions, and ambient air concentrations.

Use of air pollution control equipment results in additional manpower for operation and maintenance. The additional manpower is similar to that already employed in industry; the required increase is variable, depending on equipment size and type.

For performance of the functions described above, industry prefers professional and subprofessional personnel to be well trained in their basic disciplines, have suitable experience in the specific industry, and obtain expertise in air pollution control by post-job entry study, practice in the field, and attendance at meetings. Industry does not express a need for manpower highly trained in air pollution control technology.

Manpower requirements for specific industries were estimated by using current data on manufacturing establishments. Air pollution control manpower was estimated for a typical plant for each industry;

these estimates were then extrapolated to a national figure. The industries chosen and the estimates made are summarized in table D–2. Three manpower categories are shown in each industry: executive and professional; technician; and operation and maintenance.

TABLE D–2.—GENERAL MANPOWER MATRIX BY INDUSTRY IN 1969 AND ESTIMATES FOR 1974 (MAN-YEARS FOR AIR POLLUTION CONTROL)

Industry	Professional and executive		Technician		Operation and maintenance		Total	
	1969	1974	1969	1974	1969	1974	1969	1974
Rock product processing:								
1. Cement (portland)	75	135	(1)	175	300	450	375	760
2. Other (lime, glass and ceramic, gypsum)	71	91	7	7	75	110	153	208
Chemical [2]	950	1,700	150	1,200	1,400	1,750	2,500	4,650
Food and kindred products [3]	[4] 214	[4] 306	----	----	15	15	229	321
Steel and related manufacturing:								
1. Integrated steel mills	400	790	175	200	1,400	1,800	1,975	2,790
2. Electric steel operations	20	35	----	----	75	150	95	185
3. Gray-iron foundry	40	40	----	----	50	1,800	90	1,840
Nonferrous metals:								
1. Copper (primary smelting)	69	162	38	90	230	600	337	852
2. Lead and zinc (primary and secondary smelting)	121	152	28	38	750	1,140	899	1,330
3. Aluminum reduction	70	144	30	72	140	144	240	360
4. Nonferrous foundries	20	20	----	----	50	750	70	770
Petroleum:								
1. Petroleum refining	650	740	200	260	2,000	2,600	2,850	3,600
2. Other (hot paving mix, asphalt-saturated felt)	(1)	(1)	----	----	(1)	140	(1)	140
Steam-electric powerplants	200	2,080	50	870	60	150	310	3,100
Pulp and paper	240	550	150	220	210	330	600	1,100
Rubber	20	60	(1)	40	----	----	20	100

[1] Nil.
[2] Includes alkalis and chlorine, intermediate coal-tar products, pharmaceutical preparations, paints and allied products, fertilizers, agricultural chemicals, soaps and detergents, synthetic rubber and fibers, plastics, other inorganic and organic chemicals. Based on reference 9.
[3] Includes meat, fish, canned and frozen foods, flours and cereals, other milling and allied operations, fats and oils.
[4] Includes 150 man-years for rendering operations.

As shown in table D–2, the estimates indicate that the manpower needs of industry will be doubled, as a minimum, by air pollution control requirements arising from implementation of the Air Quality Act. The actual number of employees will be at least twice the indicated man-years.

A factor not considered in table D–2 is the manpower required for industry compliance with permit systems. Assuming the man-years required for the preparation of permit application amount to three times the man-years required for review, and using the predictive model output for State and local agencies (table A–2) it is estimated that 3,500 engineering man-years will be required in addition to the estimates in table D–2.

The amount of inspection of air pollution control facilities is another factor of importance. If annual inspection is assumed, and because it is common practice for industry to have available a person qualified to accompany the inspector on his rounds, it is estimated that an additional 1,000 man-years would be required based on the predictive model output for State and local agencies in addition to the estimates in table D–2.

A third factor not considered in table D–2 is the effect of regulations for the control of sulfur oxides emissions from powerplants. If emissions are controlled by using low-sulfur fuel, no additional manpower would be required. If control is effected by removing sulfur oxides from stack gases, then additional manpower will be needed.

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Appendix E.—Federal Training Programs That Can Be Used To Train Personnel in Air Pollution Control

Appendix E–1.—National Air Pollution Control Administration

NAPCA's training programs are designed to increase the Nation's knowledge of the nature, effects, and control of air pollution. Programs are available for individual long-term training, intermediate training, and short intensive training.

Long-term training is supported at academic institutions and to students directly through training grants and fellowships. In the past long-term training was supported primarily for researchers and teachers in the various aspects of air pollution. Now, with the critical need of State and local air pollution control agencies for manpower, NAPCA's long-term training programs are being reoriented to fulfill this need. Major emphasis is being given to the development and support of bachelor level and associate degree programs which will prepare individuals for careers with State and local control agencies. Graduate training programs will be maintained on a limited basis.

Intermediate training of under one year is available generally in some specialized area of air pollution control. Short intensive training is offered by NAPCA's Institute for Air Pollution Training. This training is normally of 1 week's duration in a specialized area of air pollution control to expand and upgrade the knowledge of control personnel (see appendix E–2 for lists of courses offered by the Institute). By 1972 the Institute will be offering courses at 12 regional centers throughout the Nation.

APPENDIX E–2

NATIONAL AIR POLLUTION CONTROL ADMINISTRATION, SHORT COURSE TRAINING, FISCAL YEAR 1971

Subject area	Course title	Length (days)
Surveillance and laboratory techniques.	Introduction to air pollution control	5.
	Diffusion of air pollution, theory and application	5.
	Atmospheric sampling	5.
	Air pollution meteorology	5.
	Meteorological instrumentation in air pollution	5.
	Medical and biological aspects of air pollution	3.
	Analysis of atmospheric inorganics	5.
	Analysis of atmospheric organics	5.
	Gas chromatographic analysis of air pollutants	5.
	Column and thin-layer chromatographic analysis of atmospheric pollutants.	5.
	Determination and measurement of atmospheric metals	5.
	Air pollution microscopy	5.
	Sampling and identification of aeroallergens	5.
	Effects on vegetation	5.
	Special topics in surveillance and laboratory techniques	1 to 5.
Engineering and enforcement	Air pollution control technology	5.
	Control of particulate emissions	5.
	Control of gaseous emissions	5.
	Combustion evaluation	5.
	Basic source sampling	4.
	Visible emission evaluation	3.
	Field enforcement aspects of air pollution	5.
	Statistical data evaluation	5.
	Special topics in engineering and enforcement	1 to 5.

Appendix E-3.—Other Federal Training Programs That Can Be Used To Train Personnel in Air Pollution Control

PROFESSIONAL MANPOWER TRAINING

The manpower and training requirements for the field of environmental pollution control are of vital importance to those living in the United States. The Nation's growth and productivity have resulted in many new and complex environmental problems which seriously challenge man's health and well-being. In addition to the pollution of the air, these problems include the pollution of water, soil and food, and occupational and community stresses such as noise, vibration, radiation, and other hazards.

Environmental control efforts require a wide range of technical and scientific manpower including all types of engineers and scientists; specialists such as administrators, physicians, lawyers, statisticians, and economists; as well as technicians and aides.

Professionals working in the various fields of environmental control receive extensive training through two principal mechanisms. The first is long-term training via training grants and fellowships, and the second is short-course training.

The following professional education and training programs of other Federal agencies are relevant to the air pollution manpower needs in State and local agencies:

1. *National Institute of Environmental Health Service, NIH, PHS*

The education and training program of NIEHS supports broad and diverse efforts to increase the numbers of researchers in the sciences underlying and directly involved in various environmental fields, including air pollution. Included in this support are university-based centers which focus on the interdisciplinary approach to problem-solving. This program can make only a limited contribution to State and local air pollution manpower needs.

2. *Bureau of Health Professions Education and Manpower Training, NIH, PHS*

Sections 306 and 309 of the Public Health Service Act may be used to provide public health-related courses in air pollution control curriculums at the graduate level. The legislation is limited to graduate or specialized training in "public health."

The Allied Health Professions Personnel Training Act of 1966, as amended, provides authority broad enough to include training in air pollution at the Associate of Arts (technician) and Baccalaureate (technologist) levels. At this time training in air pollution control may be included for the training of sanitarians and sanitarian technicians. The sanitarian is the only environmental health profession that has been included for support in the implementing regulations.

3. *Environmental Control Administration of the Environmental Health Service, PHS*

Training authority under existing legislation for solid waste management has been applied previously to development of professional specialists, some of whom may make a contribution to air pollution control. Specific examples include the areas of improved incinerator design, and composting and landfill methods as alternatives to com-

bustion of refuse and the recycling of consumer products. Occupational health training support authority is limited to research training under section 301 of the Public Health Service Act. Certain specialized aspects are common to both air pollution and occupational health research and practice but the research career intent of beneficiaries of such training would have minimal benefit in staffing State and local air pollution control agencies.

SUBPROFESSIONAL AND TECHNICAL MANPOWER TRAINING

The following are vocational and technical training programs, administered by Federal agencies, which offer opportunities for providing specialized air pollution training mainly for technicians and other subprofessionals. Programs which are presently being used for training of air pollution subprofessionals are discussed in chapter 3 of the report. The programs considered pertinent are described in the following sections.

1. *Manpower Development and Training Act (MDTA)*

MDTA programs are primarily designed to provide training for the unemployed and the underemployed in both institution and on-the-job environments. Both full-time and part-time training can be provided. The part-time training is primarily designed to upgrade the skills of persons already employed. Support for institutional training is on a 90-percent Federal and 10-percent State basis.

Training programs supported by MDTA funds, provide opportunities not only to train technicians, inspectors, and aides for State and local air pollution control agencies, but also to train the large number of automobile mechanics and combustion equipment operators in the private sector.

2. *Vocational Education Programs*

Vocation education programs, administered by the DHEW under Public Laws 79–586, 64–347, and 88–210 offer training in specific occupational categories. If State and local agencies can provide an adequate and attractive labor market to vocational school graduates many air pollution control manpower needs can be met through this program.

Vocational programs in high schools provide training to approximately one-third of all high school students. Post high school programs are offered in a variety of institutions including area vocational-technical schools, technical institutes, community and junior colleges, and universities.

Other related Federal vocational education programs which offer pre-job and on-the-job training and provide an opportunity to meet the needs of air pollution control manpower training requirements are:

(*a*) The vocational rehabilitation program.

(*b*) The Job Corps—for disadvantaged youths 14 to 22 years of age.

(*c*) The special skilled programs for minorities such as Indian and Spanish-American vocational training programs.

3. *The Community Service and Continuing Education Program*

Title I of the Higher Education Act of 1965 provides a variety of training and educational activities at subprofessional levels. The programs in this category are developed for each State by an educa-

tion agency appointed by the Governor. Courses can be established at any accredited public or private college or junior college. The Federal financing of this program is on an 80–20 matching fund basis.

The majority of the effort in this program is aimed at the solution of urban and suburban problems.

4. *Comprehensive Health Planning and Public Health Service Amendments of 1966*

Under this statute control agencies can apply for funding to train personnel. Programs can be designed for either professional or subprofessional training.

5. *Cooperative Area Manpower Planning System (CAMPS)*

In March 1967, DHEW, Commerce, HUD, DOL and OEO established CAMPS to develop an effective multiprogram approach to solving technical manpower problems. The system provides an opportunity for NAPCA and each State and local air pollution control agency to plan its manpower and training needs and to assist in the establishment of training programs that will meet these needs.

A. The agencies presently involved and the programs administered through CAMPS are:

1. Department of Health, Education, and Welfare, Office of Education:
   - (*a*) MDTA institutional training program.*
   - (*b*) Adult basic education program.
   - (*c*) Vocational and technical education programs.*
   - (*d*) Vocational rehabilitation programs.
   - (*e*) Work experience and training program.*
   - (*f*) Community work and training program.
2. Office of Economic Opportunity:
   - (*a*) Job Corps program.*
   - (*b*) Community action program.*
   - (*c*) Migrant and seasonal farmworkers program.
3. Department of Housing and Urban Development:
   - (*a*) Urban planning assistance program.*
   - (*b*) Model cities program.
   - (*c*) Neighborhood facilities program.
4. Department of Labor, Manpower Administration:
   - (*a*) The Employment Service program.*
   - (*b*) The national apprenticeship program.
   - (*c*) The manpower development and training program:*
     - (1) MDTA institutional training.*
     - (2) On-the-job training (OJT).*
   - (*d*) Neighborhood Youth Corps program.
   - (*e*) Operation Mainstream.
   - (*f*) New careers program.*
   - (*g*) Special impact program.
   - (*h*) The concentrated employment program.
   - (*i*) Public Service Careers program.*
5. Department of Commerce, Economic Department Administration:
   - (*a*) The public works and economic development program.

*These programs provide or support training and/or training materials which could be of direct benefit to meeting the many subprofessional manpower and training needs of State and local air pollution control agencies and of auto mechanics and combustion source operators in the private sector.

Because most of the programs are aimed at the disadvantaged, examples of manpower for air pollution control agencies supported by such programs would tend to be limited to the following: laboratory aides, sampling equipment operators, stack test equipment operators, motor vehicle exhaust test equipment operators, motor vehicle air pollution control device mechanics, field patrol inspectors and combustion equipment operators.

Technicians and professionals already employed by agencies may be "upgraded" through the part-time training provided by certain of these programs.

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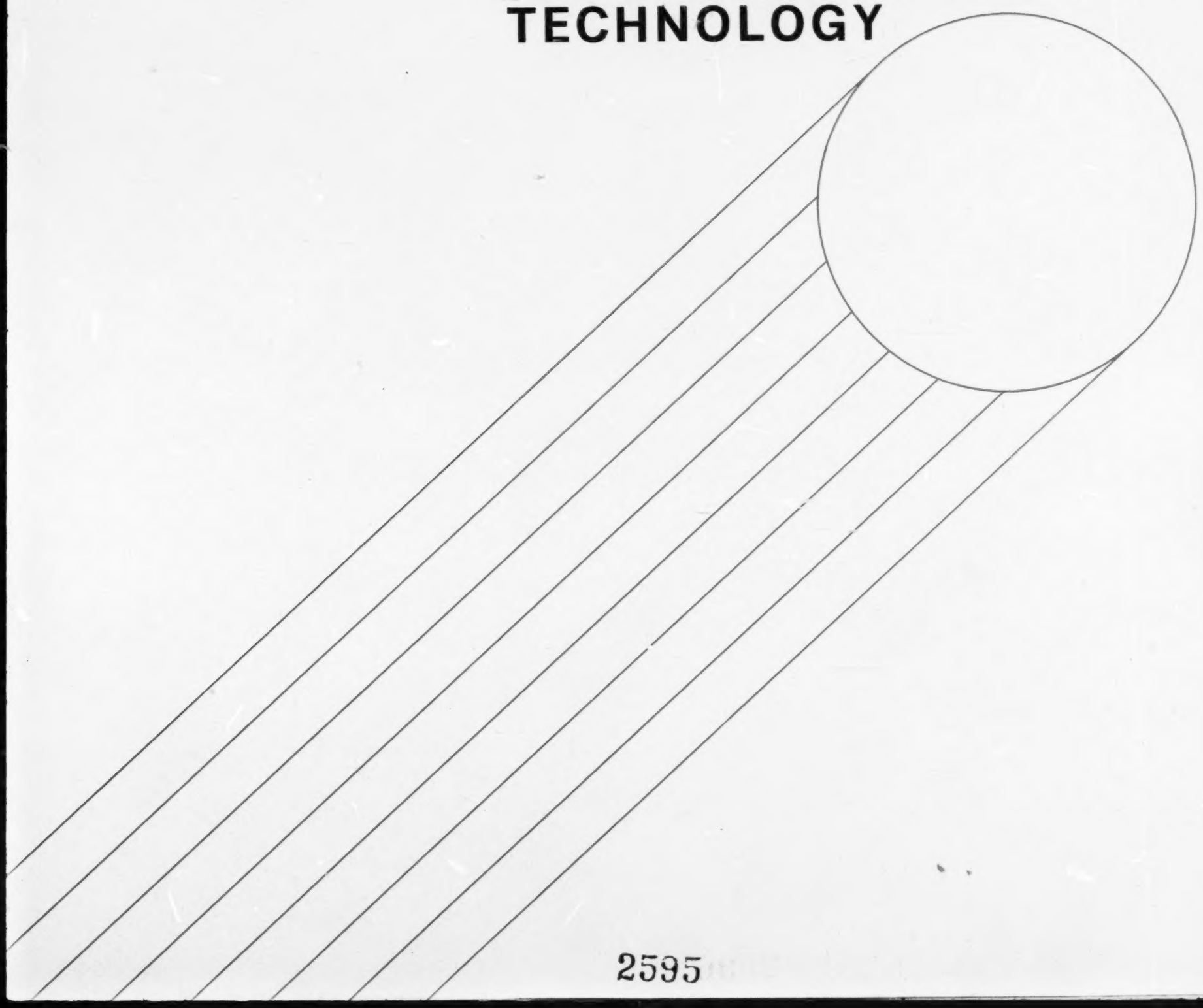
ABSTRACT - Developed through a project sponsored by the W.K. Kellogg Foundation, this curriculum guide places emphasis on the use of a core curriculum and the introduction of necessary basic concepts. The guide has been prepared to identify and illustrate the unique educational requirements and instructional processes that appear to have promise for 2-year institutions interested in establishing technical education services in this emerging occupational area. Especially designed for those responsible for 2-year college programs in occupational education, it should also be of value to administrators waiting to develop or improve such programs. Major sections of the guide include: (1) Emerging Occupations, (2) The Technician in Electromechanical Occupations, (3) Education for Technician Occupations, (4) Curriculum Design, (5) The Electromechanical Technology Curriculum, and (6) Special Program Needs. (AUTHOR/JS)

VT 011 975

Maurice W. Roney/Donald S. Phillips

ELECTROMECHANICAL TECHNOLOGY



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PREFACE

This publication was developed under the Occupational Education Project of the American Association of Junior Colleges, a project sponsored by the W. K. Kellogg Foundation. Several previous publications developed under the Occupational Education Project have dealt with the more traditional engineering-related technologies. This is the first to concern itself with an "emerging" technology, the new and exciting field of electromechanical technology.

The experiences of Maurice W. Roney and Donald S. Phillips in the development of electromechanical technology suggested that they be asked to write this publication. They have been assisted by an advisory committee including:

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This curriculum guide naturally includes a discussion of many of the elements needed for the development of a curriculum for electromechanical technology. However, it also addresses itself to two other educational concepts which are somewhat unique in technical education: (1) the use of a core curriculum of basic technical and related technical courses for a series of related technologies; and (2) the introduction of necessary basic concepts, including those of science and mathematics, in a unified concepts approach.

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AUTHORS' FOREWORD

Occupational education beyond the high school is one of the most dynamic and challenging of all public education services. Many of the new and emerging technical occupations involve combinations of skills and knowledge that have heretofore been treated as distinctly specialized fields of study. One of these emerging occupations is electromechanical technology. Preparatory training for this field of employment requires new approaches to technical program planning because of the broad range of devices and systems with which the technician will work.

This curriculum guide has been prepared to identify and illustrate some of the unique educational requirements and instructional processes that appear to have promise for two-year institutions interested in establishing technical education services in this particular field. The program of instruction described has implications as a core for a number of closely related two-year curriculums in new and emerging occupations.

The concepts outlined and discussed herein should be helpful to those individuals in two-year colleges who have program responsibilities in occupational education. The guide should be especially useful to administrators who are planning new programs or are modifying and improving existing programs. The ideas and suggestions are those of the authors. No endorsement of these expressions by the American Association of Junior Colleges is intended or implied.

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CHAPTER I

EMERGING OCCUPATIONS

Technical occupations have increased steadily in recent years. This increase has prompted industrial organizations to look for more workers with new technical skills. Many work functions have been mechanized: high-speed data processors and automated production equipment have eliminated certain routine work functions and created new ones of a more technical nature, often involving complex systems. As the size, complexity, and performance capability of functional systems increase, the dynamic nature of these systems becomes more significant. Factors such as speed of response, transient and steady-state performance, and dynamic stability become increasingly important. Well-qualified technicians are required in engineering, production, and distribution activities working to support engineers and scientists. Just to maintain and repair some of this highly complex equipment requires a high order of technical skill, and industrial organizations have been forced to reassess their technical manpower needs in terms of these new requirements.

Technicians rather recently have become recognized and respected members of the engineering team in industrial activities such as research and development, production planning, field testing, and technical sales. In these activities a relatively high degree of specialization has been the norm. Electronic technicians, machine designers, computer specialists, chemical technicians, and many others with specialized skills have been reasonably well identified in the hierarchy of industrial occupations. In general these specialists require technical education beyond the secondary level of the type provided by two-year technical schools and community junior colleges.

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In addition to the continuing need for specialists in established and well-identified technical fields, there is a growing need for technicians with certain combinations of skills that cut across traditional fields of specialization. A number of occupations are emerging which require combinations of knowledge and skills beyond the capability of specialized technicians whose training has been limited to a single technology field such as electronics. Electromechanical technology is one of these emerging occupations; and as the name implies, successful technicians in this field use technical concepts from both electronics and mechanics. The maintenance technician, for example, is no longer a person with wrenches and an oil can in his toolbox. Maintenance and repair of complex industrial production equipment, once regarded as the realm of the skilled mechanic, now requires highly competent technicians. Their tools may be precision instruments costing thousands of dollars. Similar needs are found in field installations such as data processing centers and space flight centers. Research and development activities also have an increasing need for technicians with new combinations of skills and knowledge, especially in those activities involving systems design and development.

A Third Generation of Occupational Education. Education for industrial occupations is entering a third generation of program development. The first generation was job oriented, and centered around occupations in which the required skills were well identified. Among the people served by these programs were machinists, electricians, and carpenters. The second generation was field oriented and became known generally as technical education. Given emphasis and support by Title VIII of the National Defense Act of 1958, programs of technical education were developed in such fields as electronics, mechanics, chemistry, construction and the like. In general, the difference between first and second

generation programs appeared in the mathematics and science base required for the latter and in a shift from procedural and manipulative skills to cognitive and analytical skills.

The third generation of education will cut across established fields of technology. This generation will provide new combinations of technical skills and knowledge built around a core of the sciences. Applications of the sciences will be drawn from modern industrial activities, and the "specialized" content of the instructional program will be systems oriented, rather than field oriented. Electromechanical technology is an example of this third generation. Other significant third generation programs have yet to be established. However, examples of those which may be developed include biomedical-electronic, electro-optical, nuclear-medical, electro-chemical, and pharmaceutical-psychological technologies.

A New Core Studies Program. It is evident that as the need for new combinations of technical skills and knowledge increases, educational programs must change. Technical personnel in some of today's modern industries are required to work with devices and systems that involve mechanical, electrical, optical, thermal, hydraulic, and pneumatic components in varying combinations. A new approach to pre-employment training is clearly indicated if individuals are to be prepared for occupations with this range of skills and knowledge.

A logical approach to planning new educational services of this nature is to identify the technical principles that are commonly found in modern systems and to build a program around these principles. These common elements, if programmed in a first-year core with mathematics, science, and specific industrial applications, can be made efficient, realistic, and interesting. Ideally, a first-year core with this broad base can provide a sound foundation for two-year pre-employment training programs in several

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related emerging occupations. This design also permits varied combinations of specialized technical study and general education in the second year of the program.

Several advantages are obtained from a carefully designed first-year core program built around the physical sciences and their applications:

1. Economies may be effected by eliminating the need for a variety of specialized courses in the first year.
2. Options can be provided in the second year for those students who enter college without a clear understanding of their interests and abilities.
3. General education courses, particularly those in the social sciences and humanities, which are usually of little interest to beginning technical students, can be deferred to subsequent terms when their meaning and value become more apparent.
4. Students who take employment before completing the program will have a sound base for independent industry-sponsored study.

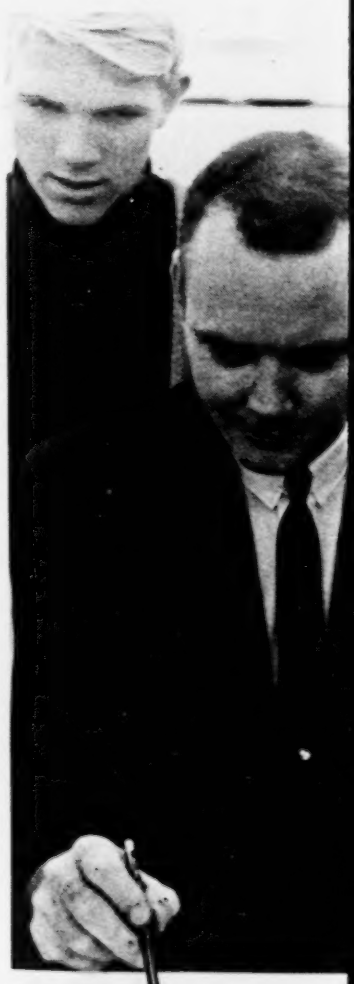
A core program, if it is to be effective, must be much more than the traditional form of generalized science instruction. The typical student in the first year of a technical curriculum is not interested in any kind of study that does not include hands-on experience with tools and equipment. The curriculum suggested in this guide incorporates a core program built around a sequence of unified concepts drawn from the physical sciences. But the laboratory, with its industrial-type equipment, is the central element of the instruction system. In this system the student deals with one basic concept at a time in concurrent courses. Applications of the concept are studied in coordinated laboratory courses using a full range of mechanical, hydraulic, electrical, electronic, pneumatic, thermal, and optical apparatus. At the same time the student is

introduced to modern industrial equipment incorporating the concept, ranging from simple devices to complex systems.

One of the distinct advantages of the unified concepts system is its basic simplicity. Concepts are chosen that have universal application in the several fields of technology. Instead of a vertical structure in which each of the traditional fields of physics, electricity, mechanics, heat, light, and sound are studied as separate systems, the unified concepts method cuts across these traditional fields. Opposition to flow, impedance, time constants, and similar concepts become central in the learning process rather than isolated examples of physical phenomena.

Mathematics has long been a stumbling block for technical students. Many do not consider the subject interesting or useful. A remarkable difference in attitude can be developed when mathematics forms are utilized in the unified concepts study core. Reinforcement is obtained in depth when the same mathematics form is repeated many times in problems dealing with mechanical, electrical, pneumatic, hydraulic, thermal, and optical examples of a single concept.

English, especialy in its written form, is much easier for students to learn when they have meaningful experiences to report and discuss. Working with a single unifying concept serves to develop the student's confidence in his grasp of the subject or concept being studied. The need for accuracy in communications becomes apparent, and students develop a personal sense of accomplishment by expressing their new knowledge in writing.



The following sections of this document describe an example of a third generation program for electromechanical technology. Factors to be described will be occupational and educational needs, student abilities and interests, program planning, and staff requirements.

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CHAPTER II

THE TECHNICIAN IN ELECTROMECHANICAL OCCUPATIONS

Throughout recorded history advances in science and technology have affected the type of work performed by man. In general, these developments have tended to reduce the requirements for manual efforts and to increase the requirements for cognitive skills. The pace of technological innovation has increased quite rapidly during the last two decades, while the nation's economy has grown and national priorities have shifted. These conditions have stimulated significant changes and adjustments in the occupational structure of this country in recent years. One of the most significant has been the creation of large numbers of jobs at the technician level. Prior to World War II technicians constituted a very small part of the labor force; however, by 1963 approximately one out of every eighty persons in the labor force was a technician. Today, technicians perform important functions in a variety of industries and settings and have established themselves as valuable members of the nation's labor force.

Industry's Increasing Need for Technicians. It is becoming increasingly apparent that skilled manpower is probably the limiting resource in today's technological world. Consequently, effective utilization of this scarce resource poses a major challenge. Several surveys and studies have attempted to assess technician supply and demand at the local, state, and national levels in order to provide information for planning and policy making relative to technician manpower utilization. As might be expected, the several studies have produced differing estimates of total supply and demand with the result that projections of need have varied from

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study to study. But differences have been in degree rather than direction. The common and most significant feature among these studies has been that the projected demand greatly exceeds the projected supply of formally educated technicians.

Estimates of technician employment in 1968, projected employment for 1975, and the projected supply of technicians for this period have been treated in a publication of the National Industrial Conference Board.[1] During the eighteen-year period from 1950 to 1968 the number of technicians increased from approximately 300,000 to 968,000 at a compound annual rate of 6.7 per cent. Between 1968 and 1975 the annual rate of increase is projected to be 3.1 per cent, considerably lower than the rate for the previous eighteen-year period. Using this rate of increase, however, the number of technicians in 1975 would be 1,198,000, a 24 per cent increase over the 1968 figure. When the growth projections are coupled with replacement data, we see that the total demand for new technicians for the seven-year period (1968-1975) will be 560,000. Supply estimates for this period range from 340,000 to 400,000. These data indicate a net shortage of technicians that ranges from 160,000 to 220,000.

To put these data into a meaningful perspective, it may be helpful to adopt the economist's approach — supply and demand must be equal by definition. While this notion may not appear to agree with projected differences between supply and demand, the fact remains that at any actual time supply and demand are going to be equal. Equalization may be accomplished by adjustments on both sides of the equation. Increases in the supply can be accomplished by: (a) attracting people from other areas of employment, (b) retraining and upgrading employees, (c) working overtime and delaying retirement, and by other similar methods. Adjustments

[1] Rhine, Shirley H., and Creamer, Daniel. *The Technical Manpower Shortage: How Acute?* New York: National Industrial Conference Board, Inc., 1969.

can be made on the demand side by: (a) downgrading jobs so that they can be handled by people with less skill, (b) shifting priorities, (c) automation, (d) delaying projects, and by other methods which tend to reduce output. Most of the adjustment methods on both sides of the equation tend to be undesirable in light of the nation's need for economic expansion. Looking at the supply and demand projections from this point of view one gets some idea of the magnitude of the shortage of formally trained technicians.

While useful for identifying trends and for general planning, national projections of supply and demand by broad category have limited value for technician education program planning and development at the local level. Manpower needs for a selected geographical area or specific technology cannot be obtained from the data nor can pertinent curriculum planning information. In addition to these rather serious limitations the projections offer little aid in the identification of new and emerging occupations which require pre-employment training.

Electromechanical Technicians in Industry. As industrial organizations have increased in size and complexity new occupations have emerged. To be successful in many of these new occupations an individual must possess a combination of skills previously considered to be highly specialized. In many cases individuals must perform functions and make judgements relative to systems made up of components that employ principles from several fields.

During the 1960's there was a substantial increase in the number of technician jobs which require the application of both mechanical and electrical principles. Jobs of this type range from the relatively simple ones to the very complex. For example, the processing and packaging of food products is accomplished almost entirely by automated equipment. Much of the equipment used in this industry, such as the machines for folding boxes, is primarily

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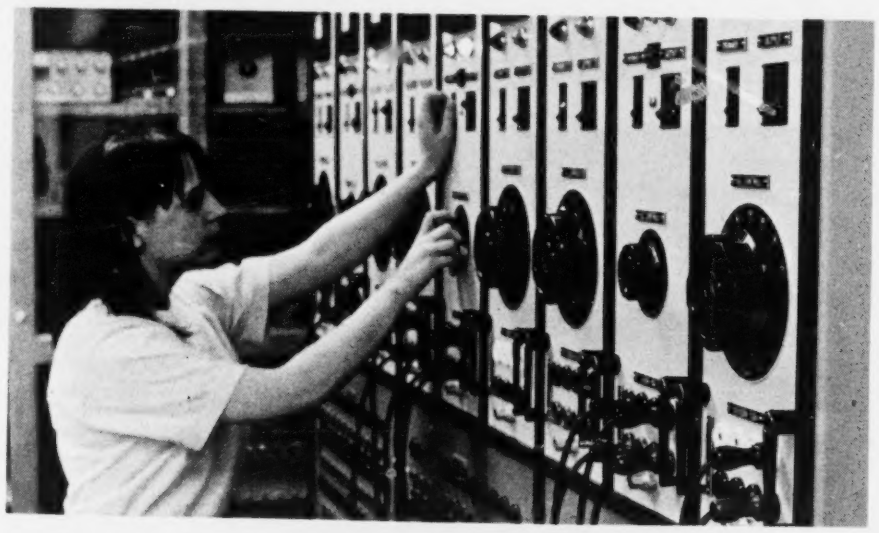
Electromechanical technicians are employed in a variety of industries including manufacturing, research and development, design, and calibration. Within the broad field of electromechanical technology there are four areas of specialization: maintenance and troubleshooting; field service; manufacturing and automated processes; research and development.

Technicians in these specializations are engaged in the performance of a variety of activities including: customer or product service; product design and testing; building and evaluating test equipment; building and testing prototypes; production equipment installation; quality assurance; test equipment maintenance; product engineering; operation of research equipment.



JOB DESCRIPTIONS[2]

Electromechanical technician — general. Tests, troubleshoots, analyzes, diagnoses, calibrates, and adjusts precision electromechanical components, devices, systems, and instruments. Constructs electrical, mechanical, and electromechanical breadboards according to specifications for the purpose of evaluation and feasibility studies. Assists engineers in the design, specification, and installation of electromechanical systems such as process control equipment. Obtains performance data and design information on electromechanical components, mechanisms, gears, chains, brakes, bearings, sprockets, relays, switches, photo-electric devices, operational amplifiers, oscillators, logic circuit components, pneumatic cylinders and control valves, hydraulic cylinders and fluidic controls, servo-systems, electrical and electronic components from technical literature and other sources. Conducts tryout testing of systems or devices, reports results, and modifies to eliminate defects. Designs and modifies simple parts and brackets. Uses hand tools, soldering, drill press, and, less frequently, other machine tools. Prepares sketches of parts to be manufactured, and occasionally prepares engineering assembly or detail drawings. Acts as liaison between engineering department and manufacturing. Uses and understands a wide range of measuring and testing instrumentation including ammeter, voltmeter, multimeter, wattmeter, strip-chart recorder, x-y plotter, ohmmeter, bridges, oscilloscope, potentiometer, thermometers, thermocouples, pyrometers, pressure gages and manometers, strain gages, flowmeters, continuous recorders, etc. Performs mathematical computations; reduces data; prepares graphs, charts, and tables; prepares written reports; reads and interprets engineering drawings, schematics, and wiring diagrams; and orally communicates with supervisors, clients, vendors, and others. Usually works with minimum supervision and may supervise lower-grade technicians and skilled workers.

Electromechanical technician — maintenance and troubleshooting. Similar to general technician except for greater emphasis on the following activities: Works from well-documented procedures or develops and recommends procedures for diagnosis of malfunctions in components, instruments, or complex systems. Performs operational or emergency maintenance to permit continued use of laboratory and prototype equipment. Aligns, calibrates, maintains, and repairs complex specialized process machinery, numerically controlled machines, and a wide range of test, control and instrumentation equipment. Assists in installation, and performs acceptance tests on new equipment. Inspects highly complicated types of electrical, electronic, hydraulic, pneumatic, and mechanical equipment. Keeps historical records of machine and equipment performance and maintenance schedules. Maintains stock of supplies

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Electromechanical technician — field service. Similar to maintenance and troubleshooting technician, except for additional emphasis on the following activities: Usually works alone on client's premises with responsibility for customer liaison and customer satisfaction. Uses a variety of techniques for oral and written communication with clients, colleagues, and supervisors. Works from well-documented installation, testing, or troubleshooting procedures but should be capable of improvising temporary solutions in emergencies. May initiate or influence additional sales of company product lines as an incidental result of customer liaison. May train customer personnel in operation, safety, or other aspects of the equipment.

Electromechanical technician — manufacturing and automated processes. Similar to maintenance and troubleshooting technician, except for more stress on the following functions: Provides technical supervision and assistance in installation, startup, maintenance, and operation of hydraulic-pneumatic control systems, numerically controlled machinery, electromechanical devices and systems concerned with production and manufacture. Manages operation of manufacturing department's data acquisition and quality control systems. Coordinates engineering specifications and instructions with manufacturing. Analyzes and reports on operational problems. May suggest solutions and participate in problem solving efforts.

Electromechanical technician — research and development. Similar to general technician, except for more emphasis on the following activities: Devises control and recording circuitry for testing arrangement. Designs systems that measure and record important process variables. Monitors engineering tests and recommends revision in procedures based on results and observations. Conducts controlled tests on equipment, such as reliability studies and environmental evaluations. Assists engineers and scientists in the installation, operation, debugging, and evaluation of new specialized and prototype equipment. Prepares sketches and drawings of assemblies and subassemblies. Does limited design such as mounts for transducers and test fixtures. Usually works closely with engineer or scientist, but requires little supervision.

[2] Brodsky, Stanley M. *Report of Electromechanical Technology Curriculum Development Project.* Submitted to the Office of the University Dean for Two-Year Colleges of the State University of New York, December 1967. pp. 7-9.

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A careful study of the functions performed by electromechanical technicians provides considerable information about the competencies required for success in these jobs. It is quite obvious that technicians in this field must be thoroughly familiar with a wide range of electrical and mechanical principles. Their depth of understanding should be such that they would feel competent to make judgments relative to any aspect of a complex system. When two single specialty technicians are required to handle one task, communications become difficult, time consuming, and costly. In such cases, one electromechanical technician may be more valuable than a mechanical technician and an electronic technician. Electromechanical technicians must have facility with and skill in the use of various electrical and mechanical components, devices, and instruments. In addition to his extensive background in technology, the successful technician must be able to communicate effectively with fellow employees both orally and in writing.

Supply and Demand. To date the educational system has not made a significant contribution to the supply of electromechanical technicians. One reason for this is the lag between the time a need is identified and the time a program is started. The need for electromechanical technicians has only recently become identified and publicized; therefore, schools have not yet been able to respond to the need.

Some employers have looked to the military as a possible source of electromechanical technicians. The results, however, have been disappointing. The military provides a source for single specialty technicians but apparently not for those with two or more disciplines.

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usually been initiated by employers when trained workers could not be recruited from other sources. Currently, the primary source of electromechanical technicians is industry training programs. Many organizations employ individuals with training in either electronics or mechanical technology and provide on-the-job training in the other discipline. The on-the-job experiences are supplemented by in-plant and evening courses. The success of the programs is affected by many factors. One of the major ones is an attitudinal one on the part of the trainee. Often the person who has studied in a particular discipline and has developed a degree of confidence in that field is reluctant to become involved in an unknown area.

Projecting manpower demand is a somewhat risky business, even when dealing with well-identified fields and occupations. As the manpower researcher moves into the area of identifying needs in emerging areas, the risks increase. In most cases, however, manpower demand projections in the technician spectrum have been conservative.

Although studies to quantify the demand for electromechanical technicians have been limited, the available results indicate a major effort will be required if the educational system is to produce the needed electromechanical technicians.

The computer industry has projected a need for approximately 200,000 technicians during the ten-year period of 1966-1975. While this projection includes all technicians, it is significant that one of the large companies in this field has found that their technicians who service and maintain computers spend approximately 85 per cent of their time on electromechanical input/output devices to the computer.[3]

[3] Bowen, Charles R. "Educators Plus Employers: A Team to Meet the Critical Need for Technicians." Paper presented to the National Clinic on Technical Education. Albuquerque, New Mexico, March 1968.

In a paper dealing with the identification of new and emerging occupations, Norman C. Harris presents data relative to technician demand in selected fields in 1969.[4] These data show a current need for a substantial number of electromechanical technicians.

A field study of electromechanical technician occupations conducted by a research team at Oklahoma State University in 1966 dealt with the demand for electromechanical technicians.[5] A summary of the projected needs for ninety-three organizations engaged in various types of activities is shown in Table I.

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Organizations by Principal Product or Activity	Number of Responses	Number of Technicians* with Specialized Training				Proj Elec
		Total	Electrical	Mechanical	Other	1967
Manufacturing	60	34,303	30,351	2,552	1,400	2,944
Research and development	14	973	405	280	288	87
Design	3	111	76	33	2	4
Calibration and test	12	1,501	1,176	214	111	62
Other	4	81	15	41	25	1
Total	93	36,969	32,023	3,120	1,826	3,098

* Includes only those who work with *both* electrical (electronic) and mechanical devices and/or systems.

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nicians by 1970, a number 50 per cent greater than their combined projected need for electronic and mechanical technicians. By comparing the number of electronics technology training programs to the number of electromechanical technology training programs and recognizing that the output of the electronics programs is still short of the demand, one gets some idea of the magnitude of the task that remains to be done in producing electromechanical technicians.

[4] Harris, Norman C. "Identifying New and Emerging Occupations." A paper for Occupational Education Program Development Institutes, jointly sponsored by the Center for Vocational and Technical Education. Ohio State University, Columbus, Ohio, and the American Association of Junior Colleges, Washington, D. C., 1969.

[5] Roney, M. W. *Electro-Mechanical Technology: A Field Study of Electro-Mechanical Technician Occupations* (ERIC ED 012 372), 1966.

TABLE I

EMPLOYMENT AND PROJECTED NEEDS FOR ECHNICIANS IN 93 INDUSTRIAL ORGANIZATIONS

r of ses	Number of Technicians* with Specialized Training				Projected Needs for Technicians To Be Hired					
					Electronics		Mechanical		Electromechanical	
	Total	Electrical	Mechanical	Other	1967	1970	1967	1970	1967	1970
	34,303	30,351	2,552	1,400	2,944	10,301	840	2,530	4,666	18,478
	973	405	280	288	87	131	64	113	77	177
	111	76	33	2	4	4	5	5	13	19
	1,501	1,176	214	111	62	102	26	56	1,060	1,652
	81	15	41	25	1	3	7	15	4	3
	36,969	32,023	3,120	1,826	3,098	10,541	942	2,719	5,820	20,329

l (electronic) and mechanical devices and/or systems.

CHAPTER III

EDUCATION FOR TECHNICIAN OCCUPATIONS

The need to prepare large numbers of persons for employment in technical occupations has been well documented. What has not been adequately treated, however, is the characteristics of individuals who need and desire education and training to prepare for these occupations. In view of the increasing enrollments in technical programs, it is somewhat surprising that so little has been written about technical students. The lack of information about and concern for the students best served by technical education is a major factor in our failure to produce adequate numbers of trained technicians.

The Potential Population To Be Served. Post-high school technician education programs should serve those individuals whose interests and abilities are such that they are not better served by traditional academic educational programs. Within this broad category are individuals who have not obtained education and training either in high school or college commensurate with their ability. The group includes many persons who, for any one of several reasons, will either not enroll in baccalaureate programs, or if they do enroll will withdraw before completing the program.

One method of estimating the number of persons in this group would be to determine the number of high school graduates with average or better intelligence who do not complete college. This method was used in a study entitled *Occupational Education Beyond the High School in Oklahoma.*[6] While the estimates apply only to Oklahoma, the figures may be very similar to those in many other states. The curves in Figure 1 were developed by combining national data relative to the Army General Classifications Tests, and Oklahon
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Tests, and Oklahoma data relative to school attendance and survival rates.[7] For each curve of population reaching a given level there is a larger population possessing the same ability who are not educated to that level. High school graduates with scores between 108 (high school graduate mean) and 120 (college graduate mean) are considered by some to be prime candidates for technical education. From Figure 1 we can see that approximately 5,500 students with scores in this range do not complete a baccalaureate program. This prime group represents approximately 15 per cent of the high school graduating class. Obviously there are many individuals above and many below this ability grouping who could be well served by technical education. Excluding those individuals who enter and remain in college and those who will not enter the labor force it is conservatively estimated that 30 per cent of the state's high school graduating class could profit from technical education services. In addition, many individuals who do not graduate from high school have the ability to succeed in technician occupations and could profit from technical education programs.

Assuming that these data can be generalized nationally, it appears that large numbers of capable students are not being served by the educational system. The problem for educators is to design and implement programs to serve these students.

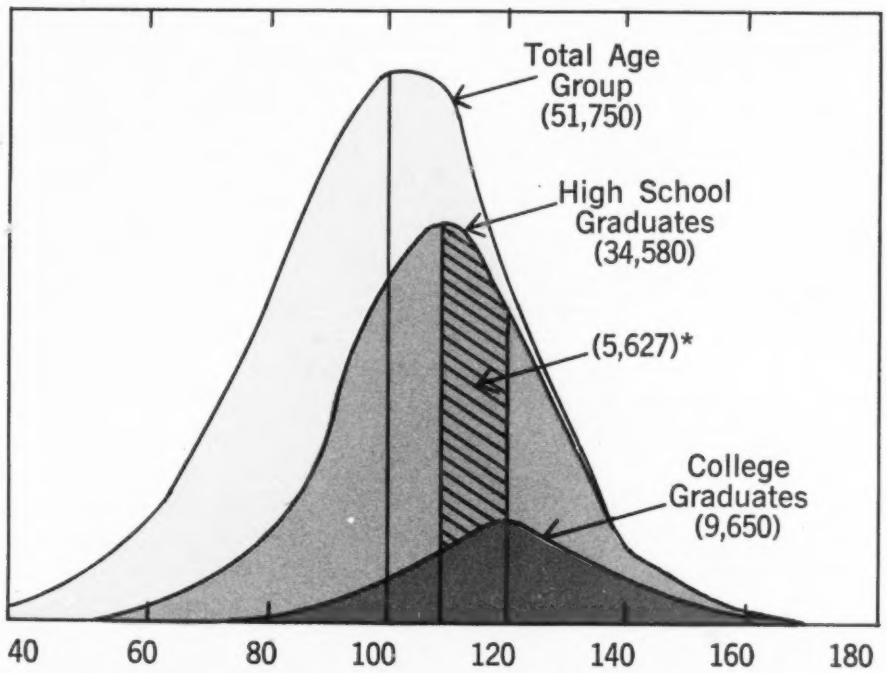
Student Characteristics. A fundamental step in providing technical education to a larger population than is currently being served is to recognize that students as individuals and groups have different characteristics. Acceptance of this fact leads directly to the need to identify important student characteristics which have implications for curriculum design, and the need to make a commitment to design programs that serve students with these characteristics.

[6] Roney, M. W., and Braden, Paul V. *Occupational Education Beyond the High School in Oklahoma.* Oklahoma State University, Stillwater, 1968. pp. 165-169.
[7] *Ibid.*, p. 167.

Figure 1

NUMBER OF PERSONS

Assumed intelligence distribution of Oklahoma population in the high school age group based on standard AGC curves.



* The shaded area represents those high school graduates with intellectual ability between roughly 108 (average of high school graduates) and 120 (average of college graduates) who might be considered as prime candidates for specialized occupational training.

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Figure 1

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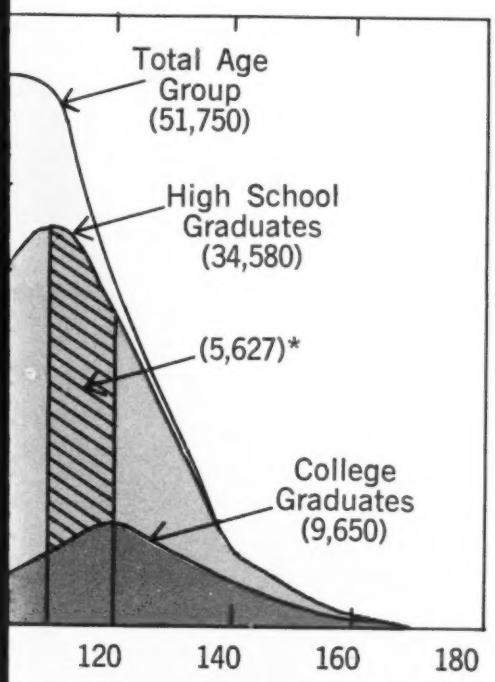
tribution of Oklahoma popula-e group based on standard AGC



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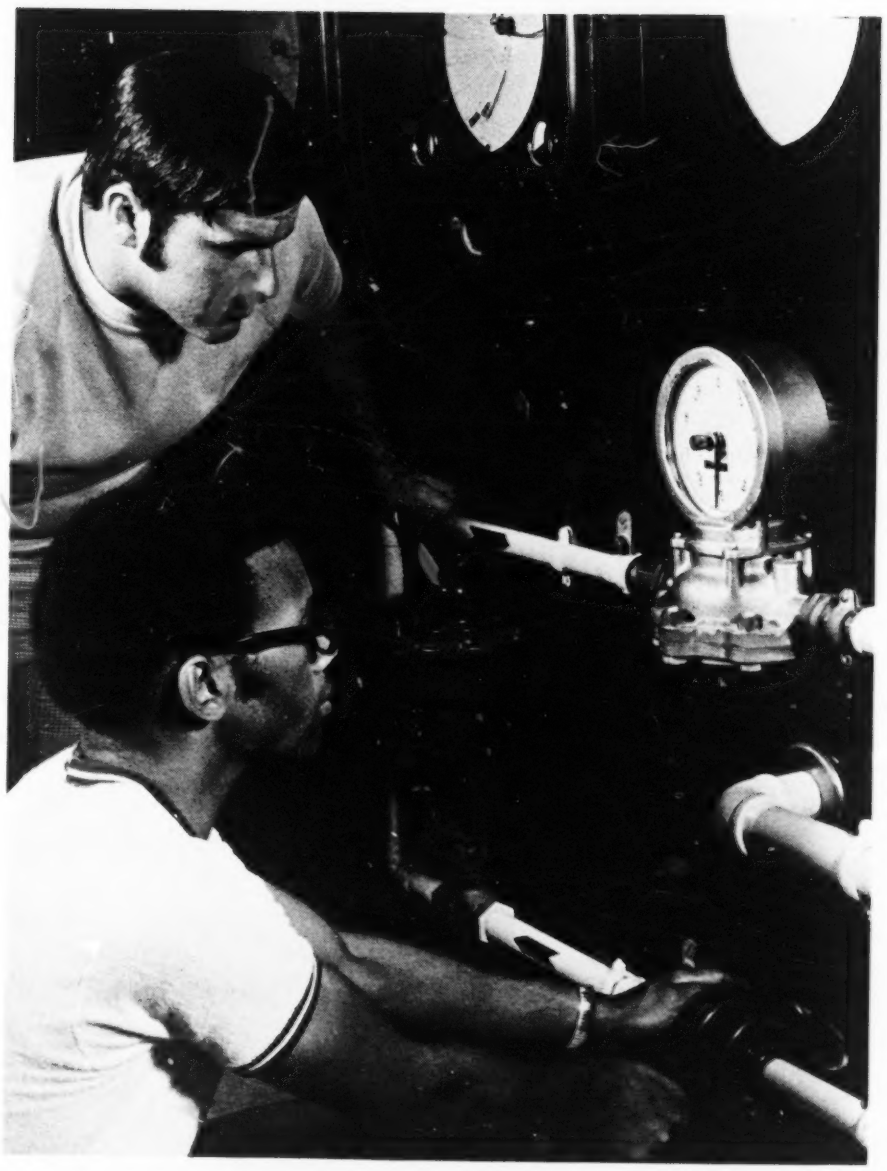

Data relative to technical students, their interests, aptitudes, and abilities is quite limited, and in the absence of facts speculation abounds. Maurice Graney observes: "There is an abundance of speculation. While this speculation frequently comes from well-qualified authorities, it deals less with what technical students are than with what they ought to be."[8] In spite of the limited data and excess speculation, and recognizing that any attempt to define or describe technical students is difficult and complex, efforts in this area must continue. The alternative — treating all students alike — has proven to be unsatisfactory.

In the absence of factual data generated by well-designed research studies it is necessary to turn to other sources for information. Through the years teachers and administrators working with technical students have learned that these students have identifiable characteristics which have implications for curriculum design. Recognizing that there will be exceptions to any statement relative to student characteristics, it may be helpful to examine some of the generally accepted notions about technical students that have been formulated by experienced teachers and administrators.

In general, technical students are work oriented, and their primary motivation for attending school is to acquire job competencies which they can use to enter and succeed in the labor market. Closely associated with this orientation is a tendency toward being pragmatic. These students will work and study very hard to learn technical concepts and skills which can be shown to have a direct relationship to employment and job success. The students' interest in technology and their desire to prepare for employment seem to provide the motivation which causes many of them to work and study harder and to achieve more than they did in high school. Technical students often have difficulty in dealing with

[8] Graney, Maurice. The Technical Institute. The Center For Applied Research in Education, Inc., New York, 1964. pp. 88.

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abstract concepts and ideas, and are motivated more by practical applications than by theoretical abstractions. It is also difficult for them to make transfers from the general to the specific; they are much more apt to learn principles by seeing several different applications of one principle. For this reason, technical students often express a dislike for mathematics and science. In many cases they have been exposed to instruction which dealt only with concepts and principles and avoided the use of practical applications.

While technical students will work very hard to learn their "technology," they may work equally hard to avoid learning things which are meaningless to them. Their high level of interest in technology is usually offset by their lack of interest in English and social sciences. These students will willingly study in these important areas only if they can see some positive relationship between the concepts to be studied and their occupational goals. Although it is possible to get technical students to study general education subjects, it is highly unlikely that they will develop a deep social consciousness concerning what some students consider the great issues of the day. Social activities closely related to the students' curriculum are the only ones in which they are likely to participate. It seems to be accurate to say that technical students are things oriented, rather than people oriented.

In terms of academic ability, diversity seems to be a key word in describing technical students. There is some evidence which suggests that as a group technical students score somewhat lower on tests to measure academic ability than do junior college students in transfer programs. Certain technical programs, however, attract students with academic scores that are considerably higher than the scores of students enrolled in academic programs. Some studies indicate that verbal-based tests designed to measure academic ability may not provide a good indication of technical students' potential because these students tend to be below average

in verbal skills. If such findings are true, it is not surprising that correlations between test scores and success in a technical program are often quite low.

Individuals from all socioeconomic levels may be considered prospective students for technical education. The student with a high ability level who comes from a socially prominent background where both parents are college graduates, is definitely an exception in a technical program. The vast majority of the students enrolled in such programs are from the middle and lower classes. Finances are often a major influence in these students' choice of program and institution.

As previously pointed out these descriptions of technical students' characteristics are based on impressions formed by experienced technical teachers and administrators. Recent research has tended to verify some of these impressions. Studies of two-year college students have indicated that individuals enrolled in different types of curriculums can be differentiated. Other studies have tended to verify that there are many people whose primary educational motivations are oriented around the desire to develop occupational competency. The rapid growth of private technical school enrollments — including many persons who had previously been enrolled in college — also tends to support these descriptions.

Relationship of Technical Education to Other Educational Services. Failure of our society to recognize technical education as a legitimate function of the educational system has made it difficult to develop effective educational programs for those who are not served by traditional academic systems. As we enter the decade of the 70's much remains to be done to secure appropriate recognition of technical education within the educational community. The common misconception that all nonbaccalaureate education is less than college level and does not require college ability still exists.

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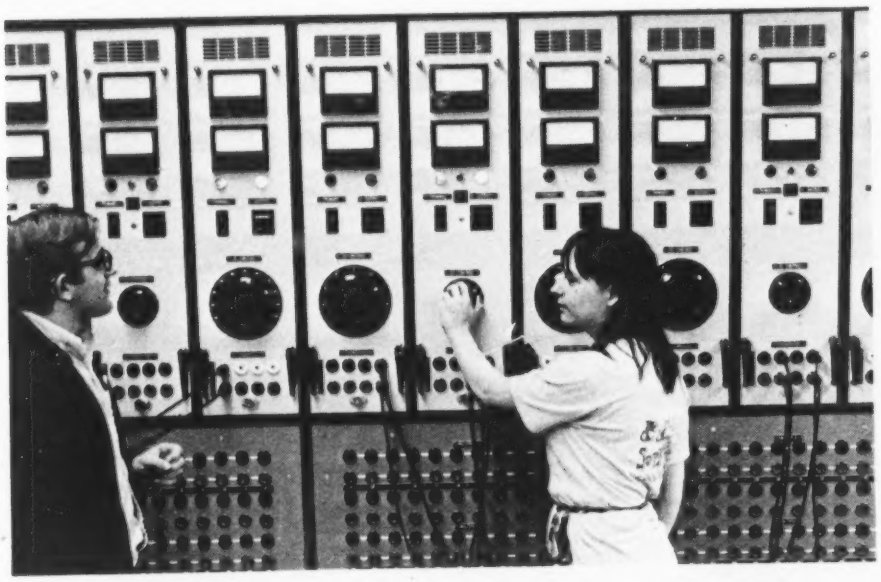
The timeworn argument that every course taken in college should count toward the requirements of a conventional baccalaureate degree is still accepted by most parents, students, and educators. And the universal extension of this argument — that the first two years of college should be generalized to provide a base for specialized education in upper division and graduate courses — persists. Consequently, the educational system often lacks programs which could more fully serve large numbers of young people.

Today the primary requisites for acquiring a traditional "college education" include time, money, patience, and verbal skills. Those young people who lack these find themselves blocked by the system. If higher education is to serve these individuals, it will be necessary to design an open-ended system of occupational education with entry and exit points at several levels. Such a system would allow an individual to obtain an occupational education at the level of his ability without being penalized.

In the absence of such a structure and general acceptance by the supportive staff, many able young students are counseled out of technical education programs. Many times students are advised to take only those courses leading directly to a conventional baccalaureate degree (although with the increasing number of baccalaureate degrees in technology, the rationalization of this advice is losing much of its validity). Such advice leads to generalizing the first two years of college and leaving specialized education for the upper division and graduate level. Technical curriculum planners are often reluctant to develop programs with the necessary specialized technical course content because these courses do not "transfer" to baccalaureate degree programs. Compromises have been effected by combining technical courses with traditional general education courses. The results have been less than satisfactory since the compromise weakens the technical program to

such an extent that it has little appeal to the students it should serve.

In planning technical education programs, it is important to give careful attention to the students to be served. Only as this is done is it possible to design effective educational services. An institution which chooses to serve individuals and groups with different interests, aptitudes, and abilities will have to provide educational programs of several types. The aims and purposes of the various programs should be well identified and made known to prospective students. Since few students move laterally in a college from academic to technical programs it is important that information relative to the institution's technical program offerings be made available to students prior to their initial enrollment. At the same time, however, program planners should be conscious of the need to design programs which keep options open for the student as long as possible.



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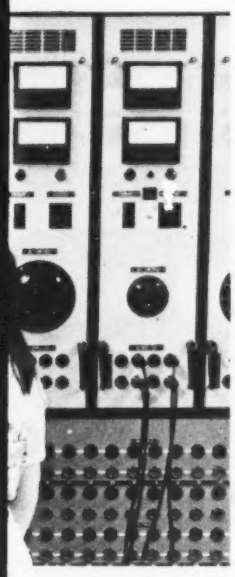

CHAPTER IV

TECHNICAL CURRICULUM DESIGN

The two-year occupational or technical curriculum is a unique educational package, designed for specific types of students, and tailored for select and well-identified occupational fields. In recent years, a substantial amount of published material has become available for use in technical curriculum planning. Publications from the U. S. Office of Education, the American Association of Junior Colleges, and state education agencies provide a great deal of useful information. In general, these publications agree more than they disagree on course content for any specific field of technology.

The real problems in curriculum design arise because of philosophical differences within institutions. Planning educational programs of any kind must always be done in the light of institutional philosophy and objectives. In general, the institutional commitment to technical education services will determine, in large part, how a technical curriculum can be structured in any given school. The institution must determine: Who should be served? How much of the total institutional effort can be expended in this area? What is to be the relationship between technical education and other institutional services? What limits are to be placed on the curriculum to make it conform to institutional patterns? These considerations affect the design of every curriculum and must be considered in every case, along with existing and projected limitations of faculty, facilities, and finances.

Unless there is a clear and well-understood commitment to occupational education either on the institutional or departmental level, as distinguished from other educational offerings, many of the most effective elements of specialized technical training often are not incorporated
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Assuming that an institution and its composite leadership has identified technical education as a unique and significant service, there must be a firm resolve that the institution can and will invest the money and effort required to offer a high quality program. Without this kind of commitment, it is not possible to incorporate some of the curriculum features that make technical education programs effective. A half-hearted commitment will usually result in compromises that weaken the program, with the ultimate result that it does not attract and hold those students who should be served.

The Two-year Technical Curriculum. Technical education in the two-year college is quite unlike the conventional forms of higher education represented by baccalaureate degree curriculums. Normally, from one-half to three-fourths of the baccalaureate degree curriculum is generalized in nature. Specialized courses are usually deferred to the final phases of the four-year study program. One commonly accepted justification for this curriculum design is the screening function of the generalized introductory courses in the first year of the program. Unfortunately for those students who are screened out, very little other than general education is obtained.

The two-year technical curriculum requires an entirely different structure. Technical courses should be included in the first term in order to motivate the student toward acceptance of the entire program. Technical courses must also be included in the first

term in order to obtain the necessary depth of technical specialization during the two-year period. This early introduction of specialized study forces a number of special considerations in the design of mathematics and physical science courses. Conventional courses in these tool subjects are not adequate.

Many other factors influence the design of a technical curriculum and make it necessary to look carefully at each course in the light of total program needs. Courses in "tool" subjects designed for other educational programs seldom contribute the necessary material at the proper time, to be most effective in the technical curriculum.

Some of the most persistent problems in technical program planning arise from conflicts of educational philosophy and objectives. It is essential at the outset of any technical education planning to reach an understanding of technical program objectives. Three commonly accepted goals have been proposed for the two-year technical curriculum. The study program should:

1. Prepare persons for employment in any of several entry occupations in a specialized field of technology. Persons should be productive with a minimum of on-the-job training.
2. Provide a broad background in the field of technology that will enable an individual to move horizontally as well as vertically in the occupational field.
3. Provide a base for further study that will enable the individual to continue to study in his field, either formally or informally.

It is possible, of course, to have general agreement on these three objectives within an institution, and yet to have serious philosophical differences about the means to their achievement. Indeed, a certain amount of compromise is required between ob-

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f compromise is required between objectives if all three are to be met. Both the content and structure of the curriculum are critical design parameters in technical education.

Technical Curriculum Content. A number of studies have been made of two-year technical curriculums to show the relative emphasis on subject matter divisions. In the engineering-related fields, the following proportions are acceptable norms:

Subject Matter Division	Credit (Semester Hours)
Specialized courses	30–36
Auxiliary technical courses	8–12
Mathematics and physical sciences	15–18
Other general education	6–12

Published curriculum guides describe some of these programs and courses in detail. There is general agreement among technical curriculum authorities that at least one-half of the coursework in a two-year program must be technical if the graduate is to qualify for employment in a technical occupation and make satisfactory progress. Significant differences appear, however, in the total number of credit hours, amount of general education, level of mathematics, and amount of laboratory instruction.

Curriculum Structure. One of the unique characteristics of good technical programs is the structure of the curriculum. A significant feature of technical education is the interrelationship of concurrent courses. The unique advantages which obtain from careful course organization and planning is a feature not too well understood.

The first term is the most critical part of a technical program. It is essential, for the reasons previously mentioned, to introduce the technical specialty early. Wherever possible, mathematical analysis should be used in the technical course. It is well known that mathematics can be a stumbling block for many students in technical programs. In view of this, every effort should be made to make it meaningful by use of applications. If the mathematics can be coordinated with the technical study, mathematical forms introduced in class can be applied immediately in technical courses. The effectiveness of this kind of coordination is reflected by greatly improved learning in the basic mathematic skills so essential in technical education.

Common Problems in Curriculum Planning. Technical education programs are relatively expensive to set up and operate when compared with the cost of transfer courses that are patterned after the first two years of baccalaureate programs in the senior college. As a means of reducing costs, some institutions have experimented with first-year core study programs of a general nature. This system allows larger class sizes and is economical. However, this approach can result in very high attrition rates, especially among students who are primarily interested in specialized technical studies.

One alternative system that has been effective in some schools is to develop first-year programs designed especially for technical studies. With this system it is possible to group students from two or more technical areas in common courses such as mathematics, physics, and English. The primary problems with a technical core program center around the capabilities and interests of the instructional staff. To be really effective, a core technical program must be staffed with people who have a special concern for this kind of instruction. Without this interest on the part of the instructional staff, no par
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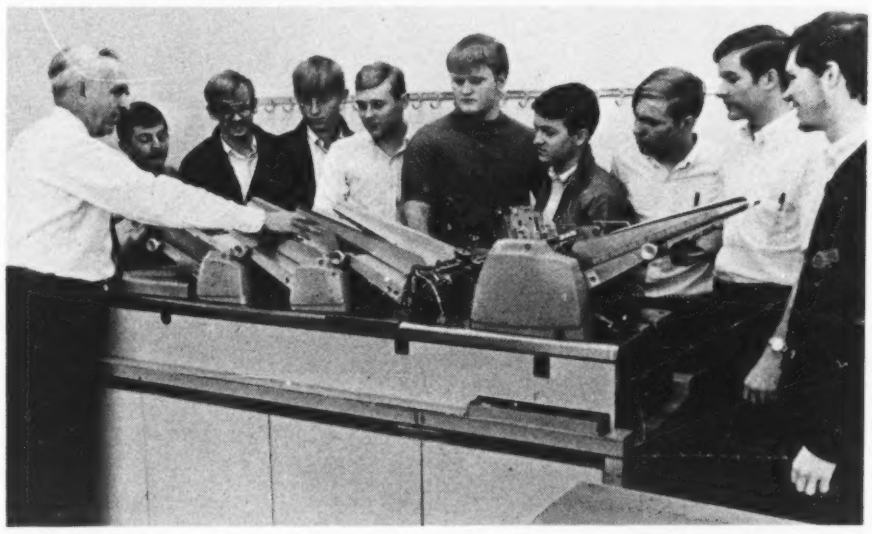
instructional staff, no particular advantage is gained over the generalized approach in which no such distinction is made and all students are given a common program.

We believe the most effective instructional plan is to coordinate concurrent courses in mathematics, physics, English, and technical studies in the first term. The critical element in this kind of instructional programming is the teaching staff. Tradition-minded teachers accustomed to teaching from a textbook without regard for the content and structure of other concurrent courses seldom can adapt to an integrated system of instruction. Of all problems in establishing this system, this is the most difficult one to resolve. The electromechanical technology program described in the following section utilizes a carefully integrated plan for the first year of the program. One of the essential requirements for this system is a team of teachers, each of whom is willing to work as a part of a master plan and not insist upon complete freedom to teach as he wishes, setting his own pace and his own standards.



CHAPTER V

THE ELECTROMECHANICAL TECHNOLOGY CURRICULUM

Electromechanical technology is a relatively new occupational field that has emerged as a result of technological evolution. The technical occupations in this field require new combinations of skill and knowledge that cut squarely across some of the well-established technician education programs offered by two-year colleges. As the name implies, electrical and mechanical phenomena comprise the central core of the technology. Technical curriculums in this field must, therefore, be designed around a core of electricity-electronics and mechanics. Traditionally these two elements of technology have been treated independently in technical education programs. Each of them has been developed to a relatively high degree of sophistication in specialized curriculums, nominally two years in length.

It is obvious that any attempt to combine two such well defined fields as electricity and mechanics will be viewed with a great deal of skepticism and should be preceded by a thorough analysis of job requirements if the resulting composite curriculum is to be acceptable to technical educators.

The report of a field study of electromechanical technician occupations conducted at Oklahoma State University[9] in 1966 included the following recommendations for curriculum design in this field:

1. The training should emphasize electrical and mechanical principles rather than specific applications of these principles.
2. Communication skills are extremely important in the work of electromechanical tech attention.
3. A study of the interrelati elements of systems and specialized technical cou Whenever possible, ele should be studied togeth
4. Principles of electrical an in the work of electrome cal instruction should d these tools are fundamen ing need for the technicia other physical sciences energy devices, hydrauli variety of measuring inst

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[9] Roney, M. W. *Electromechanical Technology: A Field Study of Electro-Mechanical Technician Occupations.* (ERIC ED. 012 372). 1966.

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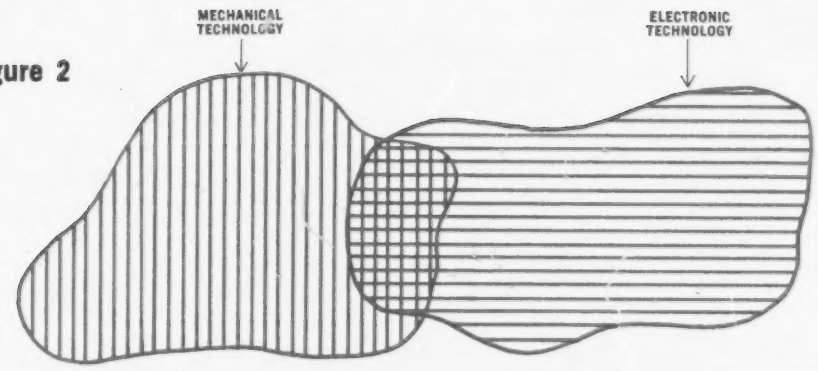
3. A study of the interrelationship of electrical and mechanical elements of systems and devices should be central in the specialized technical courses of the instructional program. Whenever possible, electrical and mechanical principles should be studied together, and not as separate entities.

4. Principles of electrical and mechanical physics are basic tools in the work of electromechanical technicians and all technical instruction should develop analytical skills for which these tools are fundamental. In addition, there is an increasing need for the technicians to work with new applications of other physical sciences such as: optical equipment, thermal energy devices, hydraulic and pneumatic controls, and a wide variety of measuring instruments.

This report also contained a proposed curriculum outline and set forth certain recommendations for the organization of courses. Foremost among the conclusions and recommendations resulting from this study was an emphasis on the need for new courses that would tie together those basic elements common to electricity, mechanics, and certain other physical sciences. Further development and testing of this instructional plan is now proceeding under the direction of Donald S. Phillips at Oklahoma State.

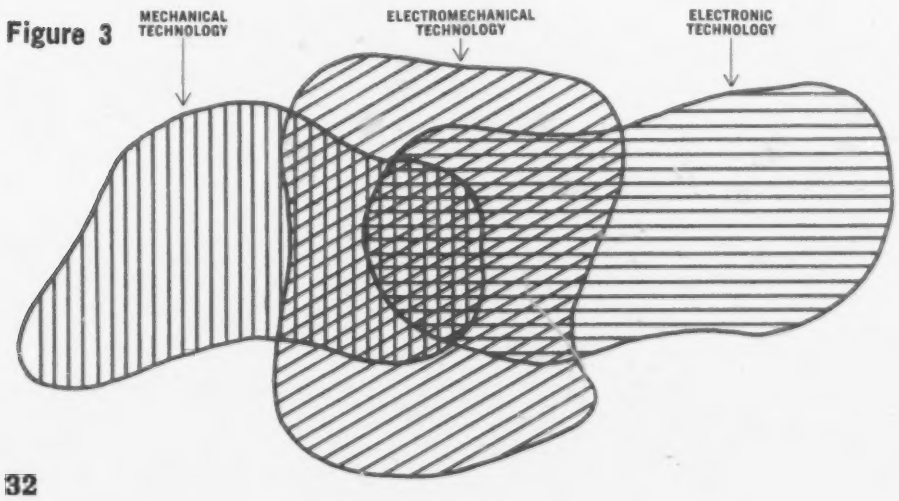
Content Selection. Before attempting to develop the rationale for a two-year curriculum in electromechanical technology, it is a good idea to examine the relationship between electrical technology and mechanical technology as they are commonly found today in two-year programs. In Figure 2, these separate technologies are represented by the shaded areas.

Figure 2



The section of overlap in Figure 2 represents certain elements of the instructional program that embody both electrical and mechanical principles. Examples of this overlap appear in such things as rotating machines, instrument movements, relays, solenoids, and the like. Electromechanical technology includes these shared applications but is not limited to them. As Figure 3 illustrates, electromechanical technology includes many elements of both electrical and mechanical technologies as well as some elements that are found in neither. Examples of the latter are optics, acoustics, and high vacuum systems.

Figure 3



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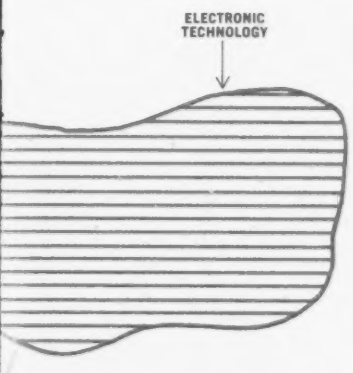

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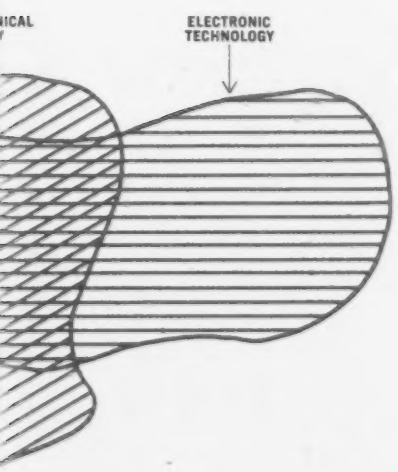

If the structure of any single specialty technology curriculum such as electronics is examined, it becomes obvious that almost all the course work, except certain general education courses, is designed to support the specialty. The degree to which this is true varies appreciably from school to school.

In the past, graduates of electronics programs have been employed and utilized as electromechanical technicians (the field study previously cited reported this fact, with comments from employers on their dissatisfaction with this source of technicians). The principal disadvantages of this route to the electromechanical occupations are:

1. The electronics training is frequently broader than necessary. It often includes topics such as electronic communications systems which are of little value to the electromechanical technician.
2. The on-the-job experience is frequently quite restricted in scope, making professional advancement slow and difficult.
3. Little or no emphasis is placed on the region of overlap between electronics and mechanics. These topics then become unnecessarily difficult to master.
4. Because of the factors cited above, the time required to produce a fully qualified electromechanical technician is prohibitively long. It typically extends to well over four years.

This process was satisfactory, if not ideal, in the past, when only relatively small numbers of electromechanical technicians were needed. However, as the need for these technicians increases, the need for a more efficient system to prepare them becomes more and more pressing.

The Unified Concepts System. One promising approach to electromechanical curriculum design is based on "unified concepts." Simply stated, this approach requires concentration on one concept at a time. For example, if the principle being taught is resistance, this principle is programmed concurrently in courses in mathematics, physics, electronics, mechanics, and technical writing.

Because there is a common definition for electrical resistance, we may start with:

$$R_{(elect)} = \text{volts} / \text{ampere}$$

Then, by multiplying numerator and denominator by time, we obtain:

$$R_{(elect)} = \frac{(\text{volts})\ (\text{seconds})}{(\text{ampere})\ (\text{seconds})} = \frac{\text{volt} - \text{seconds}}{\text{coulombs}}$$

We might then generalize to obtain a universal definition of resistance. Energy cannot be transferred without some difference in level existing or being created. In place of the electrical quantity expressed in coulombs, we might merely convert the denominator into "Quantity," with the result that:

$$\text{Resistance} = \frac{(\text{Energy level}_1 - \text{Energy level}_2)\ (\text{time})}{\text{Quantity}}$$

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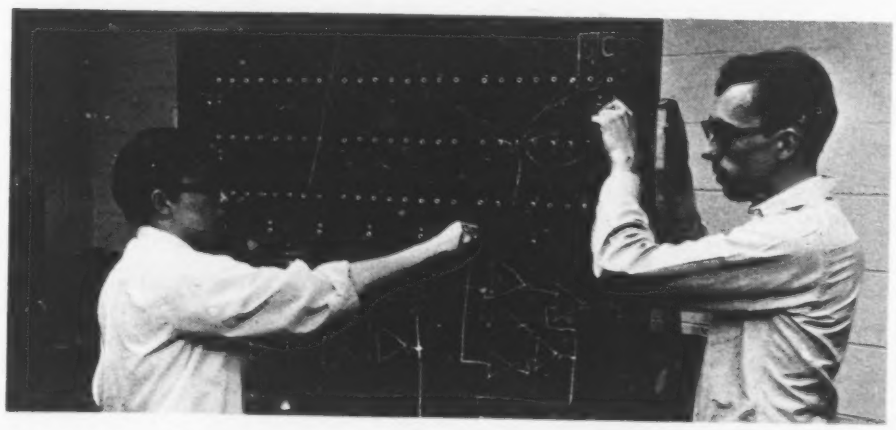
This single definition can then be used for thermal, hydraulic, electrical, and pneumatic phenomena. Regardless of the type of energy involved (excluding chemical and potential energies), there cannot be a transfer of energy from one location to another without a difference in levels existing. It will always take time to effect this transfer; and some definite quantity of charge, heat, or amount must be involved in the transfer. In trying to get the student to work in several fields, he should be greatly aided if he can see that the various types of systems are all following the same basic laws.

In situations dealing with heat, thermal resistance is measured by the temperature differential and the time required to transfer some amount of heat. Perhaps it is more evident in the thermal case than in the electrical example that there is always a difference in the temperatures which governs the rate at which heat is transferred from one point to another. Suppose that when one temperature is 400 degrees and the other is 200 degrees, that 200 BTU's are transferred in an interval of 10 minutes. For these conditions the general definition of resistance stated in terms of temperature becomes:



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$$R_{thermal} = \frac{(T_1 - T_2)\ (\text{Time})}{\text{Quantity of Heat Transferred}}$$

Substituting the data from above and completing the calculations:

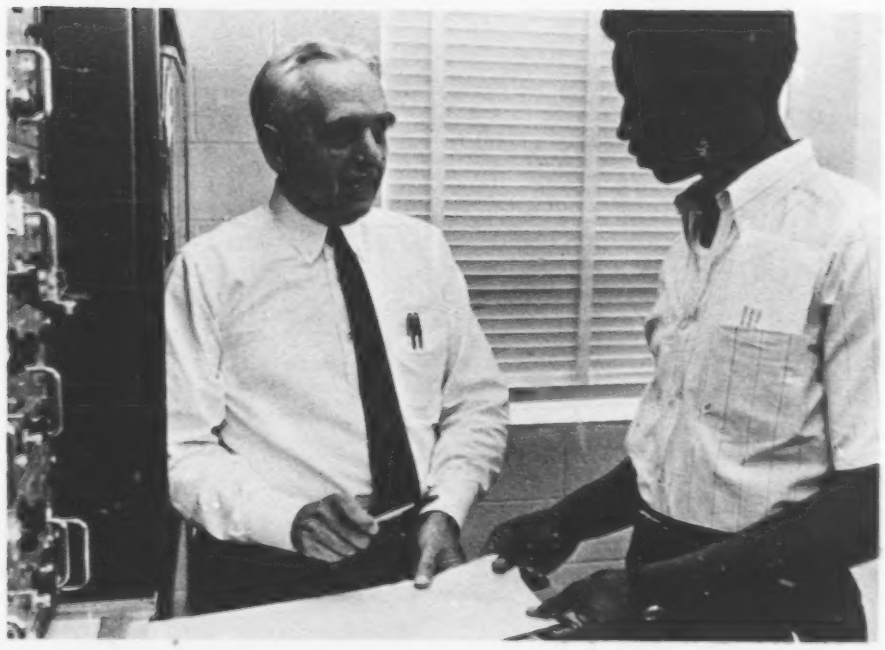
$$R_{thermal} = \frac{(400 \text{ degrees} - 200 \text{ degrees})\ (10 \text{ minutes})}{200 \text{ BTU's}}$$

which simplified becomes:

$$R_{thermal} = \frac{(10 \text{ degrees})\ (\text{minutes})}{1 \text{ BTU}}$$

or with seconds as the measure of time, this becomes:

$$R_{thermal} = \frac{(600 \text{ degrees})\ (\text{seconds})}{1 \text{ BTU}}$$



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measure of time, this becomes:

$$\frac{\text{degrees) (seconds)}}{1 \text{ BTU}}$$

A fluid cannot be made to flow through a pipe or conduit unless there is some differential pressure available to overcome the resistance or retarding effect of the conducting tube, pipe, or vessel. Thus in cases involving fluids, with either liquids or gases, we know that a differential pressure is required to establish some given rate of flow. For example, if the inlet pressure to a pipe is 50 psi, and the pressure 40 feet downstream is 45 psi when a fluid is flowing at the rate of 20 pounds per minute, then the resistance of that section of pipe may be easily ascertained from our general definition of resistance.

$$R = \frac{\text{Differential Pressure}}{\text{Rate}} = \frac{\text{(Differential Pressure)}}{\text{Quantity/time}}$$

By simple algebraic manipulation this becomes

$$= \frac{\text{(Differential Pressure) (Time)}}{\text{Quantity}}$$

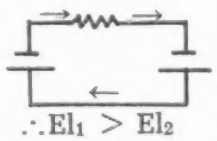
$$= \frac{\text{(50 psi} - \text{45 psi) (1 minute)}}{\text{20 pounds}}$$

$$= \frac{\text{5 psi minutes}}{\text{20 pounds}}$$

$$= \frac{\text{0.25 psi seconds}}{\text{1 pound}}$$

When dealing with different types of flow situations, whether we are concerned with electrical, thermal, hydraulic, or gaseous conditions, the same relationships hold. Consequently, they may all be expressed the same way, and we should anticipate similar types of performance.

If we employ the basic concept that it is a "difference in energy level," whether it be electrical pressure in volts, thermal pressure in terms of degrees, or pressures in pounds per square inch, then a single type of elementary circuit can be used for all of these fundamental relationships, as shown below.

$El_1 \cong T_1 \cong Psi_1$  $El_2 \cong T_2 \cong Psi_2$

$\therefore El_1 > El_2$

El_1 and El_2 may be expressed in volts, degrees, or psi. In a special case, El_2 might be zero.

But such a simple circuit goes far beyond "resistance" or opposition to flow relationships. Mastering its concepts paves the way to understanding direct current motor controls which are based upon the difference between the impressed and the self-generated internal counter-electromotive-force. Electrical transformer action also depends upon this "difference" of potentials. In the case of the saturable reactor, one of the potentials is caused to go to zero at some desired moment. Thus one simple relationship can be used over and over again to explain hydraulic, electrical, and thermal relationships and phenomena.

Eleven basic concepts have been identified and these concepts, programmed in the following sequence, provide the core of the instructional program in the first year:

1. Energy and work
2. Opposition to flow
3. Energy storage
4. Time constants
5. Dynamic energy
6. Impedance
7. Impedance matching
8. Resonance phenomena
9. Wave motion
10. Amplification
11. Feedback

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The primary advantage obtained from this system is the reinforcement of learning that occurs when a single concept is treated in depth by at least three useful and practical applications. Similarly, mathematics can be made much more interesting when it is possible to illustrate and apply the same formula or construct in electrical, mechanical, hydraulic, pneumatic, and thermal applications.

Most significant of all, the skills of communications so vital to the success of technicians in these new occupations can be taught more effectively. Because of the concentration on one concept at a time, the student has a solid base for his thinking, speaking, and writing. The necessity for clear, accurate, and concise description is immediately apparent to him. For most young high school graduates, this is an entirely new experience — a new world, vastly different from the traditional study of English grammar.

It should be recognized that the electromechanical curriculum represents a body of knowledge that for the most part has been previously treated in two separate instructional programs, one mechanical and the other electrical. The underlying objectives which justify treating this body of knowledge through the use of unified concepts are:

1. To permit a concentration on technical principles rather than on isolated applications of these principles in disparate technical fields.
2. To increase the efficiency of learning by direct feedback and reinforcement, and by eliminating some of the confusion that arises when separate, unrelated courses compete for the student's attention.
3. To develop a composite and cohesive electromechanical core of studies by avoiding an over-concentration on either mechanical or electrical subject matter.

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Although the emphasis in the first-year core program is electrical and mechanical, this core of studies is not limited to electromechanical technology per se. There is good reason to believe that this core, with only slight modifications, would be fully adequate for the first year of a number of two-year technical curriculums.

Second-year Options. Students who complete the one-year core program will have become acquainted with a number of technical specialties in addition to the basic fields of electricity, electronics, and mechanics. Some may become interested in instrumentation; others may find drafting or air-conditioning more to their liking. Schools with diverse offerings in industrial technologies such as fluid power or computer service could use this core as a first-year program. The broad physical science base of the electromechanical core should provide excellent preparation for any of these specialties.

Many two-year colleges have certain requirements for general education courses in history, government, political science, or humanities. These courses can be programmed in the second year of the electromechanical curriculum without difficulty.

Schools on a quarter system should have no problems in programming the two-semester courses shown in the suggested curriculum. It is essentially a linear program and could, indeed, be programmed in a trimester sequence, either by increasing the content or adding new courses.

An Example of the Unified Concepts Core. An interesting example of the unified concepts system has been developed by Professors Donald S. Phillips and Richard W. Tinnell at Oklahoma State University. The Oscar Rose Junior College at Midwest City, Oklahoma, will install this system beginning with the fall term 1970-71. The junio
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m beginning with the fall term 1970-71. The junior college plans to develop nine technologies using the unified concepts as a common first-year program.

The rationale developed by Phillips and Tinnell is incorporated in what they term a "nucleate" core program shown in Figure 4. Five important points underline the design of this plan:

1. The basic engineering technology courses must provide a realistic background for all of the technologies to be developed. For example, courses such as electricity, mechanics, fluid principles, basic mechanisms, and electronics are important to all of the technologies shown in Figure 1 and should, therefore, be included in the basic block.

2. General education courses such as English, history, mathematics, physical education, social studies, physics, and government should be developed around the core concept but need not be confined to the basic block.

3. Individual advanced technical courses should be planned so that they can be used in several technical programs. For instance, a fluid circuits course can be developed for use in fluids, electromechanical, and instrumentation technology. Similarly, a production drawings course can be used effectively in industrial graphics, production management, quality assurance, and perhaps other technologies. This concept of multicurriculum utilization can be effectively applied to the majority of advanced technical courses planned.

4. Each specialized technology must have some courses which are unique to that technology. These courses give the technology its own identity and flavor. For example, a course in communications systems would probably be unique to electronics. Similarly, courses in graphic arts and time study

would probably be unique to industrial graphics and production management, respectively. There should be enough of these identity courses in each technical program to place it distinctly in that specialty.

5. The distribution of emphasis between the areas of general education, mathematics, science, related technology, and specialty technology must be such as to allow each technical program to qualif its area.

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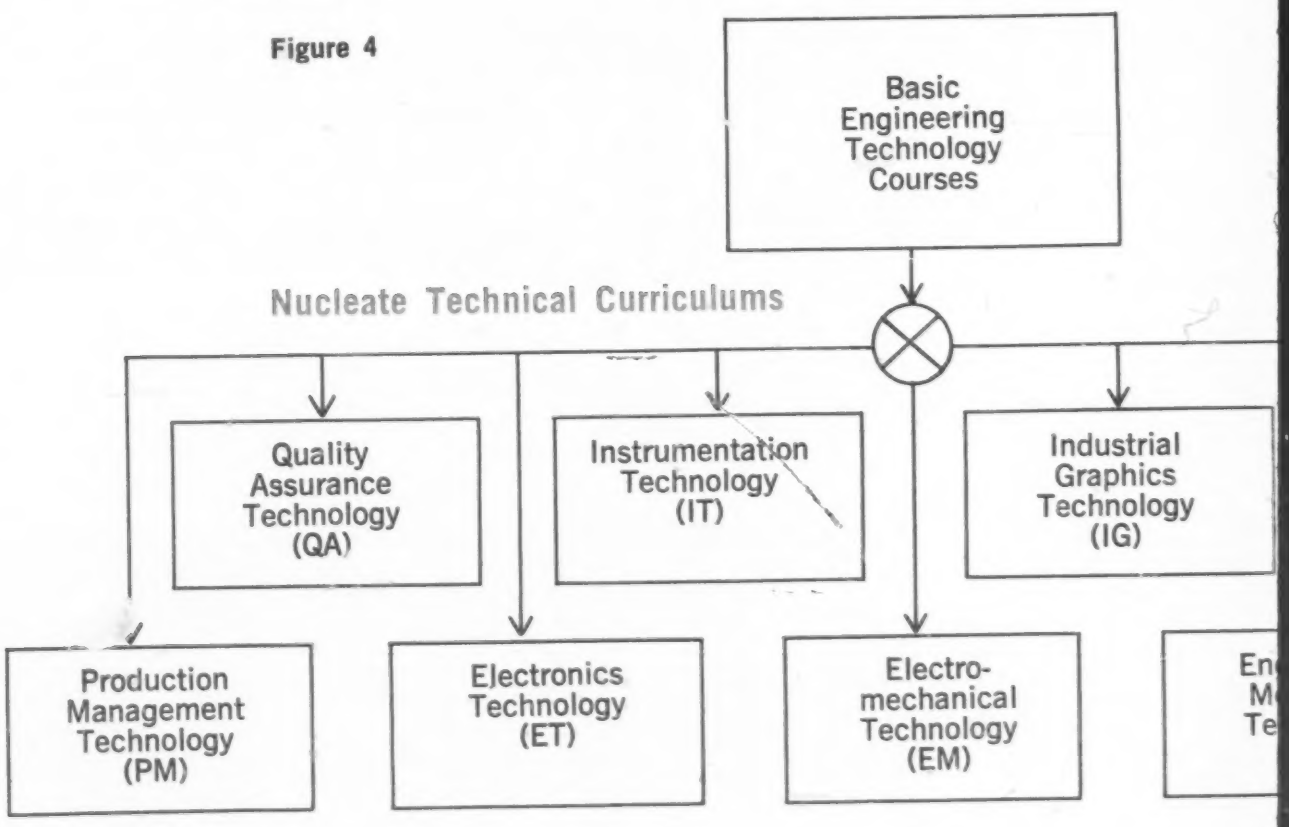
Figure 4



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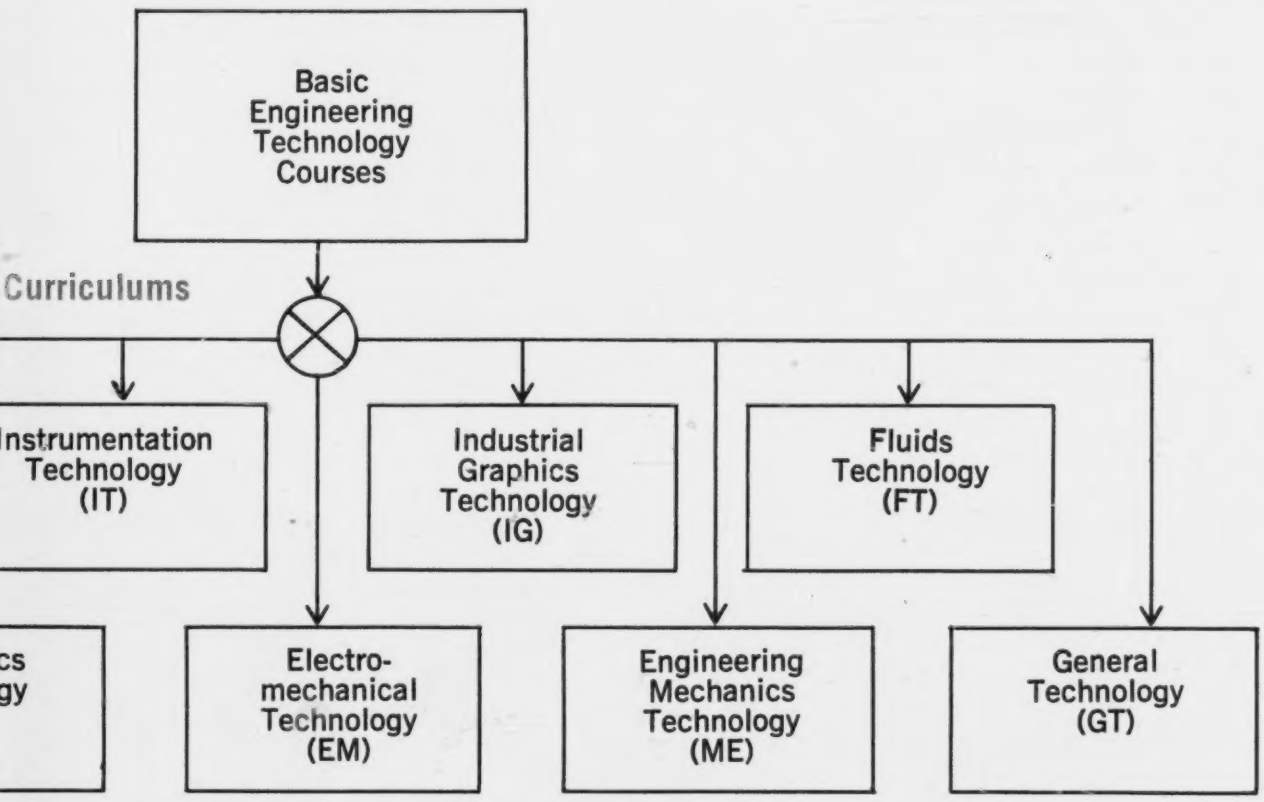
When these five conditions are satisfied, the nucleate curriculum can offer many advantages that are not found in the parallel curriculum structure. Let's consider just a few of these advantages. Many others will no doubt occur to the thoughtful reader.



The basic engineering technology courses, being broader in scope than most single specialty programs, allow the student to sample several specialties before choosing one on which to concentrate. Consequently, this nucleate curriculum offers opportunities for counseling not found in parallel technology programs.

The nucleate curriculum allows the new institution to start with one or two technologies, adding others as the demand for them develops. When several technologies are offered, the institution can drop or add a technology as circumstances warrant without major adjustments in staff or facilities. Since only a few identity courses are involved, a technology can be offered with lower enrollment levels than is the case with parallel technologies.

Faculty members in a nucleate curriculum work with students from several specialties. Consequently, there is less of a tendency to form isolated departmental interest groups. Students in such a program, while being able to identify with a specialty area, are exposed to a wider variety of faculty and student interests.

When several technologies are offered, it becomes possible to offer a general technology. In this case a student can work out an individualized course of study by electing specialty courses from various technologies. This is a flexibility rarely encountered in a parallel technology program.

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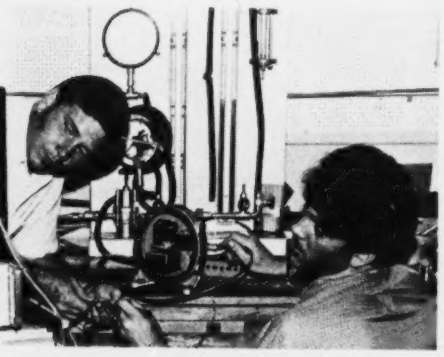

The nucleate curriculum does, of course, have its disadvantages too. Perhaps the two most important ones are:

1. Initial setup is more expensive than one single specialty technology. In fact, initial costs approximate those of two parallel technologies. However, a nucleate curriculum including the nine specific technologies shown in Figure 4 costs only about as much as four parallel technologies.

2. Faculty qualifications for a nucleate curriculum are somewhat more demanding than for a single specialty technology. This disadvantage has not, however, proven to be too troublesome.

One final point worth mentioning is that while some specific technologies have been dealt with herein, it should not be inferred that they are the only subject areas that fit the nucleate curriculum pattern. Indeed, these particular technologies were chosen only as convenient illustrations. Other technical areas could have been used with equal validity.

Following are details of how one institution is implementing a nucleate curriculum in the nine technologies shown in Figure 4.

Foundation Courses For
BASIC ENGINEERING TECHNOLOGY

FIRST SEMESTER

	T	L	C
Unified Physics I	3	2	4
Electric Circuit Analysis	2	4	4
Introduction to Mechanics	2	4	4
Algebra and Trigonometry	3	0	3
Technical Report Writing	1	0	1
Orientation and Library Science	1	0	1
TOTALS	12	10	17

SECOND SEMESTER

Unified Physics II	3	2	4
Introduction to Electronics	2	4	4
Mechanisms	2	4	4
Electromechanical Components	1	3	2
Calculus and Analytic Geometry	3	0	3
TOTALS	11	13	17

THIRD SEMESTER

Advanced Technical Courses	*	*	10
American History	3	0	3
English	3	0	3
Physical Education I	0	3	1
TOTALS			17

FOURTH SEMESTER

Advanced Technical Courses	*	*	11
American Government	3	0	3
Technical Communication Skills	2	0	2
Physical Education II	0	3	1
TOTALS			17

* Number of hours varies.

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*	11
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	17

Advanced Technical Courses for an Associate Degree in
ELECTROMECHANICAL TECHNOLOGY

THIRD SEMESTER

	T	L	C
Digital Electronics	2	4	4
Electromechanical Controls	1	3	2
Mechanics of Materials	3	3	4
TOTALS	6	10	10

THIRD SEMESTER

Servomechanisms	2	4	4
Process Control	3	3	4
Manufacturing Materials and Processes	2	3	3
TOTALS	7	10	11

Advanced Technical Courses for an Associate Degree in
ELECTRONICS TECHNOLOGY

THIRD SEMESTER

Digital Electronics	2	4	4
Electronic Metrology	2	4	4
Electromechanical Controls	1	3	2
TOTALS	5	11	10

FOURTH SEMESTER

Electronic Communications	2	4	4
Servomechanisms	2	4	4
Pulse and Wave Shaping	2	3	3
TOTALS	6	11	11

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Advanced Technical Courses for an Associate Degree in ENGINEERING MECHANICS TECHNOLOGY

Advan

THIRD SEMESTER

	T	L	C	
Production Drawings	3	0	3	Production
Mechanics of Materials	1	6	3	Fluid Circu
Fluid Circuits	2	4	4	Graphic Ar
TOTALS	6	10	10	

FOURTH SEMESTER

Physical Metrology	2	3	3	Production
Machine Design	3	3	4	Manufactur
Manufacturing Materials and Processes	3	3	4	Technical
TOTALS	8	9	11	

Advanced Technical Courses for an Associate Degree in FLUIDS TECHNOLOGY

Advan

THIRD SEMESTER

Mechanics of Materials	3	0	3	Principles
Fluid Circuits	1	6	3	Electronic
Pneumatics	2	4	4	Fluid Circu
TOTALS	6	10	10	

FOURTH SEMESTER

Fluidics	2	3	3	Servomech
Manufacturing Materials and Processes	3	3	4	Instrument
Process Control	3	3	4	Process Co
TOTALS	8	9	11	

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an Associate Degree in
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STER

	T	L	C
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	2	4	4
LS	6	10	10

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ses	3	3	4
LS	8	9	11

an Associate Degree in
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	2	4	4
LS	6	10	10

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	3	3	4
LS	8	9	11

Advanced Technical Courses for an Associate Degree in
INDUSTRIAL GRAPHICS TECHNOLOGY

THIRD SEMESTER

	T	L	C
Production Drawings	1	6	3
Fluid Circuits	2	3	3
Graphic Arts	2	4	4
TOTALS	5	13	10

FOURTH SEMESTER

	T	L	C
Production Illustration	2	3	3
Manufacturing Materials and Processes	3	3	4
Technical Publications	3	3	4
TOTALS	8	9	11

Advanced Technical Courses for an Associate Degree in
INSTRUMENTATION TECHNOLOGY

THIRD SEMESTER

	T	L	C
Principles of Instrumentation	2	3	3
Electronic Metrology	2	4	4
Fluid Circuits	2	3	3
TOTALS	6	10	10

FOURTH SEMESTER

	T	L	C
Servomechanisms	2	4	4
Instrumentation Systems	2	3	3
Process Control	3	3	4
TOTALS	7	10	11

Advanced Technical Courses for an Associate Degree in
PRODUCTION MANAGEMENT TECHNOLOGY

THIRD SEMESTER

	T	L	C
Production Drawing	1	6	3
Time Study	3	3	4
Probability and Statistics	3	0	3
TOTALS	7	9	10

FOURTH SEMESTER

Manufacturing Materials and Processes	2	3	3
Production Scheduling and Planning	3	3	4
Economics and Production Design	3	3	4
TOTALS	8	9	11

THIRD SEMESTER

Probability and Statistics	3	0	3
Production Drawings	1	6	3
Electronic Metrology	2	4	4
TOTALS	6	10	10

FOURTH SEMESTER

Quality Control Methods	2	3	3
Physical Metrology	3	3	4
Manufacturing Standards	3	3	4
TOTALS	8	9	11

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3	4
9	11

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SPECIALTY CONTENT ANALYSIS

Upper = Semester Credit Hours
Lower = % of Total Credit Hours

	ELECTROMECHANICAL TECHNOLOGY	ELECTRONICS TECHNOLOGY	ENGINEERING MECHANICS TECHNOLOGY	FLUIDS TECHNOLOGY
MATHEMATICS	6 / 9%	6 / 9%	6 / 9%	6 / 9%
SCIENCE	8 / 12%	8 / 12%	8 / 12%	8 / 12%
GENERAL EDUCATION	15 / 22%	15 / 22%	15 / 22%	15 / 22%
TECHNICAL COURSES	28 / 41%	29 / 42%	27 / 40%	18 / 26%
RELATED TECHNICAL COURSES	11 / 16%	10 / 15%	12 / 17%	21 / 31%

ELECTROMECHANICAL TECHNOLOGY	MECHANICS TECHNOLOGY	ENGINEERING MECHANICS TECHNOLOGY	FLUIDS TECHNOLOGY	INDUSTRIAL GRAPHICS TECHNOLOGY	INSTRUMENTATION TECHNOLOGY	PRODUCTION MANAGEMENT TECHNOLOGY	QUALITY ASSURANCE TECHNOLOGY
6 9%	6 9%	6 9%	6 9%	6 9%	6 9%	9 13%	9 13%
8 12%	8 12%	8 12%	8 12%	8 12%	8 12%	8 12%	8 12%
15 22%	15 22%	15 22%	15 22%	15 22%	15 22%	15 22%	15 22%
28 [illegible]	29 [illegible]	27 40%	18 26%	24 35%	29 42%	18 27%	23 34%
11 16%	10 15%	12 17%	21 31%	15 22%	10 15%	18 27%	13 19%

SPECIALTY COURSE UTILIZATION

TECHNOLOGIES

The Roman numerals under the technologies columns indicate semester in which courses are offered.

	Theory (hrs./week)	Lab (hrs./week)	Credit (semester hours)	Electromechanical	Electronics	Engineering
Digital electronics	2	4	4	III	III	
Economics and production design	3	3	4			
Electromechanical controls	1	3	2	III	III	
Electronic communications	2	4	4		IV	
Electronic metrology	2	4	4		III	
Fluidics	2	4	4			
Fluid circuits	3	3	4			I
Graphic arts	2	4	4			
Instrumentation systems	2	3	3			
Machine design	3	2	4			I
Manufacturing materials and processes	2	3	3	IV		I
Manufacturing standards	2	3	3			
Mechanics of materials	3	3	4	III		I
Physical metrology	2	4	4			I
Pneumatics	2	3	3			
Principles of instrumentation	2	3	3			
Probability and statistics	3	0	3			
Process control	3	3	4	IV		
Production drawings	1	6	3			I
Production illustration	2	6	4			
Production scheduling and planning	3	3	4			
Pulse and wave shaping	2	3	3		IV	
Quality control methods	3	3	4			
Servomechanisms	2	4	4	IV	IV	
Technical publications	3	0	3			
Time study	3	3	4			

NOLOGIES

y (hrs./week)	Lab (hrs./week)	Credit (semester hours)	Electronic shaping	Electronics	Engineering mechanics	Fluids	Industrial graphics	Instrumentation	Production management	Quality assurance
2	4	4	III	III						
3	3	4							IV	
1	3	2	III	III						
2	4	4		IV						
2	4	4		III				III		III
2	4	4				IV				
3	3	4			III	III	III	III		
2	4	4					III			
2	3	3						IV		
3	2	4			IV					
2	3	3	IV		IV	IV	IV		IV	
2	3	3								IV
3	3	4	III		III	III				
2	4	4			IV					IV
2	3	3				III				
2	3	3						III		
3	0	3							III	III
3	3	4	IV			IV		IV		
1	6	3			III		III		III	III
2	6	4					IV			
3	3	4							IV	
2	3	3		IV						
3	3	4								IV
2	4	4	IV	IV				IV		
3	0	3					IV			
3	3	4							III	

CHAPTER VI

SPECIAL PROGRAM NEEDS

Technical education services require certain inputs that are unique and critical. Faculty, facilities, and equipment needs in technical education programs differ significantly from those of many other curriculums in two-year colleges.

Teachers for Electromechanical Technology. Chief among the critical elements of any education program is the instructional personnel. In general, technical teachers should have three basic competencies:

1. Technical education and training at a significantly higher level than the coursework they are required to teach.
2. Recent industrial experience that enables them to make basic principles meaningful by using specific industrial applications in the teaching process.
3. Pedagogic ability.

While these three competencies might be considered adequate for a teacher under normal circumstances, the teacher in the electromechanical program requires an additional and highly critical dimension. This requirement might best be illustrated by making a comparison with the functions and responsibilities of teachers in a more conventional setting. For example, a teacher is normally responsible only for the subject matter in the course or courses he teaches. In the electromechanical curriculum a great deal more is required. Teachers must be willing to coordinate their work at all times with those who are teaching concurrent courses. The

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teacher who is either unable or unwilling to do this is definitely unsuited to this system of teaching. Because of the necessity to deviate from the traditional procedures, many experienced teachers will probably not be interested in this process. For those who are interested, however, the system can be extremely challenging and the rewards exciting.

It should be noted that one of the pervasive problems of technical education is reduced materially by the integration of subject matter in the electromechanical curriculum. This is the familiar problem of obtaining adequate and effective mathematics instruction. For many years the relative merits of pure versus applied mathematics have been debated by technical educators. The electromechanical program incorporates the best of both arguments. Mathematics may be taught as a pure science (it is necessary, however, to deviate from the sequence of topics found in most textbooks) and by mathematics teachers who may not have technological training or industrial experience. This is possible because multiple applications of mathematics forms are provided by concurrent technical courses. It is unnecessary to teach applications in the mathematics courses.

As mathematics instruction has been simplified, physics instruction becomes more complex. The familiar topics of heat, light, sound, electricity, mechanics, etc., do not appear as discrete units of instruction. Physics teachers must be prepared to cut squarely across these time-honored divisions of physics in order to teach a single unifying concept such as time constants. Here again, it is quite possible that many experienced teachers will not be willing to make these adaptions.

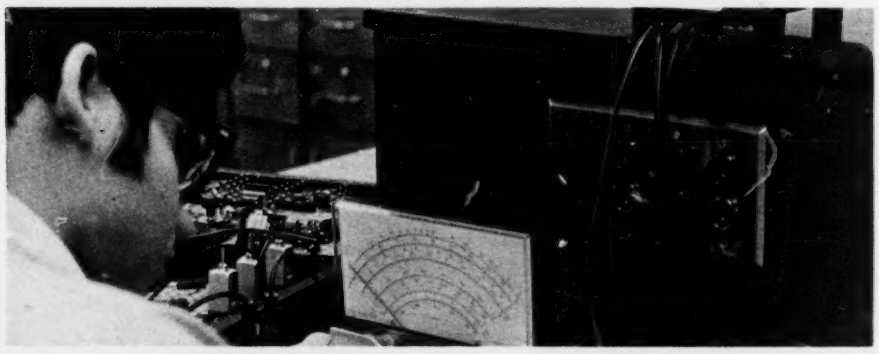
Teaching specialists in electronics and mechanics courses will be required to have a broad background if they are to perform satisfactorily in the electromechanical program. Obviously, experienced electromechanical engineers and technicians would be

desirable in these assignments. Nevertheless, specialists in each separate field should be able to function effectively, provided they are capable of coordinating their coursework with other teachers in the program.

Instructional Materials. The nature of the first year of the electromechanical curriculum will require special instructional materials. While standard texts and references will be helpful, the horizontal integration required to teach unified concepts is not found in standard publications.

A complete set of first-year instructional materials is being prepared by the Technical Education Research Center at Oklahoma State University. These materials will be published and should be available about July 1, 1971. They will include space and equipment recommendations as well as a planning guide to be used in coordinating all course work.

Materials for the second year of instruction can be more conventional since the unified concepts system provides for maximum flexibility in the second year. For those schools interested in electromechanical technology per se, a complete set of instructional materials will be available in published form at a later date from Oklahoma State University.



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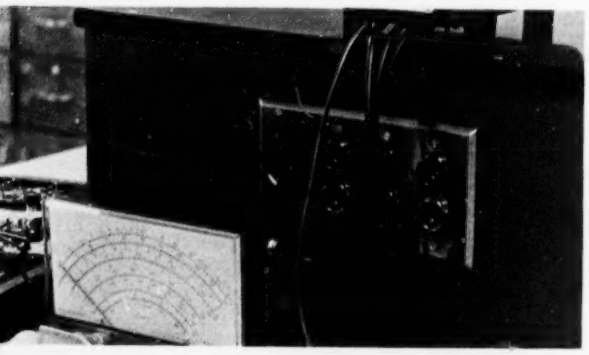

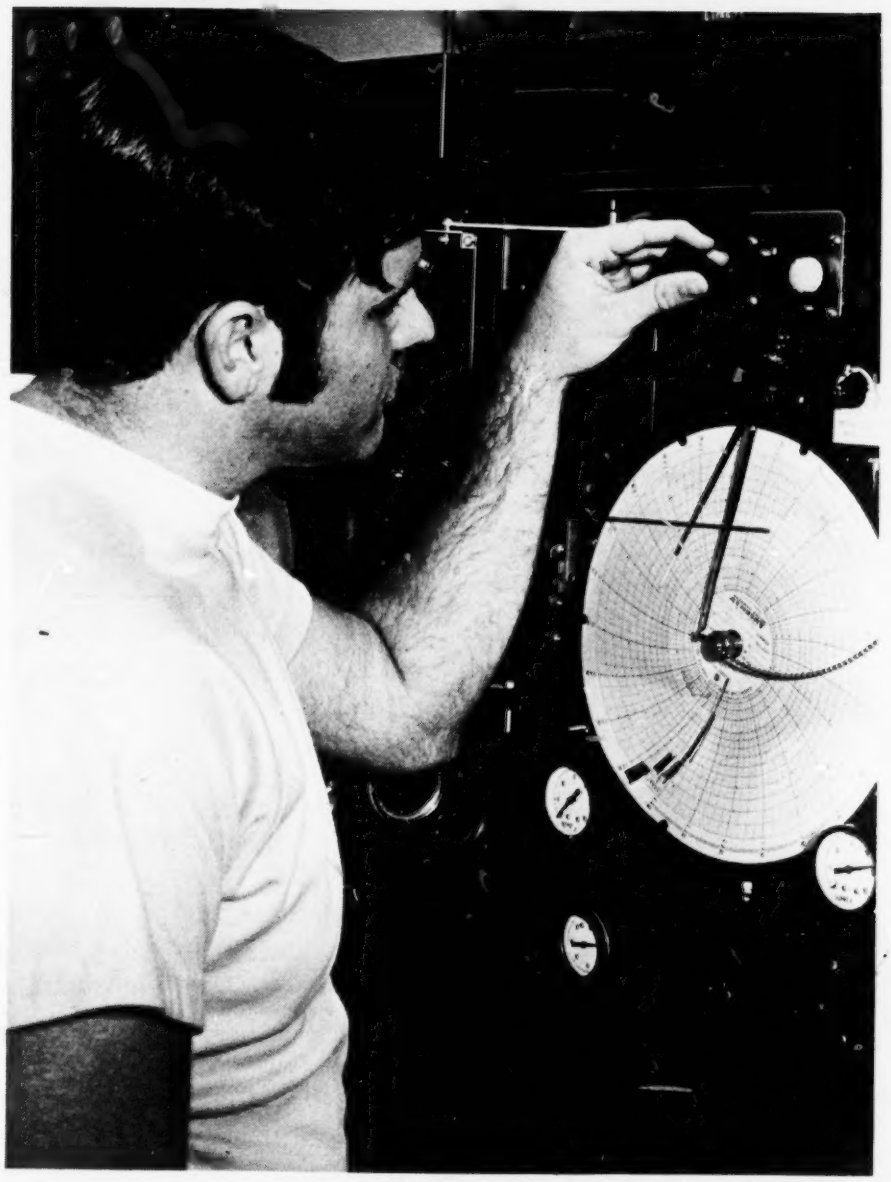

SUMMARY

The curriculum and courses discussed in this guide can best be described as a system of instruction. In general, the proposed system incorporates the best of what is known about successful technical education programs with the results of an analysis of electromechanical technician occupations.

The proposed program of instruction incorporates a carefully structured core of physical sciences, mathematics, and application courses for the first year of study. From this core program a number of options can be provided, some of them in new and emerging occupations, others in existing specialties, such as electronics or mechanical technology. With the increasing proliferation of occupations, a basic core program can effect savings in an institution that offers a range of technical courses.

The second year of the curriculum provides maximum flexibility. General education courses may be programmed easily, and a number of alternative programs may be provided.

In conclusion, the instructional program described in this guide represents a considerable departure from the present structure of education in two-year institutions. Admittedly, there will be problems involved in effecting changes of this magnitude in a well-established system. Most of these problems will center around the attitudes and philosophical convictions of teachers. The success or failure of a new educational system will ultimately be determined by the willingness of administrators and teachers to give the system a fair trial. The authors, who have been involved for several years with an experimental program built around a core of unified concepts, are convinced that the system is viable and highly efficient. Students enrolled in an electromechanical technology program which uses this system have responded extremely well. There is every reason to believe that this system of instruction has important implications for many other third generation educational programs where new combinations of skills and knowledge are required. Enlightened leadership and imaginative planning will be needed if education is to meet the social and economic needs of our burgeoning technology.

PHOTO CREDITS

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Milwaukee, Wisconsin

Texas State Technical Institute
Waco, Texas

VT 011 996
Keene, Richard

Health Service Occupations Survey. Final Report.

Utah Research Coordinating Unit for Vocational and Technical Education, Salt Lake City.
Office of Education (DHEW), Washington, D.C. Bureau of Research
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BR-6-3046

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DESCRIPTORS - *PARAMEDICAL OCCUPATIONS; *OCCUPATIONAL SURVEYS; *EMPLOYMENT OPPORTUNITIES; EMPLOYMENT PATTERNS; *EMPLOYMENT PROJECTIONS; MANPOWER NEEDS; *DEMAND OCCUPATIONS; PRACTICAL NURSES; NURSES AIDES; ASSOCIATE DEGREES; NURSING HOMES; HOSPITALS; TABLES (DATA)
IDENTIFIERS - UTAH

ABSTRACT - To estimate the present and future needs for paramedical personnel in Utah, questionnaires were mailed to 139 nursing homes and 44 hospitals. Analyses of a 53 percent nursing home return and a 68 percent hospital return yielded these conclusions: (1) Most of the personnel needs are confined to the Davis, Weber, Utah, and Salt Lake Counties, (2) The greatest number of current employment opportunities exist in the nursing field, (3) Funds are adequate to hire most of the desired personnel except for nurses aides, (4) Employment opportunities for paramedical personnel other than nursing are not great and are not expected to increase, and (5) More associate degree nurses, licensed practical nurses, and nurse aides are needed. On the basis of the findings, it was recommended that an effort be made to provide greater numbers of nurses and nurse aides and that subsequent surveys assess the need for paramedical personnel in institutions other than hospitals and nursing homes. Survey instruments and tables of data are appended. (SB)

VT 011 996

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FINAL REPORT

Project No. 603046
Grant No. OEG-4-7-063046-1612

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HEALTH SERVICE OCCUPATIONS SURVEY

Principal Investigator: Richard Keene
Project Director: John F. Stephens

Research Coordinating Unit
For Vocational and Technical Education
Utah State Board of Education
1670 University Club Building
Salt Lake City, Utah 84111

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Conclusions and Recommendations 6

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HEALTH SERVICE OCCUPATIONS SURVEY

As some agencies have indicated that Utah might have a shortage of trained health occupations personnel, the Utah Research Coordinating Unit for Vocational and Technical Education designed this study to estimate the present and future needs for paramedical personnel.

The problem was to estimate the requirements for personnel in eleven non-baccalaureate health service occupations. Data was gathered on present employment in the field, expected needs on January 1, 1972, and expected needs on January 1, 1975. Two analyses were made: one for the area included in Davis, Weber, Utah, and Salt Lake Counties; and one including the entire State.

Limitations

This survey concerns only existing institutions, and only hospitals and nursing homes. As the State population increases, the number of hospitals and nursing homes can be expected to increase. Further, many employment opportunities for paramedical personnel exist in clinics, physicians' and dentists' offices, etc.; these were not included in the survey.

Method

A mailing list for institutions to be surveyed was compiled from:

1. a list of nursing homes licensed by the State of Utah;
2. a list of institutional members of the Utah Hospital Association.

A questionnaire was drafted by the investigator and approved by four specialists who desired the results of the survey. This draft was discussed with four of the medical institution administrators who would be asked to complete the questionnaire. The questionnaire was then rewritten to incorporate the suggestions made by the administrators and to clarify certain items.

The questionnaires (see Appendix A) were mailed to all non-military members of the Utah Hospital Association and to all licensed nursing homes in the State on about May 1, 1970. A follow-up letter (see Appendix B) and another copy of the questionnaire were sent to non-respondents on May 20.

Results

The number of responses received by June 12 are reported in Table I. The responses were tallied first for the higher-density

area including Davis, Weber, Utah, and Salt Lake Counties (hereinafter referred to as the Four-County Area) and, second, for the rest of the State. Correction factors for non-respondents were computed on the basis of the proportion of nursing homes responding and the proportion of hospital beds represented by the responses. Due to the disparity of bed size of hospitals, it was felt that number of beds represented by returned questionnaires would provide a more appropriate correction for non-respondents than the number of institutions responding.

$$\text{Corrected Nursing Home Estimates} = \text{Tallied Responses} \times \frac{\text{Total Nursing Homes}}{\text{Nursing Homes Responding}}$$

$$\text{Corrected Hospital Estimates} = \text{Tallied Responses} \times \frac{\text{Total Hospital Beds}}{\text{Hospital Beds Represented by Returned Questionnaire}}$$

Corrected estimates were calculated for the Four-County hospitals, Four-County nursing homes, and the Four-County total (hospitals and nursing homes); and for Utah hospitals, Utah nursing homes, and the Utah total. Results of these calculations are reported in Appendices C to H.

The Four-County totals and the Utah totals were then analyzed as follows:

1. The projected part-time needs were based on the following formula:

$$\text{Part-Time Employment} = \text{Projected Full-Time Employment} \times \frac{\text{Present Part-Time Employment}}{\text{Present Full-Time Employment}}$$

2. The expected growth of full-time employment was determined by the following formula:

$$\text{Expected Growth (full-time employment)} = \text{Projected Need minus Present Need}$$

or in more detail

$$\text{Expected Growth (full-time employment)} = \begin{array}{l}\text{Projected Need} \\ \quad \text{minus Present Employment} \\ \quad \text{minus Present Funded Full-Time Openings} \\ \quad \text{minus Present Non-Funded Full-time Openings}\end{array}$$

TABLE I

Responses to Questionnaire

	Davis, Weber, Utah, and SL Counties			Other Counties			Statewide Total		
	Nursing Homes	Utah Hosp. Assn. Members	Total Hospitals	Nursing Homes	Utah Hosp. Assn. Mem.	Total Hospitals	Nursing Homes	Utah Hosp. Assn. Mem.	Total Hospitals
Questionnaires Mailed	118	16	19	21	23	25	139	39	44
Questionnaires Returned	61	15	15	14	15	15	75	30	30
Percent of Returns	52%	94%	79%	67%	54%	60%	53%	77%	68%
Total Beds	*	3048	4250	-	775	830	-	3823	5080
Beds Represented by Returned Questionnaires	-	2807	2807	-	507	507	-	3314	3314
Percent of Beds Represented by Questionnaires	-	92%	66%	-	65%	61%	-	87%	65%
Correction Factor	1.934	-	1.514	1.500	-	1.637	-	-	-

*Bed size of nursing homes was not a basis for treatment of data

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Table 2 -- Utah Totals

	Number Presently Employed		Number of Present Openings for Which Funds are Available		Number of Openings for Which funds are NOT Available		Number Hired in 1969		Number Terminated in 1969		Estimated Number on 1 January 1972	Estimated Number on 1 January 1975	Percent of Turnover	Net Gain 1972	Net Gain 1975	Estimated Part-Time Employment 1972	Estimated Part-Time Employment 1975
	full time	part time	full time	part time	full time	part time	full time	part time	full time	part time	full time	full time	full time	full time	full time	part time	part time
B A Nurses (4 year)	587	415	158	39	52	63	129	103	103	75	718	875	18%	-79	78	507	618
Associate Degree Nurses (2 years)	512	264	205	10	21	3	116	44	94	44	843	963	18%	105	225	434	496
Licensed Practical Nurse (1 year)	812	474	232	48	120	35	274	107	223	71	1154	1147	27%	-10	-17	673	669
Nurse Aides (0-3 months)	1808	714	133	77	276	70	1225	353	1117	411	2063	2145	62%	-154	-72	813	845
Medical Laboratory Technologists (4 years)	169	60	12	5	14	9	33	12	35	11	203	239	20%	8	44	72	85
Medical Laboratory Technicians (2 years)	86	61	6	9	17	18	27	21	26	20	130	140	30%	21	31	92	99
Certified Laboratory Assistants (1 year)	20	16	0	0	2	0	3	3	3	5	22	30	15%	0	8	18	24
Ward Clerks (0-3 months)	264	156	14	11	50	40	57	45	50	51	321	363	19%	-7	35	189	214
Ward Managers (1-2 years)	29	8	3	0	5	2	2	0	0	2	47	62	0	10	25	13	17
Medical Records Technicians (1-2 years)	54	22	13	6	3	3	6	5	6	14	65	87	11%	-5	17	26	35
Operating Room Technicians (3-6 months)	149	69	19	6	15	12	21	19	18	12	155	183	12%	-28	0	72	84
Psychiatric Technicians (2 years)	3	0	0	0	5	5	0	0	0	0	35	50	0	27	42	0	0
Inhalation Therapist (1-2 years)	58	16	5	3	14	5	5	5	0	3	152	139	10%	75	62	42	38

Table 3 -- Four County Totals

	Number Presently Employed		Number of Present Openings for Which Funds are Available		Number of Openings for Which funds are NOT Available		Number Hired in 1969		Number Terminated in 1969		Estimated Number on 1 January 1972	Estimated Number on 1 January 1975	Percent of Turnover	Net Gain 1972	Net Gain 1975	Estimated Part-Time Employment 1972	Estimated Part-Time Employment 1975
	full time	part time	full time	part time	full time	part time	full time	part time	full time	part time	full time	full time	full time	full time	full time	part time	part time
B A Nurses (4 year)	542	359	123	26	40	60	113	94	93	70	641	774	17%	-64	69	424	512
Associate Degree Nurses (2 years)	423	229	189	3	16	3	91	29	77	32	738	838	18%	110	210	399	453
Licensed Practical Nurse (1 year)	735	418	172	30	101	28	241	81	198	57	1019	1000	27%	11	-8	579	568
Nurse Aides (0-3 months)	1464	528	67	12	255	70	1108	292	1025	366	1740	1781	70%	-46	-5	626	641
Medical Laboratory Technologists (4 years)	156	50	9	5	14	8	33	12	35	11	187	218	21%	8	39	60	70
Medical Laboratory Technicians (2 years)	76	51	3	8	17	18	26	21	26	20	117	128	34%	21	32	79	86
Certified Laboratory Assistants (1 year)	15	6	0	0	2	0	3	3	3	3	17	24	20%	0	7	7	10
Ward Clerks (0-3 months)	258	144	8	6	39	32	53	42	48	51	306	345	19%	1	40	171	192
Ward Managers (1-2 years)	28	8	3	0	3	0	2	0	0	0	44	57	0	10	23	13	16
Medical Records Technicians (1-2 years)	43	14	5	6	3	2	3	5	5	14	49	66	7%	-2	15	16	21
Operating Room Technicians (3-6 months)	139	51	9	2	8	8	21	12	18	12	139	162	13%	-17	6	51	59
Psychiatric Technicians (2 years)	3	0	0	0	4	2	0	0	0	0	22	31	0	15	24	0	0
Inhalation Therapist (1-2 years)	55	14	2	2	9	2	5	3	0	3	142	129	0	76	63	36	32

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Table 2 reports the results of these calculations for all Utah hospitals and nursing homes; and Table 3, for hospitals and nursing homes in Weber, Davis, Utah, and Salt Lake counties.

Discussion

Although the following observations are based on the State-wide totals, it was found that most of the personnel needs are confined to the Davis, Weber, Utah, and Salt Lake counties.

The greatest number of present employment opportunities existed in the nursing field: Associate Degree Nurses, Licensed Practical Nurses, and Nurse Aides. Although most of the openings are full-time, about 75 openings are available for part-time Nurse Aides.

Non-funded openings for Nurse Aides are approximately twice as numerous as funded openings. This may be causally related to the remarkably high turnover rate--62 percent. The non-funded Nurse-Aide openings are about equally distributed between hospitals and nursing homes. Should adequate funds become available, both wage rate and employment opportunities could be expected to increase.

It was expected that an increase in employment opportunities would be verified and quantified by this survey; however, an inspection of the net gain columns does not support this expectation. The cause of this unexpected result can perhaps be found in the limitations. Only existing institutions were surveyed, and should these institutions fill their present openings (funded and unfunded), their personnel would not be expected to increase unless their facilities were expanded, and such expansion is not expected.

Employment for Associate Degree Nurses may be expected to increase slightly, and Nurse Aides to decrease slightly, but this shift is small.

Conclusions and Recommendations

On the basis of the data, the following conclusions can be made concerning paramedical employment opportunities in existing hospitals and nursing homes:

1. Most of the openings are in the Four-County area.

2. Presently, many openings for Associate Degree Nurses, Licensed Practical Nurses, and Nurse Aides exist in hospitals and nursing homes, and these needs are not expected to decrease.

3. Funds are adequate to hire most of the desired personnel, except for Nurse Aides.

4. There are a substantial number of funded openings for part-time Nurse Aides, and this demand can be expected to continue.

5. Increased output of Associate Degree Nurses, Licensed Practical Nurses, and Nurse Aides is required to fill present openings, provide replacement for those leaving these vocations, and to provide personnel needed to service an expanding population.

6. The employment opportunities for other paramedical personnel is not great and is not expected to increase.

7. Few new openings are expected in existing institutions.

On the basis of the above conclusions, it is recommended that:

1. An effort be made to provide greater numbers of Associate Degree Nurses, Licensed Practical Nurses, and Nurse Aides for the State;

2. Subsequent surveys attempt to assess the need for paramedical personnel in other institutions besides hospitals and nursing homes; and that such surveys study proposed, as well as existing, institutions;

3. The causes of lack of funding and of high turnover in Nurse Aide positions be explored; and

4. Programs for other than Associate Degree Nurses, Licensed Practical Nurses, and Nurse Aides not be increased.

APPENDIXES

UTAH STATE BOARD OF EDUCATION

1400 UNIVERSITY CLUB BUILDING • 136 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

Office of the
STATE SUPERINTENDENT
OF PUBLIC INSTRUCTION

WALTER D. TALBOT
Superintendent

Dear Sir:

We need your assistance in estimating Utah's present and future requirements for personnel in certain health occupations. Please complete the following questionnaire and return it in the enclosed envelope by May 15, 1970.

Please do not leave blanks. If you do not intend to use any employees in a job category, indicate this with zeros. Even if you feel unsure of an estimate of future needs, indicate your best guess. In some cases your best estimate of future employment requirements may be the same as present employment. If you have any questions, contact me at the above location.

Thank you for your cooperation.

Richard Keene
RICHARD KEENE, Principal Investigator
Utah Research Coordinating Unit for
Vocational and Technical Education

1. Do you wish a summary report of the results of this survey? _____ YES _____ NO

2. County: _____

3. Number of Beds: _____

Job Title (and approximate training required)	Number Presently Employed		Number of Present Openings for Which Funds are Available		Number of Present Openings for Which Funds are not Available		Number Hired in 1969		Number Terminated in 1969[3]		Estimated Number on January 1, 1972[4]	Estimated Number on January 1, 1975[4]
	Full Time[1]	Part Time[2]	Full Time[1]	Part Time[2]	Full Time[1]	Part Time[2]	Full Time[1]	Part Time[2]	Full Time[1]	Part Time[2]	Full Time[1]	Full Time[1]
Bachelor's Degree Nurses (4 years)												
Associate Degree Nurses (2 years)												
Licensed Practical Nurses (1 year)												
Nurse Aides (0-3 months												
Medical Laboratory Technologists (4 years)												
Medical Laboratory Technicians (2 years)												
Certified Laboratory Assistants (1 year)												
Ward Clerks (0-3 months)												
Ward Managers (1-2 years)												
Medical Records Technicians (1-2 years)												
Operating Room Technicians (3-6 months)												
Psychiatric Technicians (2 years)												
Inhalation Therapist (1-2 years)												

1 Thirty hours or more per week.
2 Less than 30 hours per week but not less than 10 hours per week
3 Include employees that were voluntary or involuntary terminated.
4 Include all you think you will need. Ignore such factors as availability of funds or applicants.

Appendix B

UTAH STATE BOARD OF EDUCATION

1400 UNIVERSITY CLUB BUILDING • 136 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

Office of the
STATE SUPERINTENDENT
OF PUBLIC INSTRUCTION

T. H. BELL
Superintendent

Dear

The Utah Research Coordinating Unit for Vocational and Technical Education of the Utah State Board for Vocational Education has been asked to conduct a survey of the State to determine the need for establishing training programs in Utah.

About three weeks ago you were mailed a request for information regarding your employment of selected health service personnel. Since we have not heard from you, we are sending another questionnaire.

Your help is needed in a survey of needs for additional training in selected Health Service Occupations. In order to gather the necessary information on which to base recommendations to the Office of the State Superintendent of Public Instruction regarding proposed training programs we need information which can be acquired from no one but you. Therefore, we would appreciate your completing the enclosed questionnaire and returning it to us by May 30, 1970.

One additional instruction may be helpful. If you have no use for personnel in an occupation, draw a line through that job title. If you do not utilize any occupations listed, mark out all of them.

If you have already returned the previous questionnaire, please disregard this request.

Thank you for your cooperation,

Richard Keene

Richard Keene
Principal Investigator

/ag

WALTER D. TALBOT, Deputy Superintendent for Administration • LERUE WINGET, Deputy Superintendent for Instruction • JAY J. CAMPBELL, Deputy Superintendent for Institutions

Appendix C --
Utah Nursing Homes

	Number Presently Employed		Number of Present Openings for Which Funds are Available		Number of Openings for Which funds are NOT Available		Number Hired in 1969		Number Terminated in 1969		Estimated Number on 1 January 1972	Estimated Number on 1 January 1975
	full time	part time	full time	part time	full time	part time	full time	part time	full time	part time	full time	full time
B A Nurses (4 year)	81	16	5	2	11	7	15	13	10	5	117	150
Associate Degree Nurses (2 years)	36	18	15	3	10	2	23	8	27	9	77	86
Licensed Practical Nurse (1 year)	168	82	42	13	37	9	93	47	53	10	222	241
Nurse Aides (0-3 months)	850	228	42	17	114	17	852	173	696	137	1021	1038
Medical Laboratory Technologists (4 years)	0	0	0	0	0	0	0	0	0	0	2	6
Medical Laboratory Technicians (2 years)	0	0	0	0	0	0	0	0	0	0	8	17
Certified Laboratory Assistants (1 year)	1	0	0	0	0	0	0	0	0	2	2	4
Ward Clerks (0-3 months)	15	13	0	0	9	7	3	5	2	0	29	41
Ward Managers (1-2 years)	11	8	0	0	0	0	0	0	0	2	14	17
Medical Records Technicians (1-2 years)	10	3	2	0	2	3	0	2	0	2	13	16
Operating Room Technicians (3-6 months)	6	0	0	0	3	2	0	0	0	0	12	12
Psychiatric Technicians (2 years)	0	0	0	0	5	5	0	0	0	0	16	21
Inhalation Therapist (1-2 years)	2	2	0	0	2	4	4	0	0	0	9	11

Appendix D --
Utah Hospitals

	Number Presently Employed		Number of Present Openings for Which Funds are Available		Number of Openings for Which funds are NOT Available		Number Hired in 1969		Number Terminated in 1969		Estimated Number on 1 January 1972	Estimated Number on 1 January 1975
	full time	part time	full time	part time	full time	part time	full time	part time	full time	part time	full time	full time
B A Nurses (4 year)	506	399	152	37	41	56	114	90	93	70	601	725
Associate Degree Nurses (2 years)	477	246	190	6	11	2	93	36	68	36	765	877
Licensed Practical Nurse (1 year)	644	292	191	34	83	26	182	60	169	61	932	907
Nurse Aides (0-3 months)	958	486	92	60	162	53	372	180	422	275	1042	1106
Medical Laboratory Technologists (4 years)	169	60	12	5	14	9	33	12	35	11	201	233
Medical Laboratory Technicians (2 years)	86	60	6	9	17	18	27	21	26	20	122	123
Certified Laboratory Assistants (1 year)	18	16	0	0	2	0	3	3	3	3	20	26
Ward Clerks (0-3 months)	249	143	14	11	42	32	53	39	48	51	291	322
Ward Managers (1-2 years)	18	0	3	0	5	2	2	0	0	0	34	44
Medical Records Technicians (1-2 years)	45	19	11	6	2	0	6	3	6	12	52	71
Operating Room Technicians (3-6 months)	143	69	19	6	12	11	21	19	18	12	143	171
Psychiatric Technicians (2 years)	3	0	0	0	0	0	0	0	0	0	19	28
Inhalation Therapist (1-2 years)	56	14	5	3	12	2	2	5	0	3	143	128

Appendix E --
Four County Nursing Homes

	Number Presently Employed		Number of Present Openings for Which Funds are Available		Number of Openings for Which funds are NOT Available		Number Hired in 1969		Number Terminated in 1969		Estimated Number on 1 January 1972	Estimated Number on 1 January 1975
	full time	part time	full time	part time	full time	part time	full time	part time	full time	part time	full time	full time
B A Nurses (4 year)	75	10	4	2	2	6	11	6	10	4	101	126
Associate Degree Nurses (2 years)	25	14	12	2	6	2	23	8	25	6	64	68
Licensed Practical Nurse (1 year)	141	64	19	8	17	2	79	31	46	4	176	190
Nurse Aides (0-3 months)	667	161	25	8	92	17	771	130	613	100	845	851
Medical Laboratory Technologists (4 years)	0	0	0	0	0	0	0	0	0	0	2	6
Medical Laboratory Technicians (2 years)	0	0	0	0	0	0	0	0	0	0	8	15
Certified Laboratory Assistants (1 year)	0	0	0	0	0	0	0	0	0	0	2	4
Ward Clerks (0-3 months)	15	10	0	0	6	6	2	4	0	0	23	35
Ward Managers (1-2 years)	10	8	0	0	0	0	0	0	0	0	14	17
Medical Records Technicians (1-2 years)	10	2	0	0	2	2	0	2	0	2	10	12
Operating Room Technicians (3-6 months)	6	0	0	0	0	0	0	0	0	0	8	8
Psychiatric Technicians (2 years)	0	0	0	0	4	1	0	0	0	0	12	15
Inhalation Therapist (1-2 years)	2	1	0	0	0	2	4	0	0	0	6	10

Appendix F --
Four County
Hospitals

	Number Presently Employed		Number of Present Openings for Which Funds are Available		Number of Openings for Which funds are NOT Available		Number Hired in 1969		Number Terminated in 1969		Estimated Number on January 1972	Estimated Number on January 1973
	full time	part time	full time	part time	full time	part time	full time	part time	full time	part time	full time	full time
B A Nurses (4 year)	466	350	120	24	38	55	101	88	83	67	540	648
Associate Degree Nurses (2 years)	398	215	177	2	11	2	68	21	51	26	674	771
Licensed Practical Nurse (1 year)	593	354	153	23	83	26	162	50	151	53	843	810
Nurse Aides (0-3 months)	796	368	42	5	162	53	336	162	412	265	895	930
Medical Laboratory Technologists (4 years)	156	50	9	5	14	8	33	12	35	11	185	212
Medical Laboratory Technicians (2 years)	76	51	3	8	17	18	26	21	26	20	109	112
Certified Laboratory Assistants (1 year)	15	6	0	0	2	0	3	3	3	3	15	20
Ward Clerks (0-3 months)	242	135	8	6	33	26	51	38	48	51	283	310
Ward Managers (1-2 years)	18	0	3	0	3	0	2	0	0	0	30	39
Medical Records Technicians (1-2 years)	33	12	5	6	2	0	3	3	5	12	39	55
Operating Room Technicians (3-6 months)	133	51	9	2	8	8	21	12	18	12	132	154
Psychiatric Technicians (2 years)	3	0	0	0	0	0	0	0	0	0	11	15
Inhalation Therapist (1-2 years)	53	12	2	2	9	0	2	3	0	3	136	120

VT 012 021
Pertinent Impressions; The Partnership Vocational Education Project. Year 1, 1965-1966.

Central Michigan Univ., Mount Pleasant.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - ND 32p.

DESCRIPTORS - *CHANGING ATTITUDES; *SCHOOL ATTITUDES; *STUDENT ATTITUDES; *HIGH SCHOOL STUDENTS; *LONGITUDINAL STUDIES; COMPARATIVE ANALYSIS; WORK ATTITUDES; PLANNING; EDUCATIONAL PLANNING

ABSTRACT - During the first year of operation of the Partnership Vocational Education Project, the Mooney Problems Check List was given to the Project boys and same level male students at high schools participating in the program. The purpose was to determine the personal problem areas recognized by the Project students and to compare these problems with those recognized by other students in the same schools. Of the seven areas covered by the above check list, that of Schools was identified approximately twice as often as that of Self, Home, Future, Boy and Girl, People in General, and Self-Centered Concerns. Further analysis of the concepts concerning school revealed that the student in the Project had much the same problems in the areas concerning school relationships as did the general student body. The Project boys also thought the correlated activities made the classes more interesting, and attendance improved visibly. Data presented in this report shows that more than one-third of the respondents changed their mind about work, school, and teachers. (AUTHOR/JS)

VT 012 021

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THE PARTNERSHIP VOCATIONAL EDUCATION PROJECT

PERTINENT IMPRESSIONS

YEAR I

1965 - 1966

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PREFACE

The Partnership Vocational Education Project did not receive official sanction until May 2, 1965. Because sufficient time for planning was not available, the first year of operation was regarded as a pilot program, one in which unforeseen problems might arise and one in which more desirable facets might be pursued.

This part of the project must determine procedures for the future, and must lay the ground work for school and student participation. Student body attitudes toward the program would help determine future success or failure. A survey was made of the same grade level male students in each of the membership schools for two reasons:

1. To obtain student body attitudes.
2. To attempt to determine local variables which might affect the data obtained from the Project boys.

The Mooney Problem Check List, form JM, was used in the fall to establish rapport with the students and to identify the problems relative to school. These are found in the second section of the above List. A recheck by forced-choice technique was made late in the spring of that year.

The following attitudes were considered pertinent and obtainable:

1. That of the participating students.
2. That of the non-participating students.
3. That of the non-participating staff.
4. That of the administration.
5. That of parents of the participating students.

The data are sumarized in this report.

Data concerning attendance were supplied by each school for the current year and the preceding year, for both the Project boys and for the group used for comparison.

Future plans for assessment should include detailed studies of Project boys who dropped out of school, who left the program, and also of the alumnii of the program.

Achievement and growth of those participating in the Project should be determined by objective evaluation.

SCHOOL PROBLEMS OF STUDENTS

During the fall of the first year of operation of the Partnership Vocational Education Project, the Mooney Problems Check List, was given to the Project boys in the fall term of the high schools participating in the program. The purpose was to determine the personal problem areas recognized by the Project students and to compare these problems with those recognized by other students in the same schools.

Of the seven areas covered by the above check list, that of Schools, was identified approximately twice as often as that of Self, Home, Future, Boy and Girl, People in general, and Self-Centered Concerns. Because of this prevalence and because this area was of the most vital concern to the schools, further analysis was made. The statement concerning school related problems, 30 in number, were rewritten and submitted to the same students, both those in the Project and those students selected for comparison.

This comparison group was made up of male students in the same grades and enrolled in approximately the same classes as the boys participating in the Project in that particular school. No attempt was made to secure "matched pairs".

The data was restricted to those students who were available in both fall and spring in the Partnership Project and in the comparison group. There were 167 boys who responded to both questionnaires.

The data presented in Table I, is from that section of the Mooney Problems Check List, form JM, pertaining to student problems related to their school.

The following subdivisions were made:

Reading Problems:

Item No.	10.	Not interested in books.
	44.	Slow in reading.

146. Textbooks hard to understand.

Communication Problems:

Item No.

43. Trouble with spelling or grammer.
45. Trouble with writing.
147. Trouble with oral reports.
148. Trouble with written reports.

Study Habits Problems:

Item No.

9. Don't like to study.
76. Not spending enough time in study.
78. Can't keep my mind on my studies.

Personal Problems:

Item No.

6. Getting low grades in school.
7. Afraid of tests.
8. Being a grade behind in school.
41. Afraid of failing in school work.
79. Worried about grades.
80. Not smart enough.
111. Don't like school.
113. So often feel restless in classes.
149. Poor memory.
150. Afraid to speak up in class.

Teacher-Pupil Problems:

Item No.

77. Too much school work to do at home.
112. School is too strict.
114. Not getting along with a teacher.
115. Teachers not practicing what they preach.
181. Dull classes.
182. Too little freedom.
183. Not enough discussion in classes.
184. Not interested in certain classes and subjects.
185. Made to take subjects I don't like.

The data in Table I shows the average number of students checking each item within the grouping for the fall survey, both project and comparison.

Table II is for the re-survey made in the spring of the same school year.

TABLE I

PROBLEMS PERTAINING TO AREAS OF SCHOOL THAT WERE CHECKED ON "MOONEY PROBLEM CHECK LIST." FALL, 1965

Problem Area	Technical Ave. / Problem in each area	Per cent of total	Comparison Ave. / Problem in each area	Per cent of total
Reading	36.6	14	39.0	15
Communication	37.0	16	33.5	13
Study Habits	81.6	34	85.3	33
Personal	32.5	14	38.7	16
Teacher-Pupil	25.2	10	25.5	10
Mathematics	29.0	12	32.0	12
Total	237.9	100	254.0	99
Correlation		.98		

The data in both tables indicate that, in general, both groups had quite similar problems. Only two entries would seem to be noteworthy.

1. The similarity of the groups in each survey, yeilding a correlation of .98 and .97 respectively.

2. The students, in all instances, recognize the study habits to be the major problem in connection with school. It would be interesting to determine the extent that rationalization affects these figures.

TABLE II

RESPONSES TO THE PROBLEMS SIMILAR TO "MOONEY SCHOOL ITEMS USING FORCED CHOICE TECHNIQUE." SPRING, 1966

Problem Area	Technical Ave. / Problem	Percent of Total	Comparison Ave. / Problem	Percent of Total
Reading	49.0	12.8	49.6	13.7
Communication	55.2	14.4	50.0	13.8
Study Habits	122.3	31.9	102.3	28.3
Personal - Worry - Fear	43.2	11.0	46.3	12.8
Teacher - Pupil	60.6	15.9	66.8	18.5
Mathematical	53.0	13.8	46.0	12.7
Total	382.4	99.7	361.0	99.8
Correlation	.97			

SCHOOL ATTENDANCE DATA

One of the desirable outcomes for the Partnership Vocational Education Project is to stimulate interest in school to make it more enjoyable, more meaningful, and to alleviate the dislike of school. This should result in better school attendance.

Absence data were provided by the counselors from 12 high schools, during the 1965-66 school year for the six-week marking periods for 1964-65 and for the first five periods for the current year. Due to extreme variation in absenteeism, some schools may consider this a reflection on their school and its practices. For that reason,

schools were assigned an identificating letter. Identity of their school is available to the Personnel of that school system.

The summary of attendance data is presented in Table III. Of the 24 comparisons shown, only six were able to show less absenteeism than the previous year, four of these six groups were partnership or tech students. Of the remaining 18 groups that increased the amount of absenteeism, only eight tech groups increased the number of half day absences per six weeks and 10 of the comparison groups increased their absences. Further inspection shows five of the eight partnership classes increased the number of absences less than 10 percent while of the comparison were all above 13 percent. The average of the percent increases for the eight partnership groups was 23.1 percent and a similar change for the comparison group was 35.8 percent.

The overall change for the 24 groups was seven percent for the partnership boys in contrast with an increase of 23 percent for the groups used for comparison.

From this data it seems evident the Partnership Vocational Education Project has been influential in decreasing the number of half-days absent for the same boys during its first year of operation.

TABLE III

SUMMARY OF THE MEAN NUMBER OF HALF-DAYS ABSENT BY THE PROJECT STUDENTS BEFORE ENTERING THE PROJECT (1964-65) AND DURING THE FIRST YEAR IN THE PROJECT (1965-66). A COMPARABLE GROUP OF STUDENTS FROM THE SAME SCHOOL ARE INCLUDED

School	Mean Absence/Student per 6 week - 1/2 days 64-65	65-66	Change in Absences More	Less	Percent of Change in mean More	Less
A Tech	1.49	1.59	.10		7%	
Comp	1.68	.72		.96		57%
B Tech	5.70	5.30	.10		2%	
Comp	3.10	3.50	.40		13%	
C Tech	2.61	4.71	2.10		30%	
Comp	1.59	2.57	.98		62%	
D Tech	2.44	2.62	.22		9%	
Comp	2.26	3.07	.81		36%	
E Tech	2.04	3.23	1.19		58%	
Comp	2.61	4.33	1.72		66%	
F Tech	2.50	1.09		1.41		56%
Comp	1.61	1.81	.20		12%	
G Tech	1.26	1.20		.06		5%
Comp	2.50	1.79		.73		29%
H Tech	2.25	2.36	.11		5%	
Comp	3.09	4.70	1.61		52%	
I Tech	.60	.56		.04		7%
Comp	.87	1.28	.41		47%	
J Tech	1.94	2.33	.39		20%	
Comp	4.13	5.11	.98		24%	

TABLE III cont.

School		Mean Absence/Student per 6 week - 1/2 days 64-65	65-66	Change in Absences More	Less	Percent of Change in mean More	Less
K	Tech	1.86	1.93	.07		4%	
	Comp	2.17	2.70	.53		24%	
L	Tech	2.80	1.90		.90		32%
	Comp	2.41	2.93	.52		22%	
Mean	Tech	2.28	2.44	.16		7%	
Composite	Comp	2.34	2.88	.54		23%	

VOCATIONAL-TECH STUDENT SUMMARY

An attempt was made to determine the attitudes toward the program by those participating in it during its first year of operation. A total of 210 responses were received from boys who participated in the program during 1965-66. They checked "yes" or "no" to the questions shown in Table IV. The data includes only the "yes" responses and the percent of the total (210) number.

TABLE IV

RESPONSES OF PROJECT STUDENTS CONCERNING INTEREST AND ASSISTANCE

Question	Number	Percent
Compared with the last year's classes, do you believe the attempt to bring together the mathematics, science, English, and industrial arts classes has made:		
a. School more meaningful to you?	111	53%
b. Made the classes more interesting?	127	60%
c. Has helped you with your English?	92	44%
d. Has helped you with your math?	109	52%
e. Has helped you with your science?	118	56%
f. Has helped you with your industrial arts?	127	60%

In only one instance, that concerning help with English, did less than half, 44 percent of the students feel that the program contributed in a positive manner. The questions receiving the most responses favorable to the program were the ones concerning interest in classes and helpfullness to the industrial arts classes.

A further attempt was made to determine the extent that the Partnership Program affected the attitude toward the future, the school, and their teachers. Data for this facet of the assessment are presented in Table V.

TABLE V

RESPONSES OF PROJECT STUDENTS CONCERNING CHANGE IN ATTITUDE

Question	Number	Percentage
Compared with the last year's classes, have you changed your mind about:		
a. What you may do for your life's work?	75	36%
b. Your future education plans?	70	33%
c. Your attitude about school in general?	98	47%
d. Your attitude toward teachers?	98	47%

The questions previously mentioned do not indicate the extent of the changes or how desirable the direction of change. However, the number of responses indicating a change in attitude (more than one-third in every instance) suggests a dynamic and effective program.

An attempt was also made to determine the students' attitudes toward the content of the classes. This attitude is reflected in the three questions shown in Table VI.

TABLE VI

RESPONSES OF PROJECT STUDENTS CONCERNING THE AMOUNT LEARNED

Question	Number	Percentage
Do you believe?		
a. You have learned as much subject matter in each area as you would have if you had been in the usual program?	96	46%
b. The classes have been easier for you because of this grouping of classes?	15	72%
c. Do you wish you could have started on such a combination program in Junior High?	100	48%

In this instance the students were convinced (72 percent) the work was easier than it would have been in the more conventional program. The other two items were not so favorable. The lower responses to the query concerning amount learned should receive prompt attention by the teachers involved.

An attempt was made to permit the student to evaluate the program in his own words and in whatever areas recognized as needing improvement. An open-ended question such as the one shown in Table VII, evokes diverse responses. A total of 120 responses were received. These were classified into 18 catagories. Percentages were computed only for these catagories suggested by five or more students.

The need for more pre-planning on the part of the teachers is evident by 23 percent of the 120 students responding to the above item. This seems to present a challenge to the teachers or to demonstrate the need for more opportunity to plan their

teaching assignments.

Nearly the same percent of students, 22 percent, recognized the need for more correlation and integration by the teachers of the four disciplines. This catagory reinforces the challenge to the teachers and a need for time to plan.

The third ranking opportunity for improving the program was the desirability to change one teacher. These responses were more prevalent in some schools than others, hence, does not apply to all schools or teams. This response did not indicate the reason or the undesirability prompting this reaction. However, it is a challenge to the teachers to attempt to reduce this need for improvement.

The fourth ranking improvement possibility (to the effect they should work harder, move faster, learn more, quit piddling around, etc. - six percent of the student responses) may be one part of a pattern developed by responses in Table VI, by the "easier-less work;" six percent response in Table VIII, and by the "goof-off-poor discipline," seven percent and "moving too slow-bored" 12 percent catagories in Table IX. These data are not conclusive and should not be used negatively. However, they warrent self-evaluation by teachers.

TABLE VII

RESPONSES OF PROJECT STUDENTS CONCERNING PROGRAM IMPROVEMENT

Number of Students offering these suggestions	Percentage of Students offering these suggestions (five or more)	Suggestions:
Please explain how you think this program could be improved.		
28	23%	More pre-planning
16	13%	One teacher changed
26	22%	More correlation and integration
3		No changes - it's okay
2		More individual attention
2		Students participate in planning
2		Required activity to start
1		Have only those in Program in classes
2		Independent study
2		Divide into slow and faster learners
5	4%	More ideas
6	5%	More science activity
7	6%	Work harder - move faster
4		Able to use blocks of time
3		Improving Tech Lab offerings
1		Less of the same students and teachers

TABLE VII cont.

RESPONSES OF PROJECT STUDENTS CONCERNING PROGRAM IMPROVEMENTS

Number of Students offering these suggestions	Percentage of Students offering these suggestions (five or more)	Suggestions:
Please explain how you think this program could be improved.		
6	5%	More Tech Lab activity
4		Stricter discipline

A second facet of student assessment was sought. The approach was to again use an open-ended question. The results were classified into 20 catagories and are shown in Table VIII. Percentages are shown for those catagories indicated by five or more of the students. It is especially noteworthy that 22 percent of the students liked the "correlated or integrated" part of the program. This was the same percentage that expressed more "correlation and integration" needed as a means of improving the program. This is shown in Table VII.

The second ranking preference was for the "class size - knowing teachers better, etc." The next most preferred was the "trips." These trips were made easier to schedule by the team teaching part of the program. The preferences tied for fourth and fifth ranking were "liking tech laboratory" and "completely disenfranchesed with the program." No attempt was made to determine causation factors for this dislike. This was not localized nor was there any pattern to this dislike.

TABLE VIII

RESPONSES OF PROJECT STUDENTS CONCERNING MOST LIKED FEATURES OF THE PROGRAM

Number of Students expressing this preference	Percent of Students (5 or more) expressing this preference	Preferred Activity
What do you like most about this grouping of classes?		
1		Practical application of knowledge
31	22%	Correlation - integration
16	11%	Smaller classes. More individual attention - know the teacher.
9	6%	Knowing each other better
2		Comprehension - better understanding
5	3%	Better appreciation of teacher
4		Classes informal - more fun
4		Learning more of one subject
9	6%	Easier - less work
2		More responsibility on part of student
2		Better grades
3		Like science
13	9%	Trips
4		Students help each other
6	4%	Study things interested in

TABLE VIII cont.

RESPONSES OF PROJECT STUDENTS CONCERNING MOST LIKED FEATURES OF THE PROGRAM

Number of Students expressing this preference	Percent of Students (5 or more) expressing this preference	Preferred Activity
What do you like most about this grouping of classes?		
12	8%	Like the tech Lab
11	8%	No part of the program
3		Same group all the time
4		Harder work is made easier
2		Same mental capacity or ability grouping

The third open-ended question to obtain the opinions of the students participating in the program was a request for that part of the program which they considered to be the least appealing. Replies were received from 125. Approximately 12 percent or 15 students reported they considered the program to be "boring- moving too slow - not challenging, etc." - while approximately half as many, seven, said there was "too much homework in mathematics." A like number and percent did not appreciate having "the same classmates in the same classes, and having the same teachers throughout the four classes." Ironically, 16 students, or 11 percent of the respondents in Table VIII, said they liked the program because they "learned to know the teacher." Nine students or six percent, liked the program becuase they "learned to know the students better."

In the data presented in Table IX, 12 students or 10 percent, disliked the program because "there were no girls in classes" and a similar number said the teachers got to know their (the student's) ability too well. Approximately eight percent disliked their English assignments and seven percent thought that discipline was " too lenient or non-conducive to study."

No attempt was made to differentiate between these responses and the normal reaction to schools shared by students who were not included in this program.

TABLE IX

RESPONSES OF PROJECT STUDENTS CONCERNING DISLIKED FEATURE OF THE PROGRAM

Number of Students indicating this dislike	Percent of Students (5 or more) indicating this dislike	Disliked Activity
What do you least like about this grouping of classes?		
9	7%	Project not clearly understood
1		Few students demanding teachers' time
9	7%	Goof-off - poor discipline
7	6%	No dislikes
1		Lack of equipment and materials
3		Poor public image
15	12%	Moving too slow - bored.
2		Too strict discipline
4		Not enough time

TABLE IX cont.

RESPONSES OF PROJECT STUDENTS CONCERNING DISLIKED FEATURES OF THE PROGRAM

Number of Students indicating this dislike	Percent of Students (5 or more) indicating this dislike	Disliked Activity
What do you like least about this grouping of classes?		
15	12%	Same teachers - subjects - students
10	8%	Work to be done in English
7	6%	Too much math homework
2		Work in shop
12	10%	No girls in class
12	10%	Teachers know ability too well
1		Having no spare time
1		Not college preparatory - vocational terminal
6	5%	Dislike one teacher
5	4%	Science too hard
2		Practice of averaging grades in the four classes

ATTITUDES OF COMPARISON STUDENTS

The continued educational opportunities for the program will depend somewhat on the attitude of the peers of those students participating in the program. If it does not win the acceptance of the student body its possibilities for success are limited. To evaluate the attitude of the comparison students a questionnaire quite similar in form and content to that used for the Project boys, was submitted to comparison groups in each of the member schools. These students were requested to check "yes" or "no" for questions as near possible to those asked of the boys taking part in the Project.

This request for beliefs was received from 106 of the students in the comparison groups. The questions were prefaced by: "You probably heard about the program in which mathematics, science, English and industrial arts are more closely brought together than in the regular classes. I hope you have heard enough about the program to answer the following questions."

The data presented in Table X follows closely the results shown in Table IV, Both the participating and non-participating students believe the program has helped in all catagories except the English assignments. However, the attitude of the student body as reflected in the data from the comparison group seems to be more favorable than that of the actual participants. The average percentage of the favorable responses for this group differs from that of the participating students by approximately seven percent.

TABLE X

RESPONSES OF COMPARISON STUDENTS CONCERNING INTEREST AND ASSISTANCE

Question	Percentage Favorable
Do you believe this program has:	
a. Shown the students a use and a need for these classes?	72%
b. Made the classes more interesting?	72%
c. Helped the students in English assignments?	42%
d. Helped the students in mathematics assignments?	58%
e. Helped the students in science assignments?	54%
f. Helped the students in industrial arts assignments?	70%

This pattern of beliefs is again evident in a comparison of Table V and Table XI. The comparison students did not check the items as often as in the preceding data. Less than half of these students believed the partnership students have learned as much as the comparison group. They were divided in thinking the program made learning easier, however, a serious attitude is indicated in the fact that only one third of the student body would elect to take part in a similar program.

TABLE XI

RESPONSES OF COMPARISON STUDENTS CONCERNING AMOUNT LEARNED

Question	Percentage Favorable
Do you believe:	
a. They have learned as much about each of the four class areas as they would if they had been in your class?	43%
b. This grouping of classes would have made your classes any easier, assuming you would have learned the same knowledge that you did?	50%
c. Would you like to take part in such an experimental program next year?	34%

ATTITUDES OF NON-PARTICIPATING STAFF MEMBERS

The impressions gained by the non-participating staff members as a result of the first year of the Project operation may have tremendous impact on the future of the program in that particular high school. An attempt to obtain the attitude of the staff was made toward the end of the first year. A questionnaire was presented to a teacher in English, mathematics, science, and industrial arts, who was not a member of the project, in each of the member schools. Thirty-seven responses were received and summarized.

The next question, " If the teacher on the Project in your discipline were to move to another school system next year, would you be interested in taking his place

as a member of the team?" The results were in reverse order from those obtained from the first question. Only about one-sixth of the teachers replied they would be interested in joining the team. Approximately the same number were undecided in each question, while 57 percent did not want to become a teacher with the Project. An attempt was made to determine what the staff thought would benefit the program. Very few teachers answered this request. Many said they were not familar enough with the program to warrent answering.

In response to the question, " Do you believe the students in your classes this year regard the program favorably?" Thirty-four replies were obtained to this question. Fourteen or 41 percent replied favorably, 56 percent said there was no evidence to warrent an answer and only one teacher, three percent, felt the students did not favor the program.

A final request was made. "Do you have students in your classes presently, that you think would profit from such an integrated program?" "Yes" received 40 percent of the responses, "No" was checked by 23 percent and the remainder were undecided.

One teacher thought the conventional academic program provided better education and two teachers reflected the opinion this program was desirable for the few "unteachables" in their classes.

ADMINISTRATIVE ASSESSMENT

In answer to the question, "Has the Vocational Education Project worked out as you planned last fall?" - 19 responses were obtained of which 16 percent replied "yes;" 79 percent indicated approximately as they had planned while only five percent replied "no." Such a small percentage of "yes" or "no" answere seems to indicate general satisfaction but with minor deviations.

Data concerning the facets of the program which the administration considered less than desirable are presented in Table XII.

TABLE XII

ADMINISTRATIVE ASSESSMENT CONCERNING TEACHER ACTIVITY

Area	No. of Respondents	Percentage expressing need for improvement
a. Planning by the team members	20	70%
b. Cooperation in effort by the team members	20	40%
c. Challenging a program to the students	19	53%
d. Student attitude toward the program	20	35%
e. Public relations or promotional activity	20	45%
f. Parental approval of the program	19	42%

The only two items that more than half the respondents considered to need improvement were those of "planning by the team members" and the "need to present a more challenging program to the students." Conversely, that part of the program which seemed most satisfactory was the "attitudes of the students toward the program."

A further attempt to determine the depth of administrative attitude prompted the question, " Have you made any long-range plans for combining any other disciplines for a similar integrated program?" Four of the 20 administrators, two from one school and one each from two other schools, gave an affirmative answer.

Responses to a similar question, " Does your long-range plan include a similar program for the girls?" Five of 19 administrators, two from one school, one from each of three other schools, checked the "yes" column.

This would seem to indicate a recognized value of the correlated and integrated approach possible with team teaching.

Further assessment of the program was solicited from the administrators by the question, "Would you briefly list improvements you would like to make in your program for next year?" The replies could be classified into 12 catagories, only five of which were suggested by two or more administrators.

The desirability of providing more "planning time for team teachers" was noted by seven administrators. "More publicity, parent orientation etc.," was next with four responses. "Better selection of activities," and "better selection of students" each received mention by three administrators. " More correlation" was listed twice. This may be relfected by the responses to the items, "the need for more planning" and "better selection of activities."

In response to the question, "Will you briefly indicate ways in which Central Michigan University could be more helpful in connection with the Project?" Fifteen suggestions were received. "More direct involvement in local programs" and "conferences for all teams each semester," were each mentioned four times. "Frequent visits" and "assistance to inexperienced teachers in planning integratable units," were each mentioned twice.

PARENTAL ATTITUDE TOWARD THE PROGRAM

The attitude of the parents was solicited at the same time the other data were obtained. A sampling technique was used in selecting parents to be contacted. The even numbered names in the teachers class book were chosen and an attempt to contact them by phone was made. If that were impossible, at attempt was made to call the parents of the student immediately preceding in the class book.

The best and most efficient phone technique was to have the student call the parent and introduct the interviewer.

This resulted in the data prosented in Table XIII.

TABLE XIII

PARENTAL REACTION TO THE PARTNERSHIP VOCATIONAL EDUCATION PROJECT

Question	No. of Respondents	Percentage More	Same	Less
Is the amount of homework your son does approximately the same as last year?	67	27%	49%	24%
Is his attitude toward his homework more favorable, less, the same as it was last year?	65	38%	54%	8%
Do you feel he has learned more than he would have in the usual school program?	64	70%	20%	9%
Would you want him to take part in a similar program next year if it were possible?	67	63% yes	22% undecided	15% no

The largest group of parents thought the amount of homework was about the same as the year previous. Also most parents thought their son's attitude toward his homework was the same. However, more considered it changed favorably than negatively.

A decisive number, 70 percent, of the parents thought their son learned more than he had the previous year and only 15 percent did not want their son to participate again.

SUMMARY

The students in the Partnership Vocational Education Project have much the same problems in the areas concerning school relationships as do the general student body, as represented by the comparison students. Both groups place their study habits as the major problem concerning school. The extent to which reading and communication enter into study habits was not recognized by the students or examined as part of this study.

The improvement in attendence was clearly visable. This would seem to indicate an increased interest in school. Prior to the start of the program, this was an area in which Project boys, in general, were not outstanding. An improvement in attendence would seem to be an objective assessment of a highly desirable change.

The Project boys also indicated they thought the correlated activities made the classes more interesting. This attitude is reflected in Tables IV and VIII. The student body also indicated a similar attitude toward the Project, Table X. This attitude was noted also by the non-participating teachers, 77 percent. The parents of the boys substianted this increased interest by reporting favorably on their son's attitude toward homework.

The correlating and integrating of the class activity is a salient feature of the Project and received attention in many free association responses. Table VII shows the student recognized the need for additional effort in this area. This facet of the program was again mentioned, more than any other, in Table VIII. The comparison students have aquired a favorable attitude toward this interdiscipline as shown in Table X (items a and b). Administrators indicated in Table XI, a need

for further effort in this area. Parent approval of the Project appears in Table XIII.

More planning of the class activities is a need recognized by the students, (Table VII - 23 percent) and by the administrators, (Table XII - 70 percent) and in administrative improvement for the coming year. This inadequacy in the program may have resulted from the lack of time to plan this part of the teacher's assignments. The administrators further reflected this need in responses concerning ways in which Central Michigan University could be more helpful.

The selection of activities was mentioned many times. In table VII, more "correlation and integration," "students participation in planning," "more ideas," "more science activity," "more tech lab activity," and "improve tech lab activity," are responses related in some degree to the need for better selection of the teaching activity.

The importance of activity is associated in Table VIII by responses of: "like science," "trips," "study things interested in," "like the tech lab," etc.

The "poor public image" may be the result of poorly selected and uninteresting activity.

Many of these facets of the program are interwoven and related. The students expressed need for improvement in Table VII, i.e. "planning," "correlation," "ideas," "work harder-move faster," "more activity in tech lab," " science," "stricter disciplines," seems to indicate a need for more assignments, more effort, more planning on the part of the teachers. The administrators substantiate this facet when 53 percent of them replied they saw the need for improvement in "challenging the student" and in "planning by the team members."

A highly desirable objective of the program is to change the students' attitude toward school. The data in Table V substantiates the belief that the Project is productive in this area. More than one-third of the respondents to each query have changed their mind about "their life's work," about "future educational plans," and about "school and teachers." A note of caution should be inserted. The above respondents did not change their mind about all four areas. However, if a student changed his attitude toward one item as a result of the Project, it should be regarded as a major step toward accomplishing this objective.

VT 012 032

Employment Opportunities for, and Employment Related Characteristics and Attitudes of, AFDC Mothers in Cuyahoga County.

Cleveland Welfare Federation, Ohio. Manpower Planning and Development Commission.

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ABSTRACT - To identify the employment opportunities for, and employment related characteristics and attitudes of, a 3.6 percent random sample of 20,017 mothers receiving public assistance in Cuyahoga County, Ohio, questionnaires were completed by 200 caseworkers having the sample cases. Analysis of the data in relation to the supply, demand, and costs of preparing the mothers for employment yielded these findings, which were applied to the total caseload: (1) Altogether, 7,526 or 37.6 percent of the mothers are employed full-time or part-time, in training, considered employable, or considered potentially employable, (2) The employable group, as compared with the potentially employable group, are better educated, younger, have fewer children, and are more likely to be white, (3) Problems the mothers may encounter as they seek jobs are a deficiency in aggregate demand for women workers, structural characteristics that tend to reduce employment opportunities for the poor, and discrimination against women and Negroes in terms of pay and types of available jobs, and (4) It will cost about $1,821 to train an employable mother without preschool children, while it will cost about $3,845 to train an employable mother with preschool children. (SB)

VT 012 032

EMPLOYMENT OPPORTUNITIES FOR,
AND EMPLOYMENT RELATED CHARACTERISTICS
AND ATTITUDES OF,
AFDC MOTHERS IN CUYAHOGA COUNTY
1970

THE MANPOWER PLANNING AND DEVELOPMENT COMMISSION

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THE MANPOWER PLANNING AND DEVELOPMENT COMMISSION

MPDC

The Manpower Planning and Development Commission of the Cleveland Welfare Federation provides a central resource and mechanism for bringing together the thinking of the many elements of the Greater Cleveland community--industry, education, government, labor, welfare, minority, civic and neighborhood groups--to plan and promote the kind of manpower-related programs and services that represent the best for each interest and the community.

The Commission represents a unique citizen voice in the manpower field, in that it is not engaged in direct program operations nor is it an advocate of a special interest group.

MPDC's concern is the broad spectrum of the local labor force: the unemployed, the employed (the best utilization of their potential), and future workers (those not yet in the labor force, as youth in schools and colleges). It extends from preparation for entry into and productive meaningful participation in the work world, to preparation for retirement from the active work force.

Major Objectives Of MPDC:

- PROCURE, ANALYZE AND DISSEMINATE MANPOWER INFORMATION which is essential for rational policy making and operational program planning by organizations and institutions in the community.

- IDENTIFY NEEDS AND OVERLAPS in the local manpower/employment field as documented by such objective data.

- DEVELOP RECOMMENDATIONS FOR REMEDIAL AND PREVENTIVE APPROACHES AND STRATEGIES toward meeting identified needs.

- PROVIDE THE CATALYTIC SPARK TO SET IN MOTION ACTION AND COOPERATION by appropriate organizations and groups required to implement such recommendations.

- FOSTER DEVELOPMENT OF INFORMED CITIZEN LEADERSHIP which is involved within a broad array of manpower/employment related areas.

- PROVIDE CONSULTATION AND TECHNICAL ASSISTANCE to voluntary and public agencies and organizations.

The "Study of the Employment Opportunities for, and the Employment Related Characteristics and Attitudes of, AFDC mothers in Cuyahoga County" is representative of the unique role of Cleveland's Manpower Planning and Development Commission.

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It is trite but true; without the efforts of these individuals, this report could not have been completed.

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HIGHLIGHTS

This study was undertaken by the Manpower Planning and Development Commission in early 1970 as an attempt to separate fact from fiction. Its goal is to identify the employment opportunities for, and employment related characteristics and attitudes of, mothers receiving public assistance in Cuyahoga County.

The study was requested by Steven Minter, Director of the Cuyahoga County Welfare Department, and was prompted by the proposed Family Assistance Program, the welfare reform plan of the Nixon administration. This FAP plan, if enacted in its present form, would require selected poor who wish to receive public assistance to register for job training and/or employment at the State Employment Service and accept same if offered. The only AFDC mothers exempted from this requirement would be those with children under 6 years of age, those where the father is present in the home and is the primary worker, and those unable to work because of illness, disability or age.

While in training, AFDC mothers would receive a $30.00 per month allowance. When employment is obtained, the first $720.00 per year of earned income plus one-half of the remainder would be "disregarded" under FAP before the earnings are subtracted dollar for dollar from the family's full public assistance grant to determine how much supplementary assistance the family will continue to receive. This is called the "work incentive" component of the FAP plan.

This MPDC study does not attempt to judge the moral rightness or wrongness of the "workfare" philosophy, which underlies the Family Assistance Program. Instead, it attempts to provide the factual kinds of information needed to determine the extent to which a "workfare" program in Cuyahoga County might succeed in moving employable and potentially employable welfare recipients into permanent, meaningful, and decent paying employment, and off of the welfare rolls. To our knowledge, this is the first major undertaking of this kind in the country.

In order to accomplish the stated purpose, three major areas were investigated:

1. The <u>supply</u> of (a) AFDC mothers who are employable and potentially employable, and (b) other women who need and/or want work.

2. Employer <u>demand</u> for women to fill job openings in Cuyahoga County over a 12 month period.

3. The <u>costs</u> of preparing for employment AFDC mothers who are

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employable and potentially employable.

THE SUPPLY PICTURE

A 3.6% random sample of the 20,017 AFDC mothers in Cuyahoga County as of March 31, 1970 was taken to determine the employment related characteristics and attitudes of these individuals. Questionnaires requesting this information were completed by 200 caseworkers having the sample cases. If the percentages disclosed in the survey are applied to the total caseload, it is found that:

- About 3,182 or 15.9% of the total caseload are working either full time or part time or in training.

- Approximately 8,467 or 42.3% of those AFDC mothers not working or in training have pre-school children, 6,346 or 34.8% do not, and 360 or 1.8% have children whose ages were unreported.

- 621 or 3.1% of the AFDC mothers not working or in training are considered to be employable. Employable mothers are considered by MPDC to be those who:

1. have no pre-school children
2. are literate
3. have no medically defined disabilities
4. are in fair or good health
5. have their high school diploma or better, and
6. are between 16 and 39 years of age.

- Approximately 3,723 or 18.6% of the AFDC mothers not working or in training are considered to be potentially employable -- mothers who:

1. have no pre-school children
2. are literate
3. have no medically defined disabilities
4. are in fair or good health, and
5. either (a) have between a seventh and eleventh grade education and are between 16 and 49 years of age, or (b) have a high school diploma and are between 40 and 49 years of age.

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- Altogether, 7,526 or 37.6% of the AFDC mothers are either (a) employed full time or part time, (b) in training, (c) considered employable, or (d) considered potentially employable.

- In comparing those considered employable with those considered potentially employable, it appears that, in general, those in the employable group:

1. are better educated

2. are younger

3. are more likely to have had previous work and/or training experiences

4. are more likely to have had these experiences in the clerical field

5. have fewer children

6. have more need for day care facilities for their children if they go to work

7. are less likely to have been on welfare before, and

8. are more likely to be white

than the potentially employable group.

- Almost one out of fifteen (or 42) AFDC mothers with pre-school children who could be considered employable might be expected to volunteer for training and/or employment even though FAP, as presently proposed, would not require them to do so.

Approximately 365 of the AFDC mothers with pre-school children who could be considered potentially employable might also volunteer.

- About 30,000 AFDC mothers, according to the Cuyahoga County Welfare Department, will receive assistance between April 1, 1970 and March 31, 1971. For this reason, all of the above figures relating to numbers of AFDC mothers who are working, in training, considered employable or considered potentially employable must be increased by one-third to determine the total number who will be in each of these categories during the 12 month period.

- The total number of women who will be looking for work in Cuyahoga County between April 1, 1970 and March 31, 1971 (excluding local AFDC mothers) is conservatively estimated to be 21,965.

- AFDC mothers considered employable and potentially employable may be, at some disadvantage in relation to the total supply, when

looking for employment in terms of two of the most important job related characteristics - age and education.

THE DEMAND PICTURE

On the demand side, calculations based, in large measure, on data contained in the Ohio Bureau of Employment Services "Occupational Survey, 1968-1975, in the Cleveland Metropolitan Area," revealed that:

- There will be approximately 16,175 jobs available to women in Cuyahoga County between April 1, 1970 and March 31, 1971.

- If this projection is valid, there may be at least 5,800 fewer jobs in Cuyahoga County for women than there will be women (excluding AFDC mothers) wanting and/or needing them (21,975) between April 1, 1970 and March 31, 1971.

- 62.4% of the job openings for women during the year may be in the wholesale and retail trades, the service industries and various branches of government.

- The clerical, sales and service professions may account for 60.3% of all job openings for women during the year.

- While one-third of the job openings for women during the year will probably be in the clerical category, only slightly more than one out of ten AFDC mothers considered employable and potentially employable has had previous work experience in this field. On the other hand, while only one out of four job openings for women will probably be in the service occupations, about two out of five AFDC mothers have had experience in this field.

- Of all of the projected job openings:

1. 48.2% are in occupations for which (a) a high school diploma is preferred but not generally required, and (b) no special training is generally required.

2. 18.8% are in occupations for which (a) a high school diploma is preferred but not generally required, and (b) special training is generally required.

3. 8.6% are in occupations for which (a) a high school diploma is generally required, and (b) no special training is generally required.

4. 8.9% are in occupations for which (a) a high school diploma is generally required, and (b) special training is generally

required.

5. The remaining 15.5% are in occupations of the self-employed or occupations requiring education beyond high school.

- Of the openings requiring a high school diploma or less, about 72.4% will have an average annual starting wage of $4,800.00 or less. According to the proposed FAP formula, local AFDC mothers with families of four or more would have to earn at least $4,800.00 per year before being removed completely from the welfare rolls. This means that more than seven out of ten jobs that require a high school education or less and may be available to women during the year will not pay enough to remove from the welfare rolls local AFDC mothers with families of four or more.

- It would appear from the supply/demand data found in this report, that local AFDC mothers may encounter the following problems as they seek jobs:

1. a deficiency in aggregate demand for women workers

2. "structural" characteristics of the demand for and the supply of labor that tend to reduce employment opportunities for the poor. (e.g., (1) the high educational requirements of many jobs and (2) many women with considerable education accepting jobs that those with less education could otherwise fill.)

3. Discrimination against women and Negroes in terms of pay and types of jobs available.

THE COST PICTURE

In Relation to the Taxpayer:

1. MPDC estimated that it will cost about $1,821.00 to prepare for employment an AFDC mother without pre-school children who is considered employable. On the other hand, for an employable mother with pre-school children, the cost would be approximately $3,845.00. The Nixon Administration estimated the average cost would be about $2,667.00 per trainee.

2. If 80% of the employable AFDC mothers without pre-school children received job preparation and the remainder found employment without training, the total cost of providing public assistance as well as training and training related services to the 80% and supplementary assistance and day care to the other 20% would be approximately $1,749,936.00 or about 5.4% more than it would to simply maintain these families with full welfare assistance grants ($1,479,843.00). However, the cost of providing public

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assistance and training and training related services to 80% of the 56 AFDC mothers with pre-school children who are considered employable and supplementary assistance and day care to the remainder would be $227,034.00 or 58.8% more than it would be to simply maintain their families with full welfare assistance grants ($133,448).

3. It currently costs about $1,479,843.00 to provide public assistance to 621 AFDC mothers without pre-school children who are considered employable. If FAP is enacted in its present form and all of these mothers were able to find jobs at an average wage of $4,200.00 annually, it would cost approximately $675,294,00, or 45.6% less than the above amount to provide supplementary assistance and day care to these families. However, if the 56 AFDC mothers with pre-school children who are considered employable find work, it would actually cost $138,384.00 or 3.7% more to provide supplementary assistance and day care to these families than it would to give all of them full welfare assistance grants.

In Relation to the AFDC Mother and Her Family:

1. The possible cost of FAP, if enacted in its present form, to the AFDC mother is illustrated by the following example. Because of certain aspects of the FAP "work incentive" formula, a mother with a family of four in Cuyahoga County, if she began earning $4,900.00 annually, would have only $424.00 more spendable income per year than she would if she earned only $1,800.00 per year. In addition, at $1,800 per year, she would be eligible to receive medical care services that would be provided to all recipients. But at $4,900.00, she would have to pay for all medical expenses out of her own income. In other words, if she accepted a $4,900.00 job, she would actually have very little, if any, additional income and she would be away from her children during working hours. In spite of the fact that accepting such a job might not be in the best interests of either her family or herself, FAP, as now proposed, could require her to do so if she had no pre-school children.

INTRODUCTION

Are They Simply Lazy?

" . . . They don't want to work because life on the dole is too easy." Expressions of this nature have long been uttered by those who are convinced there are plenty of jobs available for welfare recipients, especially welfare mothers, if they only had the motivation to look for and secure work.

But is such thinking based on myth or reality? Are there really jobs "out there" for welfare recipients? Is motivation really the missing ingredient?

Purpose Of Study

This study was undertaken by the Manpower Planning and Development Commission in early 1970 as an attempt to separate fact from fiction; to identify the employment opportunities for, and employment-related characteristics and attitudes of, mothers receiving public assistance in Cuyahoga County.

While discussions about the "employability" of welfare mothers have raged since the welfare system first came into being, federal legislation during the 1960's linking welfare with work, has heightened the need for the kind of information contained in this report.

The Creation Of AFDC

In 1936, Aid for Families with Dependent Children (AFDC), a program of assistance to needy youth in fatherless homes, was established by the

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Federal Government, so that female heads of low-income households could stay at home and care for their pre-school and in-school offspring.

The Welfare Programs Of The 1960's

1962 Social Security Amendments--One of the basic philosophies that precipitated the establishment of AFDC--that the mother should remain at home with her children--continued to be reflected in welfare legislation until 1962 when the Social Security Amendments of that year introduced the concept of vocational rehabilitation in addition to financial support. For the first time, recognition was given to the need for increasing the employability of needy adults.

The Title V Program--In 1964, Title V of the Economic Opportunity Act established a Work-Experience Program which was administered by State Welfare Departments for needy men and women. Under this program "employable" recipients, including AFDC mothers, were given the opportunity to work at one or more training sites before being placed in gainful employment. No recipient was required to accept training and/or employment in order to continue receiving assistance. In Cuyahoga County, 975 males and 344 females, out of a total enrollment of 3,500, were placed in gainful employment between 1965 and the end of 1967 by the Title V Program.

The WIN Program--In 1967, the Work Incentive Program (WIN) was established by another set of Social Security Amendments to replace the Title V Program. These Amendments, which are still in effect,

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require State Welfare Departments to refer to State Employment Services all employable or potentially employable AFDC recipients for training and/or employment. If such recipients refuse training and/or employment, financial assistance is terminated. Until the enactment of these Amendments, earned income was subtracted dollar for dollar from the recipient's grant. However, as an "incentive" to work, the first $30 of earned income per month, plus one-third of the remainder of all earned income and earned income spent for employment-related expenses (i.e., child care, transportation, etc.) are now "disregarded"--subtracted from the gross income before the amount of assistance an employed recipient is to receive is calculated. In other words, the recipient's "net," rather than his gross, income is now subtracted dollar for dollar from his grant. If in training, the recipient continues to receive this full grant, plus a $60 per month living allowance.

The 1970 Manpower Report of the President claims that 62,000 recipients in 38 States and the Trust Territories had participated in the WIN Program as of June 30, 1969. Originally, the WIN Program planners expected enrollment to exceed 110,000 by that date. As of January 1, 1970, there were 82,446 enrolled nationwide in WIN, but only about 56,000 were actively in training. By the same date, 9,032 were in jobs and totally removed from the welfare rolls while another 11,842 had completed training but were still receiving welfare assistance. When the program was first established in 1967, the Department of Labor estimated that there would be 63,000 in jobs by July 1, 1970.

Although 1300 WIN training slots were available locally, only 475 were filled as of January 30, 1970. The vast majority of the trainees were male. Only 131 had been placed in jobs and removed from the welfare rolls between July 11, 1968 and January 30, 1970. In recent months, however, vigorous attempts have been made by the Cuyahoga County Welfare Department and the Ohio Bureau of Employment Services to strengthen the WIN Program and to enroll more AFDC mothers. By May 30, 1970, 605 AFDC mothers and 288 male welfare recipients were participating in the local WIN effort.

Welfare Reform

The Family Assistance Program--Since AFDC was initiated 34 years ago, no major reform of the welfare system has been undertaken. The training/employment programs described above were simply "tacked on" to the traditional public assistance system. However, the Nixon Administration has now proposed what it calls a "revolutionary effort to reform a welfare system in crisis."

The proposed Family Assistance Program (FAP) would be administered by the Federal Social Security Administration and, for the first time, guarantee a minimum income to those now covered by AFDC, to other adult recipients of assistance and to the working poor. The Family Assistance Act of 1970 (H.R. 16311) was passed by the House of Representatives in April, 1970 and, at the time of this writing, is still being closely examined by the Finance Committee of the Senate.

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The Work Registration Requirement--Under the plan, adults desiring to become eligible for assistance would be required to register for employment or training at State Employment Services and accept training or a suitable job opportunity if offered. As with the WIN Program, which would be eliminated if FAP is enacted, failure to register or accept such an opportunity would mean termination of the adult recipient's benefits. Those exempted from this work/training requirement would be mothers with children under 6 years of age, mothers where the father is present in the home and is the primary worker, adults unable to work because of illness, disability or age, and persons under 21 attending school full time.

The Work Incentive Component--If retained in the form passed by the House, FAP would, as a work incentive, "disregard" the first $720 per year of earned income and approximately one-half of the remainder before determining the level of financial assistance. An additional "disregard" for employment-related expenses, offered by the WIN Program, is not included in the FAP incentive package. Day care services for children of working recipients are to be financed by the Federal Government while health and other supportive services are to be provided by the State Welfare Departments.

Reactions To The Plan--While many are questioning how much FAP actually "reforms" the current welfare system, the legislation if enacted in its present form, would represent the first time that the United States has espoused a policy of providing federal financial assistance to every family with children where income is insufficient to meet minimum living standards.

Many public assistance experts, however, have pointed out that FAP still will bring very few families up to the standards as set by the states. In addition, experts note that FAP, at best, provides welfare recipients with the "incentive" to work part-time rather than full-time. As Table I below reveals, a family of four would have more spendable income if its earned income were $3600 than if it were $4800 because of a rapidly decreasing food stamp allowance schedule and a rapidly increasing social security tax schedule. Furthermore, the family's spendable income would increase only $424 a year if earned income advanced from $1800 to $4900 per year. There is very little incentive, even to the poor, to work full-time for $4900 instead of part-time at $1800.

TABLE I.

Family Assistance Plan - Family Of Four Living In Cuyahoga County

Earned Income	FAP	State	Food Stamps	S.S.	Income Tax	Spendable Income	
0	1600	1268	372	0	0	3240	*
600	1600	1268	192	29	0	3631	+65.2
1200	1380	1168	108	58	0	3798	+27.8
1800	1060	1088	48	86	0	3910	+18.7
2400	760	988	0	115	0	4033	+20.5
3000	460	888	0	144	0	4208	+29.2
3600	160	734	0	173	20	4301	+15.5
4200	0	414	0	202	139	4273	- 4.7
4700	0	14	0	226	287	4201	-14.4
4800	0	0	0	230	331	4239	+38.0
4900	0	0	0	235	331	4334	+95.0

* The percentage of each additional earned dollar that is spendable.

The Cleveland Plain Dealer, in an editorial earlier this year, noted that conservatives in Congress "contend that the program is actually a 'work dis-incentive'. The difference between what a family can receive on welfare and what it can earn before losing all benefits is not enough to induce a recipient to want a job...."

An editorial in the March 30, 1970 edition of the Wall Street Journal noted that direct incentives to welfare recipients through FAP will be only marginally higher than those now offered by the Aid for Dependent Children Program. The paper pointed out that "In some areas welfare benefits are high enough that it would be economically irrational for recipients to work at low-level jobs."

There are some experts who have concluded that FAP incentives may, in fact, be somewhat weaker than the incentives presently provided by the AFDC Program in some states and localities. Currently, all AFDC families in Cuyahoga County, no matter how small, can earn $4800 or less and continue receiving some supplementary financial assistance. While FAP, as presently constituted, would offer a family of four in Cuyahoga County supplementary assistance until earned income reached $4800, smaller families would be cut off at lower earned income levels. (See Table I.)

In addition to these shortcomings, other pros and cons of the FAP have been discussed extensively since President Nixon first presented the plan to the country on August 11, 1969.

George P. Shultz, on February 9, 1970 while he was still Secretary of Labor, commented: "If I were asked to give the basic difference

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between the Aid to Families with Dependent Children Program and the Family Assistance Plan, I would say this: Both systems start from the premise that we are our brother's keeper. The difference is that the dependent children program emphasizes the role of the 'keeper'; the family assistance plan reasserts through recognition of human dignity the fact of brotherhood."

Jerome M. Rosow, Assistant Secretary of Labor for Policy, Evaluation and Research and one of the authors of the Family Assistance Act, pointed out in the April 27, 1970 issue of "Washington Bulletin" that the "plan was based on certain key assumptions which we believe will be recognized as both sound and valid.

These assumptions are: -

- That the great majority of welfare adults prefer work to idleness; this is confirmed in attitude surveys,
- That economic gain is the real motivator for work, and that the poor recognize their self-interest as quickly as other people do,
- That training, child care and vocational rehabilitation are support services which foster real attachment to the work force,
- That family assistance involves responsibilities as well as rights, and

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- That the mothers, the children and the society are benefited by self-sufficiency and all are harmed by dependency."

On the other hand, Charles Kilpatrick, Chairman of the Department of Economics, Michigan State University, when testifying recently before the Senate Subcommittee on Employment, Manpower and Poverty, noted "that most writers on economic issues and most government policy makers have spent their lives in the benign climate of the upper level of the labor market and have no conception of the depressing realities of the lower levels. That is one reason why it seems entirely plausible to them, to take it for granted--to cite one current example--that if we provide a modest economic incentive and a little training, many thousands of welfare clients will rush right out and get jobs."

There are still many, however, who view FAP with favor because they believe it will assure each individual a fair opportunity to fulfill his potentiality and aspirations, and to live in decency and dignity.

But many conservatives in Congress say "The WIN experience indicates Nixon's 'work-fare' will not get more people off welfare rolls and onto payrolls....."

In the same vein, a recent newsletter of the Health and Welfare Council of Philadelphia pointed out that "The 'work-fare' label

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plays upon the fears and untruths of the welfare myth. It perpetuates the distorted ethic that says 'those who are working will make it if they only work harder'." The council also noted that "implicit in the work registration requirement is the concept that children over five do not need their mothers to care for them." The Philadelphia group intimated that this reasoning may not be sound.

Steven Minter, Director of the Cuyahoga County Welfare Department, was quoted in the February 12, 1970 edition of the Cleveland Press as saying that he was afraid "that the emphasis on workfare could become a substitute for adequate payments for those who cannot work."

Not only are some of the specific problems of FAP identified by the above comments, but some of its philosophical and moral implications are also alluded to. Many are asking if workfare is right or wrong, good or bad? While an in-depth analysis of the philosophical and moral implications of FAP would be of some interest, this report will not engage in such an undertaking.

Whether the work requirement of FAP is the result of heightened adherence by many in the United States to the so-called "Prostestant Ethic," to a concern over runaway taxes, which are the result, to some degree, of the increasing costs of public assistance, or to a combination of factors, is unknown and probably immaterial at this juncture. The important thing is that FAP, no matter how much it is revised before final enactment, is expected to include a work requirement.

Restatement Of Study Purpose--This report, therefore, does not attempt to judge the moral rightness or wrongness of the "workfare" philosophy nor the values underlying it. But it does attempt to provide the kinds of information needed to determine the extent to which a "workfare" program in Cuyahoga County might succeed in moving employable and potentially employable welfare recipients into permanent, meaningful, and decent paying employment, and off the welfare rolls.

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AREAS OF INVESTIGATION

In order to accomplish the purpose of this study, three major areas were investigated:

1. Supply

   a. How many AFDC mothers in Cuyahoga County are employable or potentially employable?

   b. What are the employment related characteristics and attitudes of the employable and potentially employable AFDC mothers?

   c. How many women (other than AFDC mothers) will be seeking employment in Cuyahoga County during a twelve month period beginning April 1, 1970?

   d. What are their employment related characteristics?

2. Demand

   a. How many and what kinds of jobs will become available in the Cleveland labor market during a twelve month period beginning April 1, 1970 for women seeking employment?

3. Costs

   a. If jobs become available for employable and potentially employable AFDC mothers, how much would it cost to prepare (training, retraining, remedial education, rehabilitation), place and supply supportive services (day care, health care, etc.) to these individuals or various segments of this group?

SUPPLY

National Female Employment/Unemployment

General Overview--According to the Advance Summary of a Special Labor Force Report by the Bureau of Labor Statistics entitled, "Marital and Family Characteristics of Workers," the number of working women reached 17.6 million in March 1969. The tight labor market of 1967-1969 encouraged many married women to re-enter or remain in the labor force. Of the 1.8 million increase in the total labor force over the year ending March 1969, 775,000 were working women. More than 300,000 of these new female workers were between 20 and 24 years of age--an unprecedented yearly increase of 18% for working women in this age group. This large jump is attributed to 1) the larger generation of post World War II babies; 2) increased birth control; and 3) an increase in the participation of young couples who prefer two paychecks.

The 1969 Handbook on Women Workers of the Department of Labor revealed that there were 1.4 million unemployed women in 1968 for an unemployment rate of 4.8%. This was substantially higher than the 2.9% unemployment rate for men. The gap between male and female unemployment has been widening in recent years. One reason for this is that women tend to move in and out of the labor force more frequently than men do.

A May 1, 1970 news release (USDL-11-189) of the Department Of Labor disclosed that the unemployment rate for women 20 and older in the

100 largest urban poverty neighborhoods during the first quarter of 1970 was 5.0% (about 114,000). In other urban neighborhoods, the rate for women was only 3.8% (about 530,000). White females in urban poverty neighborhoods had an unemployment rate of 4.1% (approximately 63,000) while non-white women in the same areas had a rate of 6.1% (about 61,000).

In February 1970, the Women's Bureau of the Department of Labor published a booklet entitled "Automation and Women Workers." This report noted that for girls between 16 and 19, the rate of joblessness has exceeded 12% throughout the 1958-68 period. A number of other articles on women workers have shown that unemployment is, in general, very high for the female teen-ager and relatively low for women over 40. However, when a girl between 16 and 19 is unemployed, it is usually for only a short period of time (4 weeks or less), while many over 40 who are unemployed remain so for longer periods (6 months or longer). It should be noted that "hidden" unemployment--unemployment not included in Department of Labor unemployment statistics--is rather high, especially among older women workers. Many give up looking for work because the prospect of finding same seems hopeless. This, of course, does not mean that they no longer need to work.

The Women's Bureau report on automation and its effects on women workers also suggested that "Advancing technology is one of the factors behind the higher educational and training requirements for many jobs. These, in turn, have contributed to women's greater

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interest in obtaining more education. The proportion of women workers 18-64 years of age with at least a high school education increased from 60.6% in 1962 to 67.4% in 1968.... Enrollment in all types of educational institutions for training and retraining has increased significantly, rising between 1950 and 1967 from 47,000 to 375,000 for women 25 to 34 years of age."

The Handbook on Women Workers disclosed that the median wage or salary income for women in 1966 was $2,149 as compared to $5,693 for men during the same year. It was also noted that the differences have actually increased since 1956. The same source revealed that the total median income (including income other than wage or salary) for white females in 1966 was $4,152, but only $2,149 for non-white women.

The Working Mother--The Handbook pointed out that, in March 1967, of all women 16 years of age and older in the labor force, 58% were married (husband present), 6% were married (husband absent), 21% were single, 9% were widowed, and 6% were divorced.

There were 10.6 million working mothers with children under 18 years of age in March 1967. This group represented 38% of all women workers at that time. Of the 10.6 million, 17% or 1.8 million were either widowed, divorced, or, for other reasons, separated from their husbands.

The Special Report on Marital and Family Characteristics noted that about one-fourth of all women with children under three,

about one-third with children between three and five, and over one-half with children old enough to be in school were in the labor force. The study also disclosed that the higher the educational level of the wife, the more likely she was to work. However, when the husband's income was $10,000 or more, she was less likely to work.

The Female Head Of Household--The Handbook on Women Workers reported that in March 1967, 52.6% or 2,717,000 of the 5.2 million women who had families but no husbands were in the labor force. Of this number, 4.6% or 121,000 were unemployed. A mother who is the head of a household is more likely to work full time than is the mother whose husband is at home. 81% of female heads of households who are employed worked full time. "Significantly, families headed by women were the most economically deprived--in 1967 almost 1/3 or such families lived in poverty, according to the poverty index developed by the U. S. Social Security Administration. They are also the most persistently poor--it is estimated that between 1959 and 1966 the number of poor non-farm households headed by women increased more than 2%." It should also be noted that 3 out of 5 children in families headed by women lived in poverty in 1966.

In 1966, the median income (including income other than wage or salary) for female heads of households was $4010, while for male heads of households, it was $7436. Altogether in 1966, there were 6.1 million families living in poverty and 1.8 million or about 30% of these were families headed by women. U. S. Department of Commerce

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Report (CPR-60, No. 55) disclosed that 25.1% of all white female heads of households and 54.1% of all non-white female heads of households were living in poverty in 1967.

Summary--Many more women, especially young women, are working today than ever before. However, the unemployment rate for females is about 40% higher than the rate for men and the gap is said to be widening. Teenage girls have the highest unemployment rate (more than 12% each year from 1958 through 1968), and older women over 40 have the lowest. However, there is reason to believe that there is substantial "hidden" unemployment among older female workers. With higher educational and training requirements for many jobs, women have been obtaining more education in recent years. Between 1962 and 1968 there was an increase of 6.8% in the number of women 18 to 64 with high school diplomas. Income for most women is significantly lower than that for men. Non-white females also make much less, in general, than white women.

In March 1967, there were 10.6 million working mothers with children under 18 years of age. The chances of a mother working appear to be directly related to the ages of her children, her education and her husband's income.

Of the 5.2 million women who, in March 1967, headed households, 2,717,000 were in the labor force and 121,000 of these were unemployed. Eighty-one percent of those who were employed worked full time. However, about one-third of all female-headed households live in poverty.

In fact, three out of five children in families headed by women lived in poverty in 1966. One out of four of the households headed by white females and more than half of the households headed by non-white women were living in poverty that same year. In any analysis of this information, it should be remembered that AFDC mothers head a significant number of these households.

Female Unemployment In Ohio

According to a Special Labor Force Report by the Department of Labor entitled "Unemployment by Region and in Large States," the percentage of female unemployment in Ohio in 1968 was 3.6% as compared with 3.8% for the nation. However, the white female unemployment rate in Ohio was 3.0% while the non-white rate was 8.0%. This was the second highest non-white female unemployment rate among the ten largest states in the country.

Local Female Employment/Unemployment

General Overview--As of April 1, 1970, total female employment in the Cleveland Metropolitan area was 319,819, approximately 35% of the total number emplcyed in the greater Cleveland area. The Manpower Planning and Development Commission, based on data contained in the "Occupational Survey, 1968-1975, in the Metropolitan Cleveland Area" (which was published in 1969 by the Ohio Bureau of Employment Services), estimated that the total female employment on April 1, 1970, should have been approximately 331,913. The difference between the projected and the actual totals is about 3.6%. It is hypothesized that the difference is mainly the result of the economic

slowdown that the country has been experiencing since late 1969. Possible slowdowns were not taken into consideration by the OBES survey analysts in making their expansion projections through 1975.

MPDC estimates that the number of insured unemployed females (those receiving unemployment compensation) in the Cleveland metropolitan area as of April 1, 1970 was approximately 13,750. This figure represents about 50% of the total number of insured unemployed in the area on that date.

Project EVE of Cuyahoga Community College, an operation concerned with women workers in the Cleveland area, has estimated that 54% of the women working in Cleveland are married and living with their husbands, 14% are widows, 5% are divorced, 4% are separated and 20% are single. It has also estimated that approximately 50% of all Cleveland area women between 18 and 64 are employed at any one time.

In 1969, Project EVE studied Cleveland women in the inner city using for the most part 1965 special census data (the most recent figures available on female employment in the area). The study found that at least 44% (about 11,789) of the families living in poverty had a female as the head. In neighborhoods where a concentration of poverty existed, this percentage rose to 52% (about 9,287). The black population in poverty had 56% (about 8,278) of its families headed by females in these neighborhoods. Of all female heads of households in these neighborhoods, 84.6% were black. There were

2.8 children in female-headed poverty households, while there were only 1.6 children in male-headed poverty households.

In the aforementioned poverty neighborhoods, 30% of the non-white and 31% of the white female heads of households were separated, widowed or divorced. In these same neighborhoods, the female unemployment rate was 13.3% while it was only 10.5% for males. In the remainder of Cleveland, the rate was 5.3% for women and 4.2% for men.

Summary--As of April 1, 1970, 319,819 or about 35% of the total number employed in the Cleveland area were women. Approximately 13,750 women were unemployed on the same date. In 1965, 13.3% of the females in the neighborhoods with a high concentration of poverty were unemployed, while the rate for women in the entire Cleveland area was only 5.3%. Of all female headed households in the poverty areas, 84.6% were black.

The Employability Of AFDC Mothers - General Discussion

A Cross-Section Of Estimates--James Kilpatrick, a syndicated columnist, estimated earlier this year that 9.6 million persons were currently on welfare. He also postulated that only about 500,000 (or about 5.4%) were actually prospects for "workfare." However, he did not indicate how many of these might be females.

Mankiewicz and Braden, two other syndicated columnists, estimate that "....there are hundreds of thousands--if not millions--of welfare mothers of dependent children who now appear available for

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a pool of cheap labor."

The Health and Welfare Council of Philadelphia claims that "150,000 jobs and job training slots (which the FAP program in its present form is to provide) are a small amount," thereby intimating that there may be many more welfare recipients who are potentially employable.

The Employment Training and Education Work Group Report of the local Mayor's Commission on the Crisis in Welfare, dated April 4, 1968, concluded that "Results of recent surveys and studies indicate that the vast majority of public assistance recipients are unemployable both locally and nationally." However, the report also commented that "The unemployed relief population which has the most potential for training and employment is the AFDC mother group."

The Chairman of the Commission, Dr. Herman Stein, Vice President of Case Western Reserve University, at a local speaking engagement in January this year, stated, "Perhaps 1,000 (local) AFDC mothers might be able to 'make it' in employment with the support services they need, including day care."

Steven Minter, Director of the Cuyahoga County Welfare Department, has estimated that about 30% of the AFDC population (approximately 6,000, if March 31, 1970 caseload figures are used) could be engaged in work, full time or part time, and in training if ample day care became available.

Employability Studies--The Department of Labor Monograph No. 12, "The Potential for Work Among Welfare Parents," details a number of employability studies conducted nationally and by selected welfare departments around the country.

One of these studies was a 1965 survey conducted by the California Department of Social Welfare. This survey of California's AFDC caseload "counted as 'probably unemployable' those mothers who (were) either 'older than age 50, illiterate, (limited by) any acute mental or physical handicap, or, (by) more than 6 children.' Using these criteria, 62.6% of the mothers were considered to be 'probably unemployable' and 20.4% were considered by the caseworkers to be 'needed in the home'." Therefore, only 17% were either employed or considered fully available for employment.

Another study cited by the Monograph was one conducted by New York State. This study included in its definition of employability a judgment as to how "placable" a welfare client was. It was determined that only about 7% of the AFDC mothers in the State were either employed or employable.

A nationwide study of AFDC mothers in 1961 considered as unemployable those needed as homemakers, those who were unemployed because they had no work training or experience, and those whose potential for employment was poor, regardless of the conditions of the labor market. Using these criteria, roughly 22% of all AFDC mothers were either employed or considered employable.

It should be noted that none of the above studies differentiates between mothers with pre-school children and mothers whose children are all six or older.

A fourth study discussed in the Monograph was one done by New York City in 1966. 131 AFDC mothers were interviewed to elicit information about employability. The researchers felt that employability involved "consideration of both the demand for and the supply of an individual's labor, and only an experiment with a variety of net wage rates and with ample day care facilities would permit strong statements about the mothers in the sample."

This study, of course, was undertaken before the monetary "work incentive" component of the 1967 Social Security Amendment was instituted. The responses of the mothers indicated that many of them may have been "disguised employables" and that their work effort might have been influenced by monetary "work incentives." However, "Under the most liberal assumptions made about their skills, and the state of the labor market, they were overwhelmingly incapable of self-support." 22.9% were employable, if those who were employed and those who claimed to be able to work were combined. "65% claimed to be unemployed or not in the labor force because they were unable to find suitable child care or because they were not physically well.... When employability was defined as having recent employment experiences and no health problems or pre-school children, the percentage was 10.7%."

About 33% in this New York City study felt that a moderate monetary "work incentive" would motivate more mothers to work while about 40% felt that a substantial monetary "work incentive" would be needed before AFDC mothers, in general, would consider working. The authors of the Department of Labor Monograph concluded from this New York study that some form of monetary "work incentive" and increased child care facilities would substantially increase labor force participation, if not employment among these mothers.

Another study of AFDC mothers in New York City was undertaken in 1968 by Dr. Lawrence Podell of the City University of New York. When asked whether or not they wanted to work, 80% of the black mothers, 60% of the Puerto Ricans and 55% of the white mothers indicated a preference to work. About 70% all together want to work. Most white mothers with pre-school children (55%) preferred to stay home even if the appropriate child care arrangements were available. On the other hand, most Puerto Ricans (54%) and black mothers (69%) with pre-school children preferred to work. When the entire sample was asked if they expected to work in the future for pay, two-thirds replied positively, a fifth negatively, and the rest were undecided. Those who planned to work, in general, had more education than those who had no such plans.

Summary--"Educated Guesses" as to the number of AFDC mothers nationally who might be employable vary considerably--ranging from 500,000 to "millions." Locally, it has been estimated that from about 1,000 to 6,000 AFDC mothers may be employable if offered ample supportive

services.

In a report on "The Potential for Work among Welfare Parents," the Department of Labor cites a 1965 California study which determined that about 17% of its AFDC mothers were either employed or considered fully available for employment. The report also noted that a New York City study, which attempted to judge how "placeable" AFDC mothers were in addition to other factors, estimated that about 7% of these persons were either employed or employable. A nationwide study disclosed that roughly 22% of all AFDC mothers were either employed or considered employable. In a 1966 New York City study, 22.9% were found to be employable if those who were employed and those who claimed to be able to work were combined. However, only 10.7% were considered employable if only those with recent employment experience and no health problems or pre-school children were included. When a 1968 study was undertaken in the same city, two-thirds of the AFDC mothers interviewed responded that they planned to go to work at some point in the future.

Both the "educated guesses" and these studies seem to indicate that there is little consensus as to how many AFDC mothers are really employable or potentially employable. However, it must be remembered that each estimate and study was based on a somewhat different definition of employability and, therefore, differences in findings are to be expected.

The Employability Of AFDC Mothers In Cuyahoga County

Rather than relying on the estimates and studies, the Manpower Planning and Development Commission decided to undertake its own in-depth study of the employment related characteristics and attitudes of Cuyahoga County AFDC mothers. The study was undertaken for a number of reasons including: (1) the fact that the make-up of the AFDC population is somewhat different in each community, thereby making it difficult to apply the findings of the previously cited studies to the local situation; and (2) none of these studies utilize a set of employability criteria that would give a fairly accurate approximation of the number of clients who might be covered by the work registration requirement and considered employable or potentially employable under the FAP plan.

National AFDC Statistics--6.5 million individuals were receiving AFDC assistance as of July, 1969. This figure has doubled since 1960 and is expected to double again by 1975. $4 billion was expended in the AFDC category during 1969. This figure is also expected to double by 1975. If the income of all AFDC families was brought up to the minimum standard (which varies according to state), the cost would exceed $6,500,000,000 this year.

Local AFDC Statistics--In Cuyahoga County, the AFDC caseload increased 15% during 1968, 19.2% during 1969, and 12.9% during the first 3 months of 1970. It is obvious that the AFDC caseload in Cuyahoga County is increasing at an accelerating rate. As of March 31, 1970, there were 20,017 active AFDC cases in the County.

Local Employability Study Methodology--It was this collection of cases that the Manpower Planning and Development Commission chose to study. A computer printout of the active cases on that date was obtained, and a 5% random sample of some18,500 cases identified by the printout was selected. Following the elimination of 10 cases, which, for a variety of reasons, were deamed inappropriate for the study, 914 three-page questionnaires were given in mid-April to 200 caseworkers who were working with the cases selected. The questionnaires contained 20 "multiple choice" and "fill-in-the blank" questions about the employment-related characteristics and attitudes of AFDC mothers. The Manpower Planning and Development Commission is fully aware of the fact that data collected by questioning caseworkers are, in some ways, less reliable than obtaining information directly from the clients themselves. However, there is some question as to whether a method can be found to elicit the "true" responses of welfare recipients to certain attitude questions. The tendency of welfare recipients to give the "right" answers (the ones they feel the researchers want to hear), rather than their own real feelings, has been noted in other studies.

Since much of the information requested in the questionnaires was available to caseworkers through case records and the time and costs involved in sampling a large number of clientele were prohibitive, it was decided that a questionnaire completed by caseworkers would be sufficient for the purpose of this study. It is the opinion of the researchers that the caseworkers, who were encouraged to contact the

clients to secure answers unknown to them, may have been somewhat optimistic in answering the attitude questions. Therefore, the reliability of the responses to these questions may be, to some extent, questionable. However, it is also the opinion of the researchers that most of the other questions, were, in general, answered quite accurately. Where the findings for a given question appear to be of a spurious nature, it will be so stated in the following analysis.

714 or 78.5% of the 910 questionnaires were completed and returned by the caseworkers. This represents a 3.6% sample of the 20,017 cases. Of the remaining 196, about 150 were returned unanswered for a variety of reasons, the most prevalent reason being that a case had been transferred and the new caseworker was not immediately known. 46 questionnaires were simply not returned.

A check of the 196 cases where questionnaires were either unanswered or unreturned led to the conclusion that the sample of 714 had not been systematically altered or biased. Caseworkers' decisions, not client characteristics, were basically responsible for the non-completions and non-returns.

Local AFDC Mothers By Work-Related Category

To further substantiate this conclusion, and to determine if any major shifts in the AFDC population had occurred since 1969, a comparison was made of this study's major categories with similar categories identified by a May 1969 Cuyahoga County Welfare department study of a 1% sample of its AFDC caseload (see table II). It should be noted that the Welfare Department study did not attempt

to identify or cross-correlate the employment related characteristics and attitudes of the mothers in each of these major categories. While the local Department has, for many years, conducted basic characteristics studies, the Manpower Planning and Development Commission survey is the first local attempt to go any further. In addition, the MPDC survey is based, to our knowledge, on the largest sample ever taken of a specific population within any welfare department in the United States.

TABLE II.

Comparison, By Work-Related Categories, Of Findings of 1970 MPDC Study With Findings Of 1969 Cuyahoga County Welfare Department Survey

	1969	1970	No. in 1970 sample	Application of 1970 Percentages to 3/31/1970 Caseload
A. Not Living in Home	3.1	3.9	28	781
B. Living in Home	96.9	96.1	686	19,236
1. Job/Training Status Unknown	---	1.3	9	260
2. Employed Full Time	12.2	9.2	66	1,841
3. Employed Part Time	2.6	3.1	22	620
4. In Training (WIN)	1.9	3.6	26	721
5. Awaiting Referral to WIN	2.6	3.1	22	621
6. Not Working or In Training (not incl. mothers in 5)	77.6	75.8	541	15,173
a. Mothers in 5 and 6 with Pre-school Children		42.3%	302	8,467
b. Mothers in 5 and 6 with All Children 6 or Older		34.8%	248	6,346
c. Mothers in 5 and 6 with Children - Ages Unknown		1.8%	13	360

If it is assumed that the 1970 percentages are fairly accurate, it would appear that there has been some reduction since 1969 in the number of AFDC mothers employed full time. This may be, in large measure, the result of the current economic slow down. The slight increase in part-time employment, which may be made up largely of mothers engaged in domestic work (see Pg. 38), may also be attributed to the slow down and the scarcity of better jobs. A significant increase in the number in training was expected since, as mentioned earlier, many more AFDC mothers are now enrolled in the WIN program than was the case last year.

The category "Awaiting Referral to WIN" includes those AFDC mothers who, in the estimation of the caseworkers, are potentially employable and, therefore, prime candidates for the WIN program. However, this category does not include any client who has been accepted by the WIN program. All accepted candidates are included under the heading, "In training (WIN)". Therefore, the total percentage of AFDC mothers not presently working or in training is 78.9% (categories 5 and 6 combined). 53.7% of the mothers in this group (42.3% or 8,467 of the total AFDC caseload) are known to have pre-school children. 44.1% of those not working or in training (34.8% or 6,340 of the total population) are mothers who have no pre-school children while, for the remaining 2.2% (1.8% or 360 of the total caseload), the ages of their children are unknown.

In all, there are three major groupings of AFDC mothers that have been identified:

1. Those who are actively engaged in work or work-related

activities (working full time or part time or in training).

2. Those who are not working or in training and who have pre-school children.

3. Those who are not working or in training and who have no pre-school children.

It is the last group with which this study is primarily concerned. The reason for this will be explained later in this section.

Employment-Related Characteristics And Attitudes Of Local AFDC Mothers Who Are Employed Or In Training

Before discussing the employability of local AFDC mothers who are not presently working or in training, a brief look at the characteristics and attitudes of the AFDC mothers who are now employed or in training will be undertaken.

Education of Mother --

TABLE III.

EDUCATION OF MOTHER

	Last Grade Completed			
	K-6 grade	7-11 grade	12 grade or some college	No Response
Employed Full Time	0	54.5%	45.5%	0
Employed Part Time	0	63.6%	27.3%	9.1%
In Training	0	57.7%	42.3%	0

Those who are working full time or in training tend to have a much higher level of education than those working part time.

Age of Mother --

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TABLE IV.

AGE OF MOTHER

	16-39	40-49	50 or older	No Response
Employed Full Time	86.4%	12.1%	0	1.5%
Employed Part Time	68.2%	27.3%	0	4.5%
In Training	100%	0	0	0

None of those in training and only a small percentage (12.1%) of those working full-time are forty or over. More than 1 in 4 of those working part-time are forty or over.

Work/Training Experiences of Mother Prior To current Experience --

TABLE V.

WORK/TRAINING EXPERIENCES OF MOTHER PRIOR TO CURRENT EXPERIENCE --

	Work Experience	Training Experience	Neither Experience	No Response
Employed Full Time	94%	37.9%	1.5%	1.5%
Employed Part Time	100%	18.2%	0	0
In Training	76.9%	76.9%	0	0

Almost all of those working either full time or part-time have had some type of previous work experience. A significant percentage (37.9%) of those working full time also have had previous training experience. Three out of four of those presently in training have had some type of training prior to the current period. Previous training experience can include special training programs such as

WIN, AIM-Jobs, etc. and/or technical-vocational education at the high school level.

Attitude of Mother Toward Present Experience --

TABLE VI.

ATTITUDE OF MOTHER TOWARD PRESENT EXPERIENCE

	Positive	Negative	No Response
Employed Full Time	83.3%	1.5%	15.2%
Employed Part Time	86.4%	4.5%	9.1%
In Training	88.5%	0	11.5%

For what it may be worth, the caseworkers interpreted the attitudes of their employed clients and clients in training toward their present experiences to be over-whelmingly favorable.

Type of Current Employment or Training --

TABLE VII

TYPE OF CURRENT EMPLOYMENT OR TRAINING

	Clerical	Sales	Service (incl. Dom)	Proces-sing	Mach. Trades	Bench Work	Struct. Work	Unident.
Empl. Full Time	18.2%	4.6%	45.5%	7.6%	13.6%	1.5%	1.5%	7.6%
Empl. Part Time	-----	22.7%	68.2%	----	-----	4.6%	4.6%	----
In Training	38.5%	-----	23.1%	3.9%	-----	3.9%	----	30.6%

Slightly less than one-half of those employed full time are in service occupations while two out of three part time workers are in the same

types of occupations. Although a significant percentage (30.6%) of occupations for which AFDC Mothers were being trained were unknown to the caseworkers, it still appears that heavy emphasis is being placed on clerical training (at least 38.5%).

Health of Mother --

TABLE VIII.

HEALTH OF MOTHER

	Poor	Fair	Good	No Response
Employed Full Time	1.5%	16.7%	77.3%	4.6%
Employed Part Time	0	36.4%	59.1%	4.5%
In Training	0	30.8%	65.4%	3.9%

With the exception of a very small percentage employed full time who are in poor health (1.5%), all who are employed or in training are in fair or good health. More than three-fourths of those working full time are in good health.

Medically Defined Disabilities --

TABLE IX.

MEDICALLY DEFINED DISABILITIES

	Have Medically Defined Disabilities	Do Not Have Med. Def. Disabilities	No Response
Employed Full Time	0	98.5%	1.5%
Employed Part Time	4.5%	90.9%	4.5%
In Training	7.7%	92.3%	0

According to the caseworkers, none of those employed full time and only a few of those working part-time or in training have medically defined disabilities. Reports of the Title V Work Experience Program reveal that about 400 clients (between 1965 and 1967) were referred by caseworkers to the Program but were not accepted or were soon dropped. The major reason for these rejections and terminations was previously undiscovered physical ailments and disabilities that impaired the clients ability to work, as identified through thorough medical examinations. Since the caseworkers in this study had to rely, in most cases, on information given to them by the clients regarding disabilities, it can be assumed that not all disabled AFDC mothers (in the sample) were identified.

It must be surmised, however, that those with disabilities who are working or in training must either have only minor problems or disabilities which, with treatment, allow them to work in certain types of jobs.

Ability of Mother To Read And Write --

TABLE X.

LITERACY

	Literate	Illiterate	No Response
Employed Full Time	98.5%	0	1.5%
Employed Part Time	90.9%	0	9.1%
In Training	96.2%	0	3.9%

When applying for public assistance, each potential recipient must fill out a declaration form on which she is to give basic personal

information, list assets, liabilities, etc. Each AFDC mother in the sample who completed this form herself is considered, for the purpose of this study, to be literate. There are no illiterate AFDC mothers either working or in training.

Number of Children --

TABLE XI.

NUMBER OF CHILDREN

	1 or 2	3 or 4	5 or more	No Response
Employed Full Time	62.1%	25.8%	10.6%	1.5%
Employed Part Time	40.9%	36.4%	22.7%	0
In Training	53.8%	23.1%	23.1%	0

More than three-fifths of the families in which the mothers are working full-time have only one or two children and only one out of ten families have five or more. Three out of five of the families with mothers working part-time have three or more children while about one in four families of mothers in training have five or more children.

Ages of Children --

TABLE XII.

AGES OF CHILDREN

	Pre-school Children and up	No Pre-school Children but at least one child between 6-13	All children 14 and up	No Resp.
Employed Full Time	40.9%	51.5%	6.1%	1.5%
Employed Part Time	27.3%	59.1%	13.6%	0
In training	57.7%	42.3%	0	0

Two out of five of the full time workers and about three out of five of those in training have pre-school children as opposed to less than three out of ten of those employed part-time.

Number of Times On Welfare --

TABLE XIII

NUMBER WHO RECEIVED PUBLIC ASSISTANCE PRIOR TO THE CURRENT OPENING

	Been on Welfare More than Once	First Time On Welfare	No Response
Employed Full Time	25.8%	72.1%	1.5%
Employed Part Time	59.1%	36.4%	4.5%
In Training	42.3%	53.8%	3.9%

Almost three out of five who are employed part-time have been on welfare more than once but only about one in four of those employed full time have received public assistance prior to the current period.

Race --

TABLE XIV

RACE

	White	Negro	Spanish-Speaking	Other	No Response
Employed Full Time	15.2%	81.8%	0	1.5%	1.5%
Employed Part Time	4.5%	95.4%	0	0	0
In training	11.5%	84.6%	0	3.9%	0

While 19 out of 20 AFDC mothers employed part-time are black, almost one out of seven of those working full time is white. Slightly more

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than one out of ten who are in training is also white.

Conclusions -- A number of conclusions are drawn from this information:

- Of the AFDC mothers who are working full time, more are employed in better paying jobs (clerical) and fewer in lower status jobs (sales, services) than those employed part-time.

- AFDC mothers who are working full time are, in general, much better educated and much younger than those working part time.

- A sizeable number of the AFDC mothers employed part-time may be domestic workers. Various studies have documented the fact that a significant number of black females in service jobs are domestic workers. The above conclusion is drawn since:

(1) 19 out of 20 part-time AFDC mothers in Cuyahoga County are black.

(2) About 70% of the part-time jobs are of a service nature.

(3) Domestic work can be readily accomplished on a part time basis.

- Prior work experience may have been a factor in the obtaining of jobs by AFDC mothers employed both full and part-time.

- Being literate, in fair or good health, and having no medically defined disabilities appear to be prerequisites to employment.

- AFDC mothers with smaller families tend to work full-time, while those with larger families tend to work part-time. However, both family size and length of work week may be a function of the mother's age.

- Pre-school children do not appear to be a major deterrant to employment for AFDC mothers.

- More AFDC mothers with pre-school children seem to work full time than part-time. Again, however, the mother's age rather than whether

or not she has pre-school children seems to be the important factor in determining if she gets a full or part-time job.

- It is possible to conclude from the findings that AFDC mothers who are now on welfare for the first time have a much better chance of getting a full time, rather than a part-time job, than those who have been on welfare more than once. However, it is the opinion of the Manpower Planning and Development Commission that the converse may be more correct, that is, that AFDC mothers are less likely to need welfare more than once if they can command a decent-paying, full time job, rather than a poor-paying, part-time one. This opinion is based, in large measure, on information, which will be given later in this report, regarding the effects of marginal jobs in the irregular economy on the AFDC mother.

The Employability Of Local AFDC Mothers Not Presently Working Or In Training

This section discusses how many mothers not now working or in training may be employable and how employability was determined.

MPDC Definition of Employability -- As a general definition of employability, MPDC decided to use one developed by the Department of Labor for its report on employability studies. "An employable individual is one who, at a very high level of aggregate demand, has a high probability of finding one or more hours per week of suitable work at some market wage." The Department pointed out that "Under this definition, recipients who require immediate rehabilitation and training would be classified as unemployable. Those who require day care facilities, available jobs, or greater financial inducements to expand their work efforts would be classified as employable."

In the following study of the supply side of the local AFDC employment situation, a client is considered "employable" if she is able, with ample supportive services, to function adequately and immediately in suitable employment. A "potentially employable" client is one who, after training, re-training, and/or rehabilitation, is able to perform adequately in suitable employment. MPDC concurs with the researchers of the earlier referred to New York City study, who felt that employability was not only the function of employment related characteristics and attitudes of the client but also of the number and kinds of jobs that are available to said client. However, the question of whether or not suitable employment is available for either employable or potentially employable AFDC mothers will be deferred until the demand side of the local employment picture is reviewed (Pages 79 to 113).

In developing a more operational definition of employability the following were taken into account:

1. The FAP criteria for determining who is covered by its work registration requirement.
2. The national, state and local female employment pictures.
3. The findings of various studies outside of Cuyahoga County that attempted to determine the employment related characteristics and attitudes of AFDC mothers.
4. The employment related characteristics and attitudes of AFDC mothers in Cuyahoga County who were employed or in training as of March 31, 1970.

The information from these four areas helped to identify the six

critical variables that were used in developing an operational definition of employability:

1. The ages of the children in the family - FAP, if enacted in its present form, would not require mothers with pre-school children to register with the State Employment Service or accept suitable employment or training.
2. The ability of the mother to read and write - Without exception, all of the AFDC mothers in Cuyahoga County who were working or in training on March 31st were literate.
3. The status of the mother with regard to medically defined disabilities - With just a few exceptions, AFDC mothers in Cuyahoga County who were employed or in training had no medically defined disabilities.
4. The health of the mother - Almost without exception, local AFDC mothers who were employed or in training were in fair or good health.
5. The education of the mother - With educational requirements steadily increasing for many jobs and the increase in high school graduates in the female labor force, it appears that the better educated AFDC mother will have a greater opportunity for employment.
6. The age of the mother - With young women coming into the labor force in larger numbers than ever before, it would seem that the younger AFDC mother would stand a better chance of getting a job.

It was felt that other less critical but important factors such as

the number of children in a family, previous training and/or work experiences, etc. would also have to be taken into consideration in determining employability.

Which AFDC Mothers Are Employable? -- An employable AFDC mother is defined above as one who needs little or no training, retraining and/or rehabilitation before securing and retaining a job. Using this definition, the question becomes: What employment related characteristics in relation to the six variables just identified should an AFDC mother possess in order to be considered employable? It was decided that an employable AFDC mother (who is not working or in training) is one who, at the very least:

1. Has no pre-school children.
2. Is literate.
3. Has no medically defined disabilities.
4. Is in fair or good health.
5. Has a high school diploma or better.
6. Is between 16 and 39 years of age.

The chances of getting a job would be enhanced, it was believed, if such AFDC mothers also had previous work and/or training experiences and small families.

Which AFDC Mothers Are Potentially Employable? -- A potentially employable AFDC mother is defined above as one who, after training, retraining and/or rehabilitation, is usually able to find and hold suitable employment. It was felt that those fitting this description would:

1. Have no pre-school children.

2. Be literate.

3. Have no medically defined disabilites.

4. Be in fair or good health.

And would either:

1. Have between a seventh and eleventh grade education and be between 16 and 49 years of age, or,

2. Have a high school diploma or better and be between 40 and 49 years of age.

It is anticipated that the vast majority in this group will need rather extensive training and other pre-placement services before being able to obtain employment.

How Many Are Employable And Potentially Employable? -- Using the above operational definition of employability, MPDC found that 3.1% of the AFDC mothers not working or in training (22 cases in the sample) could be considered employable.

Applying this percentage to the total caseload on March 31, 1970 (20,017), it can be said that about 621 AFDC mothers on that date could be considered employable.

Using the above definition of potential employability, it was found that 18.6% of the AFDC mothers not working or in training (133 cases in the sample) fell into this category. Application of this percentage to the March 31, 1970 caseload reveals that approximately 3,723 AFDC mothers on that date were considered potentially employable.

Combining the above figures, 21.7% or 4,344 of the AFDC mothers not working or in training (155 of the cases in the sample) were either considered to be (1) employable or (2) potentially employable.

Using these figures and those related to the local AFDC mothers working or in training, it appears that about 15.4% or 3,082 of the AFDC mothers receiving benefits on March 31, 1970 were either (1) employed full time or part-time, or (2)considered employable. In addition, 37.6% or 7,526 were either (1) employed full time or part-time, (2) in training, (3) considered employable or (4) considered potentially employable.

Some case workers did not fill out each of their questionnaires completely. Therefore, some of the characteristics of a number of AFDC mothers relative to the employability criteria were unknown to the researchers at the time of tabulation. However, if it is assumed, for the moment, that all unknown characteristics were, in fact, favorable (e.g. An AFDC mother had fair or good health if the question about health was left blank or the mother had no pre-school children if the question concerning their ages was unanswered), it can be said that 26.8% or 5,365 AFDC mothers not working or in training (191 sample cases) may have been either (1) possibly employable or (2) possibly potentially employable on March 31.

Within this category, the ages of the children were unknown in 6.3% of the cases, whether or not the mother had a medically defined disability was not indicated in 4.2% of the cases, information about the mothers ability to read and write was not given in 9.9% of the cases, and questions about the mothers health and education level

were each left blank in 5.2% of the cases. Of course, the law of averages brings this assumption into question. However, strictly for the purpose of attempting to determine the largest number of AFDC recipients who could have been possibly employable or possibly potentially employable, the assumption is made.

If all of the groups mentioned so far are combined, it is found that 42.7% or 6,547 of the AFDC mothers (305 sample cases) were either (1) employed, (2) in training, (3) considered employable or potentially employable or (4) possibly employable or potentially employable on March 31.

The Employment Related Characteristics And Attitudes Of These Groups

For comparative purposes, the following set of tables will detail employment related characteristics and attitudes of:

1. AFDC mothers in Cuyahoga County not working or in training who were considered employable on March 31, 1970 (3.1% of the total population).
2. AFDC mothers in Cuyahoga County not working or in training who were considered potentially employable (18.6% of the total population).
3. AFDC mothers in Cuyahoga County not working or in training who were either considered to be employable or potentially employable (21.7% of the total population).
4. AFDC mothers in Cuyahoga County not working or in training who were either considered to be employable or potentially employable or possibly employable or possibly potentially employable (26.8%).

5. AFDC mothers in Cuyahoga County not working or in training with pre-school children.

6. AFDC mothers in Cuyahoga County not working or in training who were awaiting referral to the WIN Program.

It should be remembered that each of these groups is not mutually exclusive. Categories 1. (Mothers employable) and 2. (Mothers who are potentially employable) are combined to form category 3. (Mothers who are employable and potentially employable), category 4. (Mothers who are possibly employable and possibly potentially employable) includes category 3 and those in category 6. (Mothers awaiting referral to WIN) are included in all of the other categories.

In the discussion of each of the following tables, little reference will be made to the fourth category, "Possibly Employable and Possibly Potentially Employable", since most of its percentages approximate those in category three, "Employable and Potentially Employable".

Education of Mother --

TABLE XV.

EDUCATION OF MOTHER

	K - 6	7 - 11	12 and above	No Response
Employable 621	0	0	621 100 %	0
Potentially Employable 3,723	0	3,393 91%	330 9%	0
Employable and Potentially Employable 4,344	0	3,393 78.1%	951 21.9%	0
Possibly Employable and Possibly Potentially Employable 5,365	0	3,959 73.8%	1,121 20.9%	279 5.2%
Have Pre-School Children 8,187	82 1%	5,338 65.2%	2,522 30.8%	246 3%
Awaiting Referral to WIN 621	0	311 50%	310 50%	0

Of those who are considered to be either employable and potentially employable, almost four out of five have not graduated from high school.

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On the other hand, one-half of those who were selected for referral to WIN by their caseworkers have a least a high school education or better. Mothers with pre-school children, in general, appear to be better educated than those with no pre-school children.

Age of Mother --

TABLE XVI.

AGE OF MOTHER

	16 - 39	40 - 49	50 or older
Employable 621	621 100%	0	0
Potentially Employable 3,723	2,381 63.9%	1,342 36.1%	0
Employable and Potentially Employable 4,344	3,002 69.1%	1,342 30.9%	0
Possibly Employable and Possibly Potentially Employable 5,365	3,793 70.7%	1,572 29.3%	0
Have Pre-School Children 8,187	7,671 93.7%	409 5%	89 1%
Awaiting Referral to WIN 621	564 90.9%	28 4.5%	28 4.5%

While almost seven out of ten AFDC mothers who are considered to be employable and potentially employable are 39 or younger, more than nine out of ten mothers selected for referral to WIN are in this age category. As might be expected, AFDC mothers with pre-school children are, on the whole, much younger than those whose children are all 6 or older.

Education - Age of Mother --

TABLE XVII.

EDUCATION - AGE

	K-6 16-39	7-11 16-39	12 & up 16-39	K-6 40-49	7-11 40-49	12&up 40-49	Ed. Unknown 16-39	Ed. Unkn. 40-49	7-11 50 or older
Employable 621	0	0	621 100%	0	0	0	0	0	0
Potentially Employable 3,723	0	2,381 63.9%	0	0	1,007 27.1%	335 9%	0	0	0
Employable and Potentially Employable 4,344	0	2,381 54.8%	621 14.2%	0	1,007 23.2%	335 7.7%	0	0	0
Possibly Employable and Possibly Potentially Employable 5,365	0	2,919 54.4%	730 13.6%	0	1,041 19.4%	392 7.3%	139 2.6%	139 2.6%	0
Have * Pre-School Children 8,187									
Awaiting Referral to WIN 621	0	283 45.5%	283 45.5%	0	0	28 4.5%	0	0	28 4.5%

* Information not available for this category.

46% of those selected for referral to WIN by the caseworkers had a high school education or better and are between 16 and 39, while only slightly more than 14% of those considered employable and potentially employable fall into the same category.

Since the differences among the four "employability" categories are based on the education and age of the mother, this table offers a clear picture of the composition of each of them.

Previous Work/Training Experiences of the Mother --

PREVIOUS WORK/TRAINING EXPERIENCES

	Previous work experience	Previous training experience	Neither exper.	No Response
Employable 621	564 90.9%	226 36.4%	0	57 9.1%
Potentially Employable 3,723	2,826 75.9%	841 22.6%	700 18.8%	30 .8%
Employable and Potentially Employable 4,344	3,393 78.1%	1,064 24.5%	699 16.1%	83 1.9%
Possibly Employable and Possibly Potentially Employable 5,365	3,959 73.8%	1,293 24.1%	1,041 19.4%	113 2.1%
Have Pre-School Children 8,187	5,420 66.2%	1,949 23.8%	1,867 22.8%	327 .4%
Awaiting Referral to WIN 621	564 90.9%	226 36.4%	0	57 9.1%

Almost one out of five of those who are considered to be potentially

employable and one out of four of those with pre-school children have had neither previous work nor training experience. Of those who are considered employable and those awaiting referral to WIN, nine out of ten have had previous work experiences. These latter two categories also have a significantly higher number of persons who have had some type of training. Fewer mothers with pre-school children have had previous work experience than those in any other category.

As mentioned earlier, the validity of the caseworkers' responses to the questions in the attitude section of the survey may be somewhat questionable. This seems to be particularly true with regard to the responses relative to the mothers' attitudes toward previous work and/or training experiences. In addition, a significant number of caseworkers did not respond in any way to these attitude questions. From a brief analysis of the responses given, however, it appears that most of the AFDC mothers considered any work and/or training experiences that they may have had in a favorable light. The mothers are probably a little less positive toward their previous work experiences than they are toward past training. It is estimated that about one out of four AFDC mothers who are considered employable view their previous work experiences unfavorably, while only slightly more than one in ten of those who are considered potentially employable have a negative reaction toward prior work experiences.

Types of Previous Work Experiences --

TABLE XIX.

TYPES OF PREVIOUS WORK EXPERIENCES

	Cler-ical	Sales	Serv.	Pro-ces-sing	Mach. Trades	Bench Work	Str-uct-ural Work	Uni-dent-ified	No Prev. Work Exper.
Employable 621	84 13.6%	84 13.6%	254 40.9%	29 4.6%	84 13.6%	29 4.6%	0	0	57 9.1%
Potentially Employable 3,723	363 9.8%	198 5.3%	1,458 39.1%	110 .3%	224 .6%	336 .9%	0	139 3.7%	894 24.1%
Employable and Potentially Employable 4,344	447 10.3%	282 6/5%	1,712 39.4%	139 3.2%	308 7.1%	365 8.4%	0	139 3.2%	951 21.9%
Possibly Employable and Possibly Potentially Employable 5.365	563 10.5%	279 5.2%	1,996 37.2%	139 2.6%	311 5.8%	375 6.8%	27 .5%	279 5.2%	1,406 26.2%
Have Pre-School Children 8,187	892 10.9%	549 6.7%	2.661 32.5%	139 1.7%	377 4.6%	377 4.6%	81 .1%	671 8.2%	2,440 29.8%
Awaiting Referral to WIN 621	226 36.4%	28 4.5%	226 36.4%	0	57 9.1%	28 4.5%	0	0	57 9.1%

According to the caseworkers, almost two out of five AFDC mothers who are considered employable and potentially employable worked at some point in the past in the services field. More than one out of

three selected by the caseworkers for referral to WIN have had some work experience in the clerical field, but only about one out of ten of those considered to be employable and potentially employable have had such an experience.

Types of Previous Training Experiences --

TABLE XX.

TYPES OF PREVIOUS TRAINING EXPERIENCE

	Clerical	Sales	Serv.	Processing	Mach. Trades	Bench Work	Structural Work	Unidentified	No Prev. Work Exper.
Employable 621	84 13.6%	57 9.1%	29 4.6%	57 9.1%	0	0	0	0	395 63.6%
Potentially Employable 3,723	363 9.8%	0	140 6.9%	0	57 2.3%	139 0.8%	26 0.8%	113 .3%	2,885 77.4%
Employable and Potentially Employable 4,344	447 10.3%	57 1.3%	169 3.9%	57 1.3%	57 1.3%	189 3.2%	26 0.6%	113 2.6%	3,280 75.5%
Possibly Employable and Possibly Potentially Employable 5,365	563 10.5%	59 1.1%	279 5.2%	86 1.6%	86 1.6%	27 0.5%	27 0.5%	166 3.1%	4,072 75.9%
Have Pre-School Children 8,187	1,007 12.3%	139 1.7%	614 7.5%	25 0.3%	57 0.7%	82 1.0%	25 .3%	0	6,238 76.2%
Awaiting Referral to WIN 621	113 18.2%	28 4.5%	28 4.5%	0	28 4.5%	28 4.5%	0	0	392 63.2%

It appears that in all categories, more mothers received clerical training than any other type of training. Almost one out of five mothers who were selected for referral to the WIN program have had some clerical training. Again, these training experiences include technical/vocational education at the high school level as well as special training programs, projects, etc.

Attitude of Mother Toward Work --

TABLE XXI.

ATTITUDE OF MOTHER TOWARD WORK

	Desires and/or is seeking employment	Does not desire and/or is not seeking employment	No response
Employable 621	451 72.7%	141 22.7%	28 4.5%
Potentially Employable 3,723	2,433 65.4%	867 23.5%	419 11.3%
Employable and Potentially Employable 4,344	2.884 66.4%	1.008 23.2%	447 10.3%
Possibly Employable and Possibly Potentially Employable 5,365	3,489 64.9%	1,293 24.1%	590 11%
Have Pre-School Children 8,187	5,313 64.9%	2,030 24.8%	843 10.3%
Awaiting Referral to WIN 621	564 90.9%	28 4.5%	28 4.5%

While, according to the caseworkers, almost one out of four AFDC mothers in each of the first five categories does not want and/or is not actively seeking employment, only slightly less than one out of twenty who were selected for referral to WIN does not want and/or is not actively seeking employment.

Ages of Children --

TABLE XXII.

AGES OF CHILDREN

Number of Mothers With:

	No Pre-School Children but one or more between 6 and 13	All Children 14 or over	No response	One or More Pre-School Children
Employable 621	592 95.4%	28 4.5%	0	0
Potentially Employable 3,723	3,500 94.0%	22 6.0%	0	0
Employable and Potentially Employable 4,344	4,092 94.2%	252 5.8%	0	0
Possibly Employable and Possibly Potentially Employable 5,365	4,689 87.4%	338 6.3%	338 6.3%	0
Have Pre-School Children 8,187	0	0	0	8,187 100%
Awaiting Referral to WIN 621	197 31.8%	84 13.6%	0	338 54.5%

In the first four "employable" categories, the overwhelming majority of the mothers have at least one child between ages 6 and 13. Over one-half of those selected for referral to WIN have pre-school children.

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Number Of Children--

TABLE XXIII

NUMBER OF CHILDREN

	1 or 2	3 or 4	5 or more	No Response
Employable 621	367 59.1%	226 36.4%	28 4.5%	0
Potentially Employable 3,723	1,545 41.3%	1,429 38.3%	728 19.5%	56 1.5%
Employable and Potentially Employable 4.344	1,907 43.9%	1,655 38.1%	756 17.4%	56 1.3%
Possibly Employable and Possibly Potentially Employable 5,365	2,169 40.3%	1,996 37.2%	815 15.2%	392 7.3%
Have Pre-School Children 8,187	4,552 55.6%	1,785 21.8%	1,277 15.6%	0
Awaiting Referral to WIN 621	451 72.7%	113 18.2%	57 9.1%	0

Approximately 60% of those who are considered employable have one or two children, while only 5% have five or more offspring. On the other hand, almost 60% of those who are considered potentially employable have three or more children and one-third of these mothers (the 60%)

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have five or more. The majority of the mothers with pre-school youth have less than three children. Almost three out of four mothers selected for referral to the WIN program have only one or two children.

Number Needing Day Care--

TABLE XXIV

NUMBER OF MOTHERS WHO, IF THEY ENTERED TRAINING OR WENT TO WORK, WOULD NEED DAY CARE FOR THEIR CHILDREN

	No. Of Mothers Needing Day Care Services For Their Children	No. Of Mothers Not Needing Day Care Services For Their Children	No Response	No. Of Children Needing Day Care Services	Children Per Family Needing Day Care Services
Employable 621	367 59.1%	248 40.9%	0	697*	1.9
Potentially Employable 3,723	1,987 53.4%	1,603 42.9%	139 3.8%	5,188*	2.6
Employable & Potentially Employable 4,344	2,345 54.2%	1,851 42.6%	139 3.2%	5,885*	2.5
Possibly Employable & Possibly Potentially Employable 5,365	3,031 56.5%	2,023 37.7%	311 5.8%	7,274*	2.4
Have Pre-School Children 8,187	7,131 87.1%	573 7%	491 6%	17,088**	2.4
Awaiting Referral to WIN 621	424 68.2%	170 27.3%	28 4.5%	931***	2.2

* Includes children, 6 through 13, only
** Includes at least 8,187 pre-school children
*** Includes some pre-school children

According to the caseworkers, slightly over one-half of the mothers who are considered to be employable and potentially employable would need day care services for their children 13 and younger if they entered training or went to work. Presumably, the remainder with children 13 and under have relatives or neighbors who could care for their children. If all of the employable and potentially employable mothers needing day care services were to enter training or get a job, almost 6,000 day care slots for in-school children would be needed. About 7 out of 10 mothers selected for referral to WIN would need such services.

Number Of Times On Welfare--

TABLE XXV

NUMBER OF MOTHERS WHO RECEIVED PUBLIC ASSISTANCE PRIOR TO THE CURRENT OPENING

	Has Been on Welfare More Than Once	First Time On Welfare	No Response
Employable 621	226 36.4%	394 63.6%	0
Potentially Employable 3,723	2,217 59.4%	1,487 39.9%	334 0.8%
Employable and Potentially Employable 4,344	2,437 56.1%	1,877 43.2%	334 0.7%
Possibly Employable and Possibly Potentially Employable 5,365	2,865 53.4%	2,302 42.9%	199 3.7%
Have Pre-School Children 8,187	2,816 34.4%	5,174 63.2%	188 2.3%
Awaiting Referral to WIN 621	197 31.8%	367 59.1%	57 9.1%

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While only slightly more than one-third of those considered to be employable have been on welfare more than once, almost 60% of the mothers who are considered to be potentially employable have received public assistance prior to the current opening. Less than one-third of the families whose mothers were selected for referral to WIN have received welfare on two or more different occasions.

Two factors are usually felt to be responsible for welfare recidivism: family instability is the first and marginal employment is the other. With regard to family instability, a father who has been absent may return to an AFDC family, work for a time, and then leave again. While the father is in the home, the family is ineligible for AFDC - Regular assistance (if the father is not working, the family may qualify for AFDC - Unemployed assistance).

While the instability of the family unit is still considered a prime cause of the "on again - off again" syndrome of AFDC recipients, more attention has been given recently to the issue of employment opportunities for AFDC mothers. Genevieve W. Carter, an expert in the field of public welfare, points out in a paper entitled "The Employment Potential of AFDC Mothers," that "the game of musical chairs played by new cases, previous cases that return, and cases that close for a while or for good reflects the interaction of the welfare system with the unstable employment conditions of the irregular, dead-end economy available to them." She also notes that "there is no absence of evidence to show that AFDC mothers have aspirations for employment. What the studies do show, however,

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is that these mothers seldom have high hopes for steady jobs with employment benefits.... More than one-third of the 26.9 million women who were employed in 1967 were in low paying jobs as sales women, service workers (including those employed as cooks, kitchen helpers, maids, hospital attendants and aids, practical nurses, waitresses, and laundry workers), laborers, and farm workers.... Compared with the jobs available to women in general, non-white women are at the greatest disadvantage. Those are typically the least skilled, lowest paid, lowest status, and least stable and secure jobs... Few women in low wage, irregular jobs are covered by Social Security regulations, federal or state minimum wage laws, state unemployment protection, union wage rates, and the like." Project EVE noted in its study on inner city women "that in February, 1967, 60% of the Negro females employed in non-supervisory jobs were not subject to the minimum wage provisions of the Federal Fair Labor Standards Acts, as ammended in 1966." Dr. Carter also points out that "Breakdowns in provisions for child care or the health of the mother seems to be the major reason why mothers drop out of job training as well as employment. Continuity and the availability of the job and personal and family conditions are equally essential to avoid the pattern of intermittant employment."

Race--

TABLE XXVI

RACE

	White	Negro	Spanish-Speaking	Other	No Response
Employable 621	170 27.3%	451 72.7%	0	0	0
Potentially Employable 3,723	560 15.0%	3,163 85.0%	0	0	0
Employable & Potentially Employable 4,344	730 16.8%	3,614 83.2%	0	0	0
Possibly Employable & Possibly Potentially Employable 5,365	815 15.2%	4,523 84.3%	27 0.5%	0	0
Have Pre-School Children 8,187	1,948 23.8%	6,075 74.2%	82 1%	0	82 1%
Awaiting Referral to WIN 621	57 9.1%	536 86.4%	0	0	28 4.5%

More than one-fourth of those considered to be employable and about the same percentage who have pre-school children are white. Approximately 85% of those considered to be potentially employable and over 86% of those selected for referral to WIN are black.

Conclusions--The following conclusions are based on the above information.

1. In general, those who are considered employable according to the MPDC definition:

   a. are better educated
   b. are a little younger
   c. are less likely to have worked or received training in the clerical field
   d. have less desire for and/or are less likely to be actively seeking employment
   e. have more and older children
   f. have less need for day care services for their children if they (the mothers) enter training or go to work
   g. are more likely to be white

   than those who were selected by case workers for referral to WIN. About the same percentage in each group have (a) had previous work and/or training experiences; and (b) been on welfare more than once.

2. On the other hand, those considered potentially employed in general:

   a. are less educated
   b. are older
   c. are less likely to have had work and/or training experiences
   d. are less likely to have had work and/or training experiences in the clerical field

e. have less desire for and/or are less likely to be actively seeking employment

f. have more and older children

g. have less need for day care facilities for children if they (the mothers) enter training or go to work

h. are more likely to have been on welfare more than once

i. are more likely to be white

than those selected for referral to WIN.

3. In comparing those considered employable with those considered potentially employable, it appears that, in general, those in the employable group:

a. are better educated

b. are younger

c. are more likely to have had previous work and/or training experiences

d. are more likely to have had previous work and/or training experiences in the clerical field

e. have fewer children

f. have more need for day care facilities for their children if they (the mothers) enter training or go to work

g. are less likely to have been on welfare before

h. are more likely to be white

than the potentially employable group. Both groups have a similar percentage of mothers who (a) do not desire and/or are not actively seeking employment; and (b) have

at least one child between 6 and 13.

4. A comparison of non-working AFDC mothers having pre-school children with those who are possibly employable and possibly potentially employable reveals that, in general, those mothers having pre-school children:

   a. are better educated
   b. are younger
   c. are less likely to have had previous work and/or training experiences
   d. are more likely to have had previous work and/or training experiences in the clerical field
   e. have fewer and younger children
   f. are most likely to need day care services if they (the mothers) enter training or go to work
   g. are less likely to have been on welfare more than once
   h. are more likely to be white

   than those who are possibly employable and possibly potentially employable. Each group has about the same percentage of mothers who desire and/or are actively seeking employment.

5. Generally, it can be concluded that:

   a. Most AFDC mothers have had some type of work and/or training experiences.
   b. Most of those who have worked have held one or more jobs in the service field.

c. The fact that many have had jobs in the service field (which includes a large number of low paying, marginal occupations) may explain, in part, why such a large number of mothers in all groups have been on welfare more than once.

d. However, both the type of jobs held in the past and the number of times a mother has been on welfare appear to be related to the mother's age and education.

e. The majority of the mothers, whether or not they have pre-school children, would like and/or are actively seeking employment.

f. Those with pre-school children would, if they entered training or went to work, have, a greater need for day care services for their children than those with no pre-school children.

<u>The Remainder Of The AFDC Mothers Who Are Not Working Or In Training And Have Or May Have No Pre-School Children</u>

The "Possibly Employable and Possibly Potentially Employable" category in the above tables includes 26.8% of the AFDC mothers in the sample. Those in this category come from two groups of AFDC mothers identified in Table II, page 29. These groups are: (1) local AFDC mothers who are not working or in training and have no pre-school children; and (2) local AFDC mothers who are not working or in training and <u>may</u> have no pre-school children (ages of children are unknown). Together, these two groups account for 38% of the total sample. Hence, about 9.7% of the mothers who are not working or in training and have or

may have no pre-school children are not included in any of the "employability" categories already identified. The major reason is that those in this group are known to have one or more of the following problems:

1. a sixth grade education or less
2. are fifty years of age or older
3. a medically defined disability
4. poor health
5. illiteracy

70% of these mothers (6.9% of the total sample) are known to be either in poor health and/or fifty years of age or older. It was decided, based on information already given, that these mothers had only a very remote chance of obtaining gainful employment; therefore, no further analysis of their employment related characteristics was undertaken.

Of the remaining 30% or 360 not included in any "employability" category, 19% or 68 have a sixth grade education or less, 33.3% or 119 are disabled, 28.6% or 103 are illiterate, 4.8% or 18 are disabled and have a sixth grade education or less, and 14.3% or 52 are illiterate and have a sixth grade education or less. All of these groups are considered by MPDC to have employment related characteristics that would seriously impair their ability to function in most employment. However, with extensive remedial education, vocational rehabilitation, etc., it is conceivable, though rather unlikely, that some might be able to enter the world of work.

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The "possibly employable and possibly potentially employable" category is, as discussed earlier, partially composed of mothers whose employment related characteristics are not all known. In order to include them in this category, it was assumed that their unknown characteristics were all favorable. However, if their unreported employment related characteristics are, for the moment, considered unfavorable (e.g. that a mother had a disability if the question about disabilities was unanswered or that the mothers could not read or write if the question about literacy was left blank), this would mean that, of the 38% of the total caseload who are not working or in training and have or may have no pre-school children, 445 (2.2% of the total AFDC caseload) are or could be disabled, 797 (3.9% of the total AFDC population) are or could be illiterate, and 535 (2.7% of the entire caseload) have or could have a sixth grade education or less.

The Employability Of AFDC Mothers With Pre-School Children

Since more than 40% of the local AFDC mothers who are working full time and more than one-half of the mothers presently in training or selected for referral for WIN have pre-school children, it can be anticipated that some number of AFDC mothers with children under 6 will volunteer for training and/or employment under FAP, if enacted. While they would not be required to engage in such activities, FAP would give them the opportunity to do so if they should so desire.

No attempt has been made to place these individuals with pre-school children in various employability categories. However, it does not seem too bold to assume that there could be at least as many mothers

with pre-school children in each of the employability categories (if the criterion, "no pre-school children" is omitted from the definition of employability) as there are without pre-school children. This assumption is based on (1) the above comparisons of the employment related characteristics of mothers with pre-school children with those of mothers who have no pre-school children; and (2) the fact that there are more AFDC mothers not working or in training with pre-school children than there are without children under 6. If this assumption is correct, at least 621 mothers with pre-school children could be considered employable; at least 3,723 could be considered potentially employable; and at least 5,365 could be considered possibly employable and possibly potentially employable.

How many of these mothers will actually volunteer, however, is another question. Since the reactions AFDC mothers will have to FAP is unknown, only a very rough estimate of the number who might volunteer can be made.

Approximately 56.1% or 754 of the 1,342 who are presently in the WIN program or selected for referral to WIN have pre-school children. The 754 mothers represent 6.8% of the 11,149 AFDC mothers in the entire caseload who have pre-school children. In other words, about 1 out of every 15 local AFDC mothers with pre-school children volunteered or plan to volunteer for training and eventual employment.

Using this as a yardstick[1] to determine the number of mothers with pre-school children who may volunteer during the year for training and/or employment, it is estimated that about 42 (6.8% of 621) of those considered employable might volunteer, 253 (6.8% of 3,723) considered potentially employable might enter training, and 365 (6.8% of 5,365) considered possibly employable and possibly potentially employable may choose to enter training or accept a job.

The Employability Of The Entire "Risk" Population

Genevieve Carter explained in her paper that "An examination of the employment potential of AFDC mothers limited to those currently receiving assistance under AFDC can be a narrow and misleading approach--for both researchers and program planners.... The AFDC

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[1]Some may argue that this yardstick is not a valid measure of the number of mothers with pre-school children who may volunteer for training and/or employment. Their argument may be twofold:

(1.) The majority of the AFDC mothers (with pre-school children) who are in the WIN program or have been selected for referral to WIN volunteered between January 1, 1970 and March 31, 1970 to enter the program. Therefore, the number of mothers presently in the program may be an inaccurate measure of the annual WIN volunteer rate.

(2.) In addition to the AFDC mothers who have volunteered for the WIN program, many others who have not elected to join the program have been informed about its availability. Therefore, if they have not already volunteered, they probably will not do so in the future.

While these both may be valid points, they appear to offset each other. Therefore, the aforementioned yardstick will be used.

mothers.....are an interacting part of a larger population-at-risk." According to Dr. Carter, recent comparative data on AFDC recipients and other poor people have revealed that individual and family characteristics are, in general, similar for persons "on welfare" and persons who happen to be "off welfare" at a given point in time.

Using the March 31, 1970 case load of 20,017 as a base, the research department of the Cuyahoga County Welfare Department has estimated that about 30,000 AFDC mothers will be served locally during the course of the year. In other words, about one-third again as many women as were being served at the end of March, 1970 will have received AFDC assistance by the end of March, 1971.

If this projection is correct, it can be estimated that approximately 930 (3.1% of 30,000) AFDC mothers who will be served during the year may be considered employable. About 5,580 (18.6% of 30,000) may be considered potentially employable while 8,040 (26.8% of 30,000) may be considered possibly employable and possibly potentially employable. 12,370 (40.8% of 30,000) will probably be mothers with pre-school children. If another one-third is added to the number who may volunteer for training and/or employment in each of the employability categories for mothers with pre-school children, this would mean that 56 of those considered employable, 337 considered potentially employable and 487 considered possibly employable and possibly potentially employable may volunteer for training and eventual employment.

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If 30,000 are served, this would also mean that, of the 38% of the total who are not working or in training and have or may have no pre-school children, 593 are or could be disabled, 1063 are or could be illiterate and 713 are or could have a sixth grade education or less.

While no attempt was made by the Manpower Planning and Development Commission to gather information on poor female heads of households who were not on AFDC at the time of this study, the assumption is made, based on Dr. Carter's findings, that the characteristics of both poor non-recipient families and mothers are not significantly different from those already cited for local AFDC recipients.

Women, Other Than AFDC Mothers Who Will Be Seeking Jobs

TABLE XXVII

FEMALE LABOR SUPPLY-CUYAHOGA COUNTY-APRIL 1, 1970 TO MARCH 31, 1971
(Excluding AFDC Recipients)

- Insured Unemployed - Cleveland SMSA - April 1, 1970	13,750	
- Less: Non-Cuyahoga County Insured Unemployed - 10%	1,375	
- Insured Unemployed - Cuyahoga County		12,375
- Additional Females Seeking Employment (Project EVE estimate)		2,000
- Female High School Graduates Entering Labor Market During Year (Cuyahoga County School Superintendent's Association Estimate)		6,100
- Female College Graduates Entering Labor Force During Year		1,500
TOTAL		21,975

As mentioned earlier, about 50% or 13,750 of the insured unemployed in the metropolitan Cleveland area on April 1, 1970, were women. Since the Cleveland Standard Metropolitan Statistical Area (Cleveland SMSA) includes 4 counties (Cuyahoga, Lake, Geauga, and Medina), the non-Cuyahoga County female unemployed (about 10% of Cleveland SMSA or 1,375) were subtracted from the 13,750 to arrive at the total number of women who were unemployed in Cuyahoga County as of April 1, (12,375).

In order to obtain a rough estimate of the total number of women who might be looking for work during the year, three other figures were added to this total of 12,375. Project EVE of Cuyahoga Community College estimates that about 2,000 females who are not officially unemployed will be looking for work during the year. Most of these women will be living in the suburbs and will not be using the facilities of the Ohio Bureau of Employment Services or other public manpower programs to secure jobs. Surprisingly, Project EVE notes that fewer suburban women have high school diplomas, marketable skills, etc. than has generally been assumed. It is pointed out that the major differences between urban and suburban women who are looking for work are as follows: (1) The suburban woman is generally in better health; (2) If married, the suburban woman's husband usually has a better income; and (3) The suburban woman usually makes a better appearance at a job interview. In other words, health, home environment, and the ability to "sell herself" to the employer appear to be the major factors separating the suburban woman from the female

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city dweller who is looking for work.

The Cuyahoga County School Superintendent's Association estimates that approximately 6,100 female high school graduates will be entering the County labor force during the year. In addition, MPDC estimates that around 1,500 female college graduates will become part of the local labor force.

When all of these figures are added together, it is found that Cuyahoga County will have approximately 21,975 women looking for work during the year. This figure, however, must be viewed as very conservative for at least five reasons:

1. The insured unemployment total reflects a condition at <u>one point in time</u> and is not an estimate of the number of insured who will be unemployed <u>over the entire year</u>. No estimate of such an over-the-year total has been made. The way in which the data are presently collected, tabulated and reported by the Ohio Bureau of Employment Services does not lend itself to the calculation of such an estimate. Logic dictates, however, that the insured unemployment total for the entire year will be much larger than the April 1, 1970 figure.

2. The number of female labor force participants who immigrate from other communities has not been included in the above total either. No reliable data has been found to make such an estimate.

3. With the recent establishment of day care facility development projects in the Cleveland area, there is reason to believe that more day care centers will be opened during the year. If additional day care facilities become available, experts in the field feel that many mothers not now identified as unemployed will begin looking for work. There is, of course, no way of estimating the extent of the impact the establishment of any additional day care centers may have on women with children.

4. The estimated total of 21,975 who will be seeking work locally during the year may also be low because, during economic slow-downs (such as the one now being experienced), the number of women who are unemployed and looking for work does not increase as rapidly as the number of men seeking jobs. Women, it appears, tend to drop out of the labor force more easily and quickly during such periods. Many, especially those who are secondary wage-earners in a family, believe that during these periods, there is little hope of finding employment. Most of these begin looking for work again when economic conditions improve. In other words, national fiscal and monetary policy can affect the identifiable supply as well as the demand for workers.

U. S. military policy could also increase the total supply of women looking for work during the year. Kilpatrick points out that "The return of G. I.'s (from Viet Nam) will obviously displace (many) incumbents. And veterans may be given preference for jobs that otherwise may have gone to non-veterans. In many

cases, women have replaced or substituted for the men withdrawn from the civilian labor force, and it is interesting to note that in the December - February (1969-70) period, the unemployment rate for women in the 20-24 age group (same age group as returning G. I.'s) rose by almost exactly the same amount as the rate for men in that age group (5.8 to 7.3%)."

Comparison Of AFDC Mothers Considered Employable And Potentially Employable With Other Female Job Seekers In Relation To Education And Age--

TABLE XXVIII

COMPARISON OF AFDC MOTHERS CONSIDERED EMPLOYABLE OR POTENTIALLY EMPLOYABLE WITH THE OBES APPLICANTS AND TOTAL PROJECTED SUPPLY BY EDUCATION

	K - 11	12 and Up
Employable 621	0	621 100%
Potentially Employable 3,723	3,393 91%	330 9%
Employable and Potentially Employable 4,344	3,393 78.1%	951 21.9%
OBES Applicants March 1, 1970 5,440	2,931 53.9%	2,509 46.1%
Total Projected Supply (Excluding AFDC mothers) 21,875	7,748 35.2%	14,227 64.8%

On March 1, 1970, the Ohio Bureau of Employment Services had 5,400 women registered with its offices for employment. Some of these women are known to be AFDC mothers. Of course, those seeking employment through OBES are also part of the total supply. Therefore, the categories in this and the following table are not mutually exclusive. Even so, they give some idea of the difference between AFDC mothers who are or may be, at some point, looking for work, and those in the community at large who are or will be seeking a job.

Almost two-thirds of the total projected supply and slightly less than one-half of the OBES applicants have completed high school or attended college. On the other hand, only a little more than one out of five local AFDC mothers who are considered employable or potentially employable has graduated from high school or gone to college.

TABLE XXIX

COMPARISON OF AFDC MOTHERS CONSIDERED EMPLOYABLE OR POTENTIALLY EMPLOYABLE WITH THE TOTAL PROJECTED SUPPLY AND OBES APPLICANTS BY AGE

	16-39 (Sample) 19-34 (OBES and Total)	40-49 (Sample) 35-54 (OBES and (Total)	55 and Over
Employable 621	621 100%	0	0
Potentially Employable 3,723	2,381 63.9%	1,342 36.1%	0
Employable and Potentially Employable 4,344	3,002 69.1%	1,342 30.9%	0
Total Projected Supply (Excluding AFDC mothers) 21,875	15,104 68.7%	5,318 24.2%	1,553 7.1%
OBES Applicants 5,440	2,842 52.2%	2,013 37.0%	588 10.8%

Since the age categories developed by the Manpower Planning and Development Commission for its various employability groups and those developed by OBES for its applicants (and used by MPDC for figuring the ages of the total projected supply) are not the same, this table is of limited value. However, after analyzing the data, MPDC felt that there appeared to be little difference in the ages of those AFDC mothers considered employable and potentially employable and those who made application to OBES. On the other hand, it seems

that those who are part of the total projected supply are, in general, younger than either the AFDC mothers considered employable and potentially employable or the OBES applicants.

Conclusion--It appears that AFDC mothers considered employable and potentially employable may be, in general, at some disadvantage when looking for employment in terms of two of the most important job related characteristics - age and education.

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DEMAND

Why Study Demand?

Are there going to be enough jobs for all women desiring and/or needing them during the year? Is each woman going to be able to find the job that fits her abilities?

Full employment has never been realized by this country, and experts are quick to offer a variety of reasons for this. Some claim that there has been, from time to time, a deficiency in aggregate demand while others believe that "structural" changes that are taking place in the pattern of demand for and supply of labor are creating problems for many job seekers. Many view the problem as the result of the combination of these two factors.

Kilpatrick claims that aggregate demand expansion is not the entire reason for the unemployment reduction during 1965-69 nor is present demand reduction the whole reason for increasing unemployment. He points out that "During at least the past two decades, the growth patterns of our affluent society have created vastly different conditions in the upper and lower sections of our labor market. Less skilled and less educated workers have found conditions of shrinking job opportunities and chronic looseness in their part of the labor market." In discussing welfare recipients, he questions whether thousands will be able to get jobs in the private sector of the economy. He points out that, "Even with training, the vast

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majority of the job seekers from the welfare rolls will necessarily be looking for work in the lower half of the labor market and job opportunities are continuing to shrink even during a period of record breaking and unsustainable economic growth." His answer to this problem is a creation of jobs through a public service employment program.

The Philadelphia Health and Welfare Council suggests that "The demand that welfare recipients '....get out and work....' is not realistically matched with availability of jobs, especially jobs which supply security, advancement and adequate pay." The Council recommends that "All people should have a sufficient income necessary for adequate nutrition, clothing, housing, health care, education and training, and social services and recreational pursuits." One of the ways to bring this about, the Council believes, is through "Formulation of a national economic policy that permits, through job creation, the highest possible employment rate...."

Steven Minter, Director of the Cuyahoga County Welfare Department, also wonders about the number of jobs available to AFDC mothers. In a Cleveland Press article, dated February 12, 1970, Minter is quoted as saying that "The nation has 1.5 million mothers on welfare and the (FAP) programs are to train only 150,000 of them. We know that the jobs are not out there for them. We have always had more applicants for job training than we have been able to accept."

These opinions again raise the question: Are there enough and the right kinds of jobs available for all women desiring and/or needing

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work? And more specifically, are there going to be enough and the right kinds of jobs available for local AFDC mothers?

The authors of the Family Assistance Act must have thought so since the Plan appears to be firmly based on the assumption that the major problem is one of individual rather than system misfunction; that the employment system will provide jobs to welfare recipients if they, through training programs and the like, acquire the needed "tools" for these jobs.

FAP calls for over $600,000,000 to be spent for 150,000 new training opportunities and 450,000 high quality child care placements. However, there is no mention, whatsoever, of the need to create employment opportunities (which should not be considered as synonymous with training opportunities).

Should the Federal Government get back into the business of creating jobs as some have suggested? This report will not attempt to judge the merits of such a suggestion but, instead, will offer data that should assist in determining what is really the basic underlying issue involved in this question; that is, are there enough jobs for employable and potentially employable AFDC mothers?

To our knowledge, no attempt has been made to date to find out just how many jobs there will be over a given period of time for women in the Cleveland area. Since opinions do vary on this matter, MPDC decided to gather as much information as possible about the local demand situation for women and present the results so that

the findings given in the Supply section of this report could be viewed in proper perspective.

Study Methodology

As stated earlier, the basic resource used by MPDC in gathering demand information was the Ohio Bureau of Employment Services' "Occupational Survey, 1968-1975, In the Cleveland Metropolitan Area," which was published in 1969. The book lists 232 occupations (exclusive of domestic work and jobs held by the self-employed) that are found in Cleveland SMSA, gives the number employed in each occupation, indicating what percentage is female, and projects the need in each category (both in terms of expansion and replacements) for twenty-four and sixty month periods.

The twenty-four month period ended March 31, 1970. Therefore, MPDC was able to take the projected twenty-four month expansion estimates and add them to the total employed in each category as of April 1, 1968 to determine the projected employment total for each occupation as of March 31, 1970. Each projected total was then multiplied by the percentage of female employment in each category to arrive at the total projected female employment as of March 31, 1970 for each occupation.

To find the demand for women in each occupation during the year beginning April 1, 1970 and ending March 31, 1971, MPDC took OBES's sixty month estimates of need, multiplied them by the percentage of female employment in each category and divided the results by five (to obtain a 12 month rather than a sixty month estimate). Recog-

nition was given to the fact that the percentage of female workers in a given occupation changes over a period of time. However, a local manpower expert verified for MPDC that the OBES percentages were probably as valid as any figures available on current male-female employment ratios by occupation.

To assure that all opportunities for jobs were identified, MPDC estimated the number of domestic workers and self-employed persons presently employed, projected the 12 month need in these two areas and added these figures to those of the OBES Survey occupations to arrive at the totals given later in this section.

Demand For Female Workers In Cuyahoga County

Before discussing the findings for specific occupations, general demand data are presented.

TABLE XXX.

ADJUSTED PROJECTED DEMAND FOR WOMEN WORKERS IN CUYAHOGA COUNTY, APRIL 1, 1970 TO MARCH 31, 1971

Projected 12 month demand - Cleveland SMSA	25,675	
Less: Out of County jobs - 10%	2,568	
Projected 12 month demand - Cuyahoga County		23,107
Less: Reduced demand - 1970 - 30%		6,932
Adjusted projected 12 month demand - Cuyahoga County		16,175

Using the methodology already explained, MPDC estimated that 25,675 women will be needed during the year to fill jobs in Cleveland SMSA. Since the focus in the supply section of this report was on AFDC mothers from Cuyahoga County, MPDC subtracted from the 25,675 some

2,568 jobs that were projected to become available in Lake, Geauga, and Medina Counties (OBES estimated that about 10% of the Cleveland SMSA job openings will be out-of-county). The resulting 23,107 jobs projected to be available in Cuyahoga County during the year were then reduced by 6,932 (30%) because of the current economic slowdown which, as mentioned before, was not taken into consideration by the OBES Survey. OBES employment offices, which are usually a fairly accurate barometer of demand conditions, have experienced at least a 30% decrease in job orders since the slowdown first began to affect the Cleveland area. The above calculations resulted in an adjusted projected twelve month demand estimate for Cuyahoga County of 16,175.

It becomes immediately apparent that, according to MPDC estimates, there may be at least 5,800 fewer jobs in Cuyahoga County for women than there will be women (not on AFDC) wanting and/or needing them between April 1, 1970 and March 31, 1971 (MPDC's estimate of supply is 21,975 -see Table XXVII, page 71). It should again be emphasized, that the MPDC supply estimate does not include any local AFDC mothers who might be employable or potentially employable.

It can be argued that the serious shortage of jobs for women in Cuyahoga County is only a transient situation and will change when the economy rebounds from its current slowdown. The unadjusted projected twelve month demand in Cuyahoga County is 23,107 or about 1,132 more than MPDC's estimate of supply. However, it should be remembered that this estimate of females who will be looking for

work during the year is very conservative (see page 73). In addition, it cannot be assumed that the female supply will drop during boom times. As mentioned earlier, many women tend, during periods of economic slowdown, to drop out of the labor force and, therefore, are not counted as unemployed. It is a fact that the average monthly total of female applicants at OBES has actually decreased by 2,000 to 3,000 since the beginning of the slowdown. The total is expected to increase once again when there is an upturn in the economy.

For these reasons, it would appear that the chance of demand exceeding supply for women in Cuyahoga County at some time in the near future is extremely remote, no matter what the state of the economy may be.

Demand by Industry

The following table analyzes the demand for women workers in Cuyahoga County during the year by industry.

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TABLE XXXI.

UNADJUSTED PROJECTED DEMAND BY INDUSTRY - CLEVELAND SMSA

Industry	% Female Employment	Female Employment Apr. 1, 1970	12 Month Need	% of 12 Month Demand
Manufacturing	21.3	71,548	4,655	18.1
Non-manufacturing total	42.0	237,739	18,768	73.1
Mining	5.7	78	4	0.01
Contract Construction	6.9	2,523	218	0.8
Transportation & Utilities	20.8	11,355	896	3.5
Wholesale & Retail Trades	46.1	86,166	7,155	27.9
Finance, Insurance, & Real Estate	51.2	21,566	1,656	6.4
Services	51.0	68,081	5,518	21.5
Government	42.9	47,970	3,331	13.0
Subtotal	34.3	309,287	23,423	91.2
Domestic Work	100.0	13,468	1,520	5.9
Self-Employed	17.0	9,158	732	2.8
TOTAL	35.4	331,913	25,675	99.9

Using the methodology described earlier, the preceding projections were made. They are presented in unadjusted form (out-of-county jobs are included and the economic slowdown is not taken into account) because of the lack of information concerning the effects

of the slowdown on the various industrial categories. However, the data still offer some idea of the general relationships among the categories.

It is seen that the categories with the largest number of women workers are the wholesale and retail trades, the service industries and the various branches of government. If the projections are correct, the same three industries will also have the greatest need for women workers during the year. More than one-fourth of all job openings for women will be in the wholesale and retail trades, while more than one-fifth will be in the services industry.

Demand By Major Occupational Category

TABLE XXXII.

UNADJUSTED PROJECTED DEMAND BY MAJOR OCCUPATIONAL CATEGORY - CLEVELAND SMSA

Occupational Categories	% Female Employment	Present Female Employment	12 Month Need	% of 12 Month Demand
Professional, Technical & Managerial	29.2	39,918	2,523	9.8
Clerical	69.0	113,418	8,500	33.2
Sales	34.9	26,074	1,829	7.1
Service	56.5	66,152	5,169	20.1
Processing	11.6	4,157	252	1.0
Machine Trades	11.6	14,167	949	3.7
Bench Work	45.2	20,227	1,238	4.8
Structural Work	3.1	2,362	184	0.7
Miscellaneous	8.1	6,837	480	1.9
Subtotal	34.3	293,312	21,124	82.3
Domestic Work	100.0	13,468	1,520	5.9
Self-Employed	17.0	9,158	732	2.8
Unidentified	37.1	15,975	2,299	9.0
TOTAL	35.4	331,913	25,675	100.0

According to projections, one-third of all job openings for women will be in the clerical field, while one out of five will be in

the service category. Together, the clerical, sales, and service occupations will account for 60.3% of all job openings for women during the year.

TABLE XXXIII.

AVERAGE STARTING WAGES
FOR
CLERICAL AND SALES OCCUPATIONS - CLEVELAND SMSA

Average Starting Wage	Number of Jobs	Percentage of the Total Number of Jobs
Under $275 per month	0	0
$276-350 per month	1,866	18.6
$351-425 per month	7,260	72.4
$426-500 per month	454	4.5
$501-575 per month	437	4.4
$576-650 per month	6	0.1
	10,023	100.0

Average - $387

The current average (not minimum) starting wage for most of the occupations studied were obtained from the Ohio Bureau of Employment Services and area employers. The average starting wages in the occupations were then matched with the job openings in each occupation.

The average starting wages for 10,023 of the 10,329 potential job openings in the clerical and sales fields were identified. The average for these openings was $387 per month to start. About

three out of four jobs in these areas pay an average starting wage of between $350 and $425 per month. 91% of the openings pay $425 or less per month to start. The U.S. Department of Labor Handbook on Women Workers notes that, in the clerical field, pay checks for women nationally were only 66.5% as large as those for men in 1966. Deepest discrimination against women workers, in general, occurred in the sales field, where women's salaries were only 41% of men's.

It is calculated that 87.9% of the clerical and sales openings in the Cleveland Metropolitan Area probably offer females filling them $4,800 or less per year ($400 or less per month). This is significant since a AFDC family of four must earn at least $4,800 per year before being removed completely from the welfare rolls and at least $4,900 per year before realizing a spendable income that is greater than it would be at $3,600 per year (see Table I, page 6).

The above and succeeding wage range tables take on added meaning when it is considered that the 1970 poverty line, as defined by the U.S. Department of Labor, is $3,720 for a family of four. However, the Department of Labor estimated in early 1969 that a low cost budget for an urban family of four was $6,600 a year or $550 per month.

In order to consider the above information in proper perspective, it should be noted that 55.5% of the local AFDC mothers considered employable and potentially employable have families of four or more.

According to the Department of Labor Monograph, "The Potential for Work Among Welfare Parents," an estimate made in mid-1960 revealed that two-thirds of all AFDC mothers, if they went to work, could not have supported their families at the levels of income they could attain on welfare. Today, the number who might be able to work and earn more money than they are now receiving on welfare may even be smaller (disregarding for the moment, the monetary work incentives of WIN and FAP). This may be the case since monthly family assistance rose about 5½% a year between 1961 and 1967 while average weekly earnings in occupations most frequently held by welfare recipients in the private sector rose an average of only 3.7% a year between 1959 and 1967.

TABLE XXXIV.

AVERAGE STARTING WAGES
FOR
SERVICE OCCUPATIONS - CLEVELAND SMSA
(INCLUDING DOMESTIC WORKERS)

Average Starting Wage	Number of Jobs	Percentage of the Total Number of Jobs
Under $275 per month	2,627	39.4
$276-350 per month	2,854	42.8
$351-425 per month	158	2.4
$426-500 per month	427	6.4
$501-575 per month	591	8.8
$576-650 per month	0	0
$651-725 per month	12	0.2
	6,669	100.0

Average Starting Wage - $279

The current average starting wages for 6,669 of the 6,689 service jobs (including domestic work) that may be available during the year were identified. The average starting wage in these openings is $279 per month. About 82.2% of the job openings pay $350 per month or less. It is also estimated that 84.4% of the openings offer $400 or less per month to start.

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TABLE XXXV

COMPARISON OF PRESENT FEMALE EMPLOYMENT, 12 MONTH DEMAND, AND PREVIOUS JOBS HELD BY OBES APPLICANTS AND AFDC MOTHERS CONSIDERED EMPLOYABLE AND POTENTIALLY EMPLOYABLE BY TYPES OF JOBS

	Professional	Clerical	Sales	Service (including Domestic)	Processing	Machine Trades	Bench Work	Structural Work	Misc.	Self-Employed	Unidentified	No Job
Present Female Employment 331,913	12.0	34.2	7.9	24.0	1.3	4.3	6.1	0.7	2.1	2.8	4.8	0
12 Month Demand Unadjusted	9.8	33.2	7.1	26.0	1.0	3.7	4.8	0.7	1.9	2.8	9.0	0
Previous Work Experience - Employable AFDC Mothers 621 - 3.1%	0	13.6	13.6	40.9	4.6	13.6	4.6	0	0	0	0	9.1
Previous Work Experience - Potentially Employable AFDC Mothers 3,723 - 18.6%	0	9.8	5.3	39.1	3.0	6.0	9.0	0	0	0	3.7	24.1
Previous Work Experience - Employable and Potentially Employable AFDC Mothers 4,344 - 21.7%	0	10.3	6.5	39.4	3.2	7.1	8.4	0	0	0	3.2	21.9
Previous Work Experience - OBES Applicants April 1, 1970 5,773	3.1	32.9		21.9	2.3	10.0	18.5	1.7	9.6	0	0	0

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While one-third of the job openings for women during the year will probably be in the clerical category, only slightly more than one out of ten AFDC mothers considered employable and potentially employable has had previous work experience in this field. On the other hand, while only one out of four job openings for women will probably be in the service occupations, about two out of five AFDC mothers have had experience in this field. It appears, in general, that the previous work experiences of OBES applicants are more in line with the projected needs than are the experiences of the AFDC mothers.

TABLE XXXVI.

SHORTAGE AND SURPLUS OCCUPATIONS
IN
CUYAHOGA COUNTY - FIRST QUARTER 1970

Shortage Occupations

- Registered Nurses
- Domestics
- Secretaries
- Stenographers
- Social Workers
- Guidance Counselors
- Dietitians

Surplus Occupations

- Cashiers

The Ohio Bureau of Employment Services announced that, during the first quarter of 1970, only domestic work was identified as a shortage occupation in Cuyahoga County for women with low level education

and low skills. All of the other shortage occupations required substantial education and/or training.

A Look At Demand By Educational And Training Requirements

As noted earlier, MPDC calculated the number of women presently employed and the number of projected job openings in domestic work, occupations of the self-employed and in each of the 232 occupations identified by OBES. Each occupation was then placed in one of the following six categories:

1. Occupations for which a) a high school diploma is preferred but not generally required, and b) no special training is generally required.
2. Occupations for which a) a high school diploma is preferred but not generally required, and b) one year or less of special training is generally required.
3. Occupations for which a) a high school diploma is generally required, and b) no special training is generally required.
4. Occupations for which a) a high school diploma is generally required, and b) one year or less of special training is generally required.
5. Occupations for which one or more years of formal education beyond high school is generally required.
6. Occupations of the self-employed.

One note of caution is in order. While these occupations are divided into six categories, it should not be assumed that their educational and training requirements are static. Employers gen-

erally stiffen requirements during a loose labor market and relax requirements during a tight labor market. In other words, during the current economic slowdown, employers are probably demanding higher qualifications than they did in early 1969, when the labor market was very tight.

TABLE XXXVII.

DEMAND IN CATEGORY 1 -
NO H.S. DIPLOMA REQUIRED - NO SPECIAL TRAINING REQUIRED

Occupation	Percentage of Females Employed	Total Number Females Employed - April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Animal Keeper	3.9	21	2
Assembler	40.7	7,113	414
Barmaid	35.5	830	46
Clerk, General Office	80.8	43,309	2,773
Coil Finisher	27.8	70	1
Coil Winder	58.4	146	7
Coremaker	0.6	8	1
Crane Operator	0.3	6	0
Cutter, Machine	22.6	79	3
Domestic Worker	100.0	13,468	1,520
Dry Cleaner	25.3	112	4
Elevator Operator	61.4	246	8
File Clerk	92.2	1.011	92
Filling Machine Operator	33.4	186	17
Funeral Attendant	6.2	59	3
Guard	0.8	63	7
Housekeeper	93.4	414	55
Kitchen Helper	70.8	10,263	919
Laborer	9.5	4,681	347
Laundry Worker	82.2	3,292	245
Maid (Janitor)	54.7	14,679	1,102
Mail Clerk	32.1	2,839	370
Mailer	90.9	660	27
Maintenance Man, Building	1.1	81	4
Meat Cutter	7.8	189	8
Messenger	1.9	11	1
Metal Finisher	9.7	389	25

TABLE XXXVII Continued

Occupation	Percentage of Females Employed	Total Number Females Employed April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Millman, Rubber	4.2	10	0
Nurse Aide	100.0	4,349	535
Packer/Wrapper	77.8	2,638	311
Page, Library	76.5	248	17
Patrolwoman/Guard	6.3	390	16
Pattern Cutter, Garment	11.7	17	2
Presser, Machine	72.3	1,501	86
Pressman, Printing	4.0	52	3
Pressman, Rubber	44.8	267	16
Sandblaster	3.8	57	4
Sewer, Hand	100.0	598	24
Sewing Machine Operator	98.0	6,379	383
Sheetmetal Worker	5.4	157	14
Stock Clerk	9.8	1.146	77
Taxi Driver	6.5	188	6
Telephone Operator	99.6	5,799	718
Truck Driver	0.1	34	2
Waitress	92.8	19,225	1.574
Warehouseman	2.9	412	24
Weigher	9.8	4	0
Window Cleaner	0.8	8	1
TOTAL	100.0	147,704	11,814

Category 1 (No H.S. Diploma Required - No Training Required) includes 48 occupations. The unadjusted projection of the number of jobs that will become available during the year in this category is 11,814 (48.2% of all of the projected job openings). There are no projected job openings for females in 3 of the 48 occupations in this category. These 3 occupations are crane operator, rubber millman and weigher.

Of the 11,814 job openings, it appears that about 68.6% or 8,109 are highly marginal jobs in the irregular economy. These marginal

jobs are: kitchen helper, laborer, maid, nurse aid, waitress, laundry worker and domestic worker. As mentioned earlier, these are the types of jobs often held by welfare recipients. The 1970 Manpower Report of the President notes that "Since the jobs typically available to slum residents have no attraction in terms of either income or the nature of the work, it is not surprising that many of these jobs are rejected or held for only short periods." The Report also indicates that "The irregular economy is characterized by horizontal mobility, erratic wage fluctuations, and overlap between the welfare and wage systems. Jobs are better described as dead end, low wage, sporadic.... , and so forth." Many welfare experts have stated that there is little hope of a welfare mother getting and remaining off of welfare unless she is able to enter the regular economy where there is an opportunity for vertical mobility, reasonably predictable pattern of wage improvement with increasing seniority and skill, and the possibility of stable employment.

TABLE XXXVIII.

RANGE OF WAGES IN CATEGORY 1

Average Monthly Starting Wage	Number of Jobs	Percentage of the Total Number of Jobs
Under $275 per month	2,413	22.6
$276-350 per month	3,771	35.3
$351-425 per month	3,611	33.8
$426-500 per month	401	3.8
$501-575 per month	435	4.1
$576-650 per month	19	0.2
$651-725 per month	17	0.2
	10,667	100.0

Average Starting Wage - $361 per month

The current average starting wage for 10,667 of the 11,814 potential job openings in category 1 were identified. The average starting wage in these jobs is $361 per month. 91.8% of these jobs pay $425 per month or less to start. 69.2% offer an average annual starting wage of $4,800 or less.

TABLE XXXIX.

DEMAND IN CATEGORY 2 -
NO H.S. DIPLOMA REQUIRED - SPECIAL TRAINING REQUIRED

Occupation	Percentage of Females Employed	Total Number Females Employed April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Appliance Repairman	1.9	55	4
Baker	12.7	300	12
Blue Printing Machine Operator	17.1	11	0
Bookkeeper	86.4	8,902	498
Bookkeeping Machine Operator	87.4	837	93
Bus Driver	7.9	302	12
Cashier	82.3	17,496	768
Central Office Repairman (Telephone)	0.04	1	0
Clerk Typist	97.9	7,186	603
Compositor	8.0	90	2
Cook	62.3	6,527	405
Cosmetologist	91.6	3,035	214
Heat Treater	0.1	1	0
Inspector	25.6	3,417	204
Machine Operator, General	29.0	6,370	481
Machinist	0.8	129	10
Maintenance Mechanic	0.5	34	2
Molder	3.7	45	4
Molding Machine Operator	84.1	686	126
Nurse, Licensed Practical	99.6	2,861	373
Office Machine Repairman	1.4	11	1
Oiler	0.1	1	0
Patternmaker	1.7	38	0
Personnel Clerk	49.7	203	18
Photoengraver	12.5	53	7
Plater	20.5	379	8
Power Press Operator	20.0	1,857	75
Production Machine Operator	11.4	3,411	288
Rubber Molder	21.3	20	3
Shipping & Receiving Clerk	10.9	794	59
Spray Painter	9.5	92	7
Stationary Engineer	2.2	20	1

TABLE XXXIX., Continued

Occupation	Percentage of Females Employed	Total Number Females Employed April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Teller	82.6	3,263	270
Teacher Aid	83.7	998	47
Tool & Die Maker	0.01	2	0
Tool Grinder	0.3	4	0
Upholsterer	6.9	41	2
Welder	2.7	176	10
Carpet Layer	1.1	9	0
Groundskeeper	0.1	3	0
Lineman	0.2	4	0
		69,664	4,607

Category 2 (No H.S. Diploma Required - Training Required) includes 41 occupations. Of these 41, 31 occupations may have, according to MPDC's unadjusted projection, 4,607 openings during the year (18.8% of all of the projected job openings). The ten occupations that will have no job openings are blue printing machine operator, central telephone office repairman, heat treater, oiler, patternmaker, tool & die maker, tool grinder, carpet layer, groundskeeper and lineman.

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TABLE XL.

RANGE OF WAGES IN CATEGORY 2

Average Monthly Starting Wage	Number of Jobs	Percentage of the Total Number of Jobs
Under $275 per month	1,029	22.8
$276-350 per month	764	17.0
$351-425 per month	1,672	37.1
$426-500 per month	879	19.5
$501-575 per month	145	3.2
$576-650 per month	6	0.1
$651-725 per month	12	0.3
	4,507	100.0

Average Starting Wage - $370 per month

Tips of cosmetologists not included.

The current average starting salary for 4,507 job openings in this category were identified. The average starting wage for these jobs is $370 per month. More than one-third of the jobs in this category offer starting wages of between $351 and $425. 76.9% offer an average starting salary of $425 or less per month. It is estimated that 69.4% of these jobs pay $4,800 per year ($400 per month) or less.

2832S

TABLE XLI.

DEMAND IN CATEGORY 3 -
H.S. DIPLOMA REQUIRED - NO SPECIAL TRAINING REQUIRED

Occupation	Percentage of Females Employed	Total Number Females Employed April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Accounting Clerk	57.8	1,849	177
Claims Clerk	25.1	220	14
Dispatcher	8.6	85	7
Houseparent	84.0	234	39
Insurance Rate Clerk	95.0	1,248	61
Laboratory Tester	18.6	716	55
Library Assistant	91.8	948	102
Mail Carrier	2.9	129	11
Production Clerk	10.5	125	4
Recreation Attendant	26.8	583	22
Routeman	0.3	8	0
Salesperson	67.3	24,891	1,600
Title Examiner	37.5	141	17
Traffic Rate Clerk	18.0	94	13
		31,279	2,122

In category 3, there are 14 occupations. The unadjusted projection of the number of jobs that may become available during the year is 2,122 (8.6% of the total number of projected job openings).There are no projected job openings for females in 1 (routeman) of the 14 occupations in this category. By far the largest number of jobs will be in the salesperson category, 72%. There will also be a good number of job openings for accounting clerks and library assistants.

2833

TABLE XLII.

RANGE OF STARTING WAGES IN CATEGORY 3

Average Monthly Starting Wage	Number of Jobs	Percentage of the Total Number of Jobs
Under $275 per month	0	0
$276-350 per month	65	3.1
$351-425 per month	2,008	94.7
$426-500 per month	30	1.4
$501-575 per month	18	0.8
	2,122	100.0

Average Starting Wage - $396 per month

The current average starting wages of all 2,122 potential job openings in category 3 were identified. The average starting wage in these openings is $396 per month. About 19 out of 20 openings pay between $351 and $425 per month to start. 97.7% of the jobs offer wages of $425 or less. It is estimated that 97% of the jobs pay $4,800 per year ($400 per month) or less.

TABLE XLIII.

DEMAND IN CATEGORY 4 -
H.S. DIPLOMA REQUIRED - SPECIAL TRAINING REQUIRED

Occupation	Percentage of Females Employed	Total Number Females Employed April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Bookbinder	65.9	1,204	44
Calculating Machine Operator	94.5	259	18
Collector	32.5	159	9
Computer Operator	32.1	144	9
Credit Clerk	61.6	820	34
Displayman	46.9	78	6
Draftsman	4.8	388	42
EEG-EKG Technician	57.6	39	1
Electronics Assembler	58.6	2,167	166
Electronics Mechanic	1.1	10	1
Estimator	0.02	1	0
Extruder Operator	6.8	11	0
Foreman	8.0	965	39
Instrument Maker/ Repairman	4.0	49	3
Investigator	4.5	33	3
Key Punch Operator	87.1	1,805	193
Loan Counselor	1.2	6	0
Programer	18.6	166	15
Proof Machine Operator	96.1	334	12
Recreation Leader	45.0	89	3
Secretary	99.3	7,443	385
Stenographer	99.4	9,890	835
Tabulating Machine Operator	73.3	496	30
Tailor/Seamstress	56.5	629	35
Teletype Operator	94.0	94	9
Timekeeper/Payroll Clerk	60.9	571	51
Transportation Agent	80.3	1,537	177
Youth Leader	51.0	473	13
Announcer	2.1	3	0
Radio Operator	28.3	30	1
Claims Examiner	34.5	101	3
Salesman	2.6	698	53
		30,692	2,190

Category 4 includes 32 occupations. Of these 32 occupations, 28 may have, according to MPDC's unadjusted projection, 2,190 openings during the year (8.9% of all of the projected job openings). The 4 occupations with no job openings are estimator, extruder operator, loan counselor and announcer. In this category, stenographers and secretaries will be in the greatest demand. A significant number of key punch operators, transportation agents and electronics assemblers will also be needed.

TABLE XLIV.

RANGE OF WAGES IN CATEGORY 4

Average Monthly Starting Wage	Total Number of Jobs	Percentage of the Total Number of Jobs
Under $275 per month	0	0
$276-350 per month	386	17.8
$351-425 per month	1,153	53.1
$426-500 per month	424	19.5
$501-575 per month	98	4.5
$576-650 per month	48	2.2
$651-725 per month	61	2.8
	2,170	100.0

Average Starting Wage - $389 per month

The current average starting wage of 2,170 of the 2,190 potential job openings in category 4 were identified. The average starting wage in these openings is $389 per month. More than one-half of

the openings pay between $351 and $425 per month to start. 70.9% offer $425 per month or less while it is estimated that about 70.2% will pay $4,800 or less per year ($400 per month) to start.

Summary--In categories 1 through 4, there are 135 occupations, 117 of which may have job openings for women between April 1, 1970 and March 31, 1971. It is projected (unadjusted) that there may be 20,732 openings in these 117 occupations.

Of all of these openings, 88.8% will have average annual starting wages of $5,100 or less. About 72.4% will have average annual starting wages of $4,800 or less. This means that more than seven out of ten jobs that require a H.S. education or less and may become available to women during the year will not pay enough to remove local AFDC mothers with families of four or more from the welfare rolls.

TABLE XLV.

DEMAND IN CATEGORY 5 -
FORMAL EDUCATION BEYOND HIGH SCHOOL REQUIRED

Occupation	Percentage of Females Employed	Total Number Females Employed April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Accountant	12.1	416	20
Buyer	20.6	410	16
Caseworker	68.3	1,113	105
Chemical Operator	23.2	766	78
Chemist	14.2	112	8
Claims Adjuster	0.3	1	0
Commercial Designer	21.5	183	11
Dietitian	96.8	200	12

TABLE XLV., Continued

Occupation	Percentage of Females Employed	Total Number Females Employed April 1, 1970	Projected Number of Job Openings April 1, 1970 - March 31, 1971
Electro-Mechanical Technician	0.7	9	0
Electronics Technician	6.6	50	3
Engineer	0.4	45	3
Engineering Clerk	0.4	1	0
Lawyer	1.0	13	1
Librarian	95.4	905	59
Manager/Official	10.6	4,390	151
Mathematician	39.3	33	0
Medical Technologist	69.0	761	1
Metallurgist	6.4	26	0
Nurse, Registered	99.8	5,875	782
Occupational Therapist	28.7	27	3
Personnel Technician	48.7	515	46
Pharmacist	7.0	62	3
Physical Therapist	74.7	207	14
Physician	6.2	141	5
Physicist	1.7	6	0
Psychologist	29.1	49	4
Radiologic Technologist	74.5	191	27
Reporter/Writer	18.5	134	4
Salesman, Insurance	1.8	95	10
Salesman, Real Estate	2.7	52	2
Salesman, Securities	2.4	11	1
Sanitarian	99.3	7,443	385
Systems Analyst	2.2	19	2
Teacher/Instructor	60.0	16,749	1,279
Tool Designer	0.1	2	0
Underwriter	46.5	347	29
		41,359	3,064

There are 36 occupations included in category 5. Of these 36, 29 occupations may have, according to MPDC's unadjusted projection, 3,064 openings during the year (12.5% of the total number of projected job openings). The 7 occupations with no job openings are claims adjuster, electro-mechanical technician, engineering clerk,

mathematician, metallurgist, physicist, and tool designer. Teachers will be in the greatest demand in this category while there will also be a significant need for registered nurses, sanitarians, managers and caseworkers.

TABLE XLVI.

RANGE OF WAGES IN CATEGORY 5

Average Monthly Starting Wage	Number of Jobs	Percentage of the Total Number of Jobs
Under $275 per month	0	0
$276-350 per month	0	0
$351-425 per month	0	0
$426-500 per month	1,291	50.2
$501-575 per month	163	6.3
$576-650 per month	1,084	42.1
$651-725 per month	15	0.6
$726-800 per month	15	0.6
Above $800 per month	2	0.08
	2,570	100.0

Average Starting Wage - $546 per month

Current average starting wages were identified for 2,570 of the 3,064 potential job openings in category 5. The average starting wage for these openings is $546 per month. No openings will pay less than $426 per month to start and more than 2 out of 5 will offer between $576 and $650 at the outset of employment.

Because of its nature, category 6 - occupations of the self-employed - will not be analyzed as the previous groups have been. It should be noted, however, that a projected (unadjusted) 732 opportunities for self-employment may present themselves to women during the year (2.9% of the total number of projected job openings).

In all, 172 occupations out of the 232 identified by OBES and the two occupational categories added by MPDC - domestic work and self-employment - have one or more women in them. Of these 172 occupations, 147 will have openings for women between April 1, 1970 and March 31, 1971. In these 147 occupations, it is projected (unadjusted) that 24,529 jobs for women will become available.

If one refers again to Table XXXII, page 88(which gives the twelve month demand for each of the eleven major occupational categories), one finds that the projected demand in the above 172 specific occupational categories (which are all included in the eleven major occupational categories) exceeds the projection of demand in the eleven major categories by some 1,153 openings. This difference is likely to be the result of the application of percentages to both large and small numbers of openings. It is known that applying percentages to discreet categories as compared to aggregate figures normally produces substantial discrepancies.

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Comparison Of Educational And Training Requirements Of Job Openings With Education And Training Of Employable And Potentially Employable AFDC Mothers

TABLE XLVII.

COMPARISON OF EDUCATIONAL AND TRAINING REQUIREMENTS OF JOB OPENINGS WITH EDUCATION AND TRAINING OF EMPLOYABLE AND POTENTIALLY EMPLOYABLE AFDC MOTHERS

	Unadjusted 12 Month Demand	Employable 3.1% - 621	Potentially Employable 18.6%-3,723	Employable and Potentially Employable 21.7%-4,344	Total Female Supply 21,975
No H.S. Diploma No Training	48.2 11,814				
No H.S. Diploma Training	18.8 4,607				
TOTAL- No H.S. Diploma	67.0 16,421		91.0 3,393	78.1 3,393	35.2% 7,748
H.S. Diploma No Training	8.6 2,122				
H.S. Diploma Training	8.9 2,190				
TOTAL- H.S. Diploma	17.5 4,262	100.0	9.0	21.9	64.8
Education Beyond H.S.	12.5 3,064	621	330	951	14,227
Unknown (self-employed occupations)	2.9 732				

In analyzing this table, two factors should be reemphasized: 1) The demand figures are unadjusted (at least 30% too high), and 2) The total female supply numbers are very conservative. While from the data one might assume that there will be more than enough jobs requiring no high school diploma to accomodate all those AFDC mothers considered employable and potentially employable and those in the total female supply who have not completed high school, this is not, unfortunately, the case. As can be readily seen, there are at least two and one-half times as many women in the total supply with high school diplomas as there are jobs requiring a high school education. It is known that, because of this labor market aspect, many women who must support themselves or their families are forced to accept jobs that require less education than they have. In other words, they are, because of these circumstances, underemployed. Many married women who live with their husbands are accepting underemployment or jobs not commensurate with their educational qualifications since the amount to be earned is often not the most important consideration in taking a job. (About 37% of the total female labor force is married - husbands present - and this percentage has been increasing rapidly in recent years.) While discussing the reasons why many women with high school educations accept positions for which a high school diploma is not necessary, the role of employers in the underemployment of women should be noted. Many employers, especially if the labor market is loose, will require a high school diploma for jobs where one is really not necessary. This is done because employers know that there are women with high school diplomas who are willing to accept these positions.

COSTS

Why Estimate Costs?

Based on the information given in preceding sections, some may think that it is rather foolish to discuss the cost of implementing the FAP training component in Cuyahoga County. This may seem to be a logical conclusion since the major problem appears to be a job deficiency and FAP presently has no provision for dealing with this issue. However, MPDC is presenting the following cost estimates so that local, state, and national law makers and policy makers, as well as those who hope to influence law and policy, have all the facts in hand before taking any actions and/or making any decisions regarding the form and administration of FAP.

Estimates Of Total Cost Of FAP

It has been recently estimated that the first year of the Family Assistance Plan will cost approximately 9.1 billion dollars. For training alone, President Nixon has estimated that 225,000 training slots, including 75,000 to up-grade the working poor, would cost about 600 million dollars, including day care. This is approximately $2,667 per trainee.

Current Local Job Preparation Costs

Cost of Training and Remedial Education in Local Federally Funded Manpower Programs--WIN has estimated its local training costs per client to be about $1,000. This includes all services such as orientation and assesment, training, remedial education, counseling, etc. that might be needed before job placement. The cost of skill

training alone is about $600. WIN has sub-contracted with the Cleveland Board of Education's Manpower Training Center for much of this training. Remedial education is said to cost between $200 and $300, and is also provided by the Board. WIN indicates that about 90% of its present enrollment receive some remedial education and/or training before job placement.

WIN provides an incentive payment of $30 per month to recipients in training. And another $30 plus a full assistance grant is given to the welfare recipient during training by the Cuyahoga County Welfare Department.

AIM-Jobs in Cleveland has estimated that it costs an average of $893 per female client for training, counseling, assessment, etc.leading to placement. This average excludes the New Careers program cost per client which is about $2,300 for nine months. The other AIM-Jobs programs vary in duration from 15 weeks to nine months.

The On-The-Job Training Program of the City of Cleveland spends about $600 per client for training which usually lasts between 12 to 15 weeks. This figure includes services such as on-the-job training, evaluation, counseling, etc. About 375 females were placed and trained by OJT during the past year.

Training costs to industrial concerns cooperating in the NAB-Jobs program average between $1,600 and $2,000 per client over a year. All supportive services, physical examinations, remedial education if necessary, etc. are included in this estimate.

Day Care costs are not included in any of the above estimates, with the exception of the NAB cost figure.

Local Cost of Day Care--The Commission on Day Care of the Cleveland Welfare Federation estimates that the cost of providing day care to pre-school children in the Cleveland area is approximately $2,000 per child per year. (FAP estimate is $1,600 per child per year.) For in-school children, the Commission on Day Care estimates that the cost is presently about $600 per child per year. (FAP estimate is $400 per child per year.)

Local Cost of Vocational Rehabilitation--For those with a treatable disability, the Bureau of Vocational Rehabilitation offers a rehabilitation program at an average cost of $1,788 per client. This program includes diagnostic services (medical and work evaluations), physical restoration and training. A maintenance and transportation allowance of up to $40 a week is also included.

Sixty-four women were referred by WIN to the Bureau of Vocational Rehabilitation between February 13, 1970 and April 28, 1970. Before this period, very few welfare recipients were sent to BVR. Some of the major rehabilitation problems of AFDC clients include obesity complicated by physical or cultural handicaps, back problems, heart conditions, etc.

Cost Of Preparing Local AFDC Mothers For Employment

Estimates Used to Arrive at Total Costs--Based on the cost of training efforts operated by WIN, AIM-Jobs, OJT and NAB-Jobs companies, MPDC

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estimates that, under FAP, it would probably cost at least $800 per client for six months or less of training. This job training would include all training and training related services (other than day care, remedial education, and vocational rehabilitation) that are needed before a person can be employed.

MPDC also estimates that remedial education will cost an average of $250 per client for a 6 to 9 month period. Local manpower programs have indicated that 80% of all trainees with less than a 10th grade education need some type of remedial education before they can be placed in a job. Data in the Employability section of the study reveals that about 40% of the local AFDC mothers who have an 11th grade education or less have completed only 7th, 8th or 9th grades.

The Day Care Commission cost figures of $600 per in-school child per year and $2,000 per pre-school child per year were used by MPDC to calculate the cost of providing care to children whose mothers are in training or employed. FAP will not only provide day care to children of AFDC mothers in training, but will, if enacted in its present form, also offer such services to children of AFDC mothers who are employed but could not remain so without this assistance.

The Bureau of Vocational Rehabilitation estimate of approximately $1,800 per client for a complete training program for the treatable disabled was also used to figure the cost of implementing the FAP training component locally.

Before moving to a discussion of the total cost, it should be noted

that the following estimates do not include the cost of expanding service capability in the areas of training, remedial education, day care, and rehabilitation. For example, there are presently only a few more than 2,500 day care slots in Cuyahoga County and only about 100 of them are not filled. In order to provide significant numbers of additional slots for FAP training, many new day care facilities will have to be established. It is the non-reoccurring expenses that would be required while establishing such facilities that are not included in the following estimates.

These estimates assume that such facilities can and will be provided if the need is substantiated.

Cost Of Preparing Local Employable AFDC Mothers For Employment--

TABLE XLVIII

COSTS OF PREPARING EMPLOYABLE AFDC MOTHERS FOR EMPLOYMENT

	A	B	C	D
	621 Employable mothers without pre-school children-Based on March 31, 1970 caseload of 20,017	828 Employable mothers without pre-school children-Based on projection of 30,000 to be served during year	56 Employable mothers with pre-school children who may volunteer-Based on March 31, 1970 caseload of 20,017	75 Employable mothers with pre-school children who may volunteer-Based on projection of 30,000 to be served during yr
Training (a)	$ 397,600	$ 530,133	$ 36,000	$ 48,000
Remedial Ed.	-	-	-	-
Day Care (b)	418,200	557,600	115,200	153,600
Rehabilitation	-	-	-	-
Living Allowance (d)	89,460	119,280	8,100	10,800
Full Public Assistance (e)	652,424 + medical care	869,899 + medical care	53,640 + medical care	71,520 + medical care
Supplementary Assistance to Family of 4 earning $4,200 (c)	192,252 + medical care	256,336 + medical care	14,094 + medical care	18,792 + medical care
Total Cost for First Year	1,749,936 + medical care	2,333,248 + medical care	227,034 + medical care	302,712 + medical care
Per Capita cost for employment preparation (f)	1,821	1,821	2,845	2,845
Cost to maintain families after first yr. (g)	675,294 + medical care	900,392 + medical care	138,384 + medical care	184,512 + medical care
Cost if all remained on welfare full-time (h)	1,479,843 + medical care	1,973,124 + medical care	133,448 + medical care	177,931 + medical care

(a) Based on 80% of the mothers receiving training.
(b) Based on 697 in-school children in Column A, 929 in-school children in Column B, 32 in-school and 48 pre-school children in Column C, and 43 in-school and 64 pre-school children in Column D.
(c) Based on 80% of the mothers in each column receiving supplementary assistance for 6 months and 20% of the mothers receiving supplementary assistance for 12 months.
(d) Based on 80% of the mothers in each Column receiving a living allowance for 6 months.
(e) Based on 80% of the mothers in each Column receiving full assistance for 6 months.
(f) Includes training, day care and living allowance
(g) Includes supplementary assistance for all families and day care for those in b.
(h) Based on an average AFDC grant per year or 2,383/family.

Given the supply and demand situations described in the previous sections, The Manpower Planning and Development Commission believes that about 80% of the AFDC mothers considered employable, even though they are all high school graduates, will need training for an average of 6 months. They will need such training if they are going to be able to compete successfully with non-recipient women for decent paying jobs with a future. This would mean that, of the 621 AFDC mothers not working or in training who are considered employable, 497 (80% of 621) would need some training. Using the estimate of $800 per client for training, the cost would be $397,600 for 497 trainees.

It is assumed that none of those considered employable will need either remedial education or vocational rehabilitation services.

The employable mothers who will need day care services for their offspring if they entered training or employment, have 697 in-school children. At $600 per child per year, it would cost approximately $418,200 to allow these mothers to enter training or go to work.

The living allowance to be offered by FAP, if enacted in its present form, will be $30 per month while AFDC mothers are in training. This is in addition to the public assistance grant that the mothers will continue to receive in full until they become employed. 497 employable AFDC mothers in training for 6 months will require an expenditure of $89,460 for living allowances. The 497 would also

receive $652,420 in public assistance benefits during the same period.

The amount of public assistance needed by the 621 during the first year will be $192,252 if (1) the 20% or 124 who may become employed at the outset of the first year find jobs averaging $4,200 per year, and (2) those in training find jobs averaging $4,200 per year after the six month training period. (At current grant levels, $414 per year in supplemental assistance would be provided to recipients with families of four earning $4,200.)

Combining these figures, it is estimated that approximately $1,749,936 will be needed to train and/or maintain 621 employable mothers in the first year. The per capita cost of providing training, day care and a living allowance would be $1,821. If the average wage continued to be around $4,200 per year and all those requiring day care during the first year continued to need it thereafter, it would cost approximately $675,209 per year to maintain the 621 mothers after the first year. If none entered training or found a job, the cost of continuing to provide this group with full public assistance would be $1,479,143 per year. (The current average grant for an AFDC family in Cuyahoga County is $2,383 per year.)

The cost of preparing for employment the 56 AFDC mothers with pre-school children who are considered employable was estimated in the same manner as the cost of preparing 621 AFDC mothers without pre-school children who are considered employable was estimated.

The costs in columns A and C were increased by one-third to arrive at the costs in columns B and D.

TABLE XLIX

COSTS OF PREPARING POTENTIALLY EMPLOYABLE AFDC MOTHERS FOR EMPLOYMENT

	A	B	C	D
	3,723 Potentially Employable mothers without pre-school children- Based on March 31, 1970 caseload of 20,017	4,964 Potentially Employable mothers without pre-school children- Based on projection of 30,000 to be served during year	253 Potentially Employable mothers with pre-school children who may volunteer- Based on March 31, 1970 caseload of 20,017	337 Potentially Employable with pre-school children who may volunteer- Based on projection of 30,000 to be served during year
Training (a)	$ 2,978,400	$ 3,971,200	$ 202,400	$ 269,867
Remedial Education (b)	297,750	397,000	20,250	27,000
Day Care (c)	3,112,800	4,150,400	582,200	776,267
Rehabilitation	-	-	-	-
Living Allowance (d)	670,140	893,520	45,540	60,720
Full Public Assistance (e)	4,437,816 + medical care	5,917,088 + medical care	301,576 + medical care	402,101 + medical care
Supplementary Assistance (f) For Family of 4 earning $4200	789,276 + medical care	1,052,368 + medical care	53,636 + medical care	71,515 + medical care
Total cost for first year	12,286,182 + medical care	16,381,576 + medical care	1,205,502 + medical care	1,607,336 + medical care
Per Capita (g) cost for employment preparation	1,893	1,893	3,361	3,361
Cost to (h) maintain families after first year	3,812,352 + medical care	5,083,136 + medical care	104,742 + medical care	139,656 + medical care
Cost if all (i) remained on welfare full-time	8,771,909 + medical care	11,695,878 + medical care	602,899 + medical care	803,865 + medical care

(a) Based on all mothers receiving training for 6 months.
(b) Based on 80% of the 40% in each Column who have a 9th grade education or less.
(c) Based on 5188 in-school children in Column A., 6917 in-school children in Column B, 287 in-school and 205 pre-school children in Column C, and 383 in-school and 373 pre-school children in Column D.
(d) Based on all mothers receiving a living allowance for 6 months.
(e) Based on all mothers receiving a full assistance grant for 6 months.
(f) Based on all mothers receiving supplementary assistance during the last six months of the first year.
(g) Includes training, remedial education, day care and living allowance.
(h) Includes supplementary assistance for all families and day care for the children identified in (e).
(i) Based on average AFDC grant per year of 2,383/family.

Cost of Preparing for Employment Local Potentially Employable AFDC Mothers--With the exception of remedial education, all other costs are calculated in the same manner as they were in Table XLVIII. The cost of remedial education is based on the assumption that 80% of the 40% who have a 9th grade education or less will receive remedial education.

Comparison of Costs--In comparing the above figures, it appears that there is little per capita difference in the cost of training employable and potentially employable AFDC mothers who have no pre-school children. However, mothers with pre-school children, because of their additional day care needs, are trained at a much greater cost than those with no pre-school children. MPDC cost estimates for preparing for employment employable and potentially employable AFDC mothers without pre-school children are lower than the FAP per capita estimate of training costs, while the MPDC estimate of training costs for mothers with pre-school children exceeds the FAP estimate. The cost of providing supplementary assistance and day care to an AFDC family of four without pre-school children after the mother has secured employment is less than the cost of providing them with a full assistance grant if the mother remains at home. However, the cost of maintaining an AFDC family of four with pre-school children after the mother has obtained employment is more than the cost of providing them with a full grant if the mother remained at home.

TABLE L

COSTS OF PREPARING FOR EMPLOYMENT LOCAL AFDC MOTHERS WITH LOWER EMPLOYABILITY POTENTIAL

	A	B
	1,395 mothers not working or in training who are disabled and/or illerate and/or have 6th grade education or less-Based on 3/31/70 Caseload of 20,017	1,860 mothers not working or in training who are disabled and/or illerate and/or have 6th grade education or less-Based on projection of 30,000 to be served during year
Training (a)	$ 950,000	$ 1,266,667
Remedial Education (b)	475,000	633,333
Day Care (c)	1,541,280	2,055,040
Rehabilitation (d)	801,000	1,068,000
Living Allowance (e)	342,000	456,000
Full Public Assistance (f)	3,324,285 + medical care	4,432,380 + medical care
Supplementary Assistance for Families of 4 earning $4,200	-	-
Total Cost for First Year	7,433,565 + medical care	9,911,420 + medical care
Per Capita cost for Employment Preparation (g)	illiterate or little ed. 2,942 2,946 disabled - 2,951	2,946
Cost to maintain families after first year (h)	2,118,810 + medical care	2,825,080 + medical care
Cost if all remained on welfare full-time (i)	3,324,285 + medical care	4,432,380 + medical care

(a) Based on 950 who are illiterate and/or have a 6th grade education or less receiving training for 9 to 12 months @ $1,000/client.
(b) Based on these 950 receiving remedial education for 12 months @ 500/client.
(c) Based on 1769 in-school and 240 pre-school children in Column A and 2,358 in-school and 320 pre-school children in Column B.
(d) Based on 445 who are disabled (and may be illiterate and/or have a 6th grade education or less) receiving total rehabilitation services at BVR including training, physical restoration, remedial education if needed, living allowance, etc.
(e) Based on 950 mothers receiving a living allowance for 12 months.
(f) Based on 1395 mothers receiving full public assistance for 12 months.
(g) Includes training, remedial ed., day care, rehabilitation and living allowance.
(h) Based on supplementary assistance for all families and day care for children identified in c.
(i) Based on an average AFDC grant per year of 2,383/family.

Cost of Preparing for Employment Local AFDC Mothers with Lower Employability Potential--Earlier in this report, it was mentioned that sizable numbers of mothers not working or in training were not placed in any employability category because they were disabled or had a 6th grade education or less. It was stated that the chances of these persons securing gainful employment seemed rather remote. However, for the purpose of obtaining estimates of the cost involved in preparing such persons for possible employment, the above table is presented.

There are 445 who are disabled, 797 who are illiterate, and 535 who have a sixth grade education or less. Since some of these individuals have more than one of these problems, the total number who are disabled and/or illiterate and/or have a sixth grade education or less is 1,395. Of these 1,395, approximately 950 are illiterate and/or have a sixth grade education or less, and 445 are disabled. Some in this latter category may also be illiterate and/or have a sixth grade education or less. It was estimated that the 950 would need at least one year of training at $1,000 per client and one year of remedial education at $500 per person. Of course, day care and a living allowance would also have to be provided. For those who are disabled (445) it was estimated that a complete rehabilitation program, including training, remedial education if needed, physical restoration, and living allowance, etc. would be indicated at $1,800 per client.

If all of the disabled are treatable and all of those who are illiterate or have a sixth grade education or less are educable, it is estimated that it would cost at least $7,433,565 the first year to bring these individuals to the point where they might be able to secure employment. The per capita cost of training one who is illiterate or who has little education, as opposed to one who is physically disabled, appears to be just about the same.

The Possible "Cost" Of FAP To The Local AFDC Mother

While a consideration of the short and long range costs of FAP to the taxpayer is important, the "cost" of this plan to the welfare recipient, especially to the AFDC mother, should also be carefully examined.

All of the tables in this section note the fact that FAP, if enacted in its present form, will provide all welfare mothers, whether they receive a full or supplementary grant, with medical care for their families. If this is not offered, it will undoubtedly cost most welfare mothers hundreds of dollars per year for such care.

This is an important factor to bear in mind while reviewing the "work incentive" component of FAP. As mentioned earlier, a welfare mother with a family of four in Cuyahoga County earning $4,900 a year would, under the proposed FAP plan, not be eligible for supplementary assistance (the cut-off point for a family of four would be $4,800) and would have only $424 more in spendable income per year than she would if she earned only $1,800 per year and

received supplementary assistance. In addition, she would be provided with medical care while earning $1,800 but would have to pay for all of her family's medical expenses out of her own income if she earned $4,900 per year. Under these circumstances, the additional $424 in spendable income would have to be used, in large measure, to purchase medical care. A welfare mother who might, through training, be able to command a job that pays $4,900, would have to consider very seriously the consequences of moving off of the welfare rolls and into a job that offers her almost no increase in income and takes her away from her children during working hours. However, under the proposed Family Assistance Program, the mother without pre-school children could be required to accept such employment even if she felt that doing so would be against her own and her family's best interests.

CONCLUSION

About one out of ten local AFDC mothers with no pre-school children who are not working or in training may be employable, while slightly more than 11 out of 20 may be potentially employable. However, it is questionable whether a significant number of these mothers, even with training, will be able to become employed in permanent positions at wages adequate for decent family maintenance and immediate or eventual removal from the welfare rolls. The barriers confronting them are many:

1. A deficiency in aggregate demand - Even if none of the local AFDC mothers who are considered employable or potentially employable were to seek employment, there simply are not enough jobs for non-recipient women wanting and/or needing work.
2. "Structural" characteristics of the demand for and the supply of labor that tend to reduce employment opportunities for the poor - On the demand side, many jobs require more education and training than is possessed by most AFDC mothers considered employable and potentially employable.

There has also been a reduction in low skill jobs for women. Most of these jobs, because they are low paying and dead end positions, offer little hope for permanent removal from the welfare rolls to the welfare recipient. The 1970 Manpower Report of the President points out that "Programs of work incentives and work training may not reverse the upward trend

in welfare rolls, unless the training is designed to move clients into permanent employment at adequate wages."

In relation to work incentives, the proposed monetary "work incentive" component of FAP leaves much to be desired. In fact, under this plan, an AFDC family of four may have more spendable income if the mother is earning $1,800 and receiving supplementary assistance than if the mother is earning $4,900 and completely off of the welfare rolls.

Many more households headed by females live in poverty than do male headed households. This may be so because male and female heads, for the most part, are not competing for, or offered, the same jobs. Male heads of households, in general, compete with other males for what are, in the main, the better paying or "male" and "male preferred" jobs, while female heads of households, to a large extent, find it necessary to accept employment in one of the "female" or "female preferred" occupations which usually pay considerably less.

On the supply side, a larger number of non-welfare recipient women who have high school diplomas or better are accepting jobs that require less education. This fact of underemployment greatly reduces the number of jobs that AFDC mothers can find and for which they may be qualified.

3. Discrimination -

- against women - As just indicated, many "female" and "female preferred" jobs are still in low paying, dead end occupations. Even in better occupations, many women are still paid substantially less than men for the same work.

- against Negroes - Negro women still tend to fill the lowest paying and most menial types of jobs. This fact is important because the vast majority of the local AFDC mothers considered employable and potentially employable are black.

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Transportation Opportunity Program, Inc., Final Report.

Transportation Opportunity Program, Inc., Pico Rivera, Calif.
Manpower Administration (DOL), Washington, D.C.
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DESCRIPTORS - *AUTO MECHANICS (OCCUPATION); *DRIVER EDUCATION; *EMPLOYMENT PROGRAMS; *DISADVANTAGED GROUPS; *MANPOWER DEVELOPMENT; JOB DEVELOPMENT; TRADE AND INDUSTRIAL EDUCATION; ADULT EDUCATION; LABOR UNIONS
IDENTIFIERS - *TRUCK DRIVERS

ABSTRACT - This demonstration training program is designed to train disadvantaged recruits as professional truck drivers or automotive mechanics. An upgrading component improves the skills of men presently employed, thereby building job ladders and creating openings for new graduates. In addition to skill training, the program provides remedial and basic education, counseling and job placement services, with union assistance. Recent experiments with work release, solid waste disposal driver training, and coordination with other manpower agencies have been partially successful, with the main problem being administrative barriers to effective cooperation. (BH)

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TO

THE MANPOWER ADMINISTRATION

U.S. DEPARTMENT OF LABOR

FINAL REPORT -- AUGUST 1, 1968 to OCTOBER 31, 1969

From

THE TRANSPORTATION OPPORTUNITY PROGRAM, INC.
(A Non-Profit Corporation)

7777 Industry Avenue
Pico Rivera, California 90660
PHONE: (213) 723-0771

An Experimental and Demonstration Program

CONTRACT NUMBER: 82-05-69-02

2862

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CONTRACT NUMBER: 82-05-69-02 DATED: OCTOBER 31, 1969

Office of Manpower Policy, Evaluation and Research

United States Department of Labor

It has been the continuing purpose of TOP to develop and demonstrate the feasibility of active, direct participation by a labor organization in a comprehensive manpower program. TOP is elevating the employability of inhabitants of the economically depressed areas of South-Central and East Los Angeles through remedial education and vocational instruction in truck driving and specialized automotive service skills. TOP has also undertaken upgrading-training to enable workers currently employed in entry-level jobs within the transportation industry to progress to higher-level positions.

This report, on a demonstration project, was prepared under a contract with the Manpower Administration, U.S. Department of Labor, under the authority of the Manpower Development and Training Act. Organizations undertaking such projects under government sponsorship are encouraged to express their own judgement freely. Therefore, points of view or opinions stated in this document do not necessarily represent the official position or policy of the Department of Labor.

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INTRODUCTION

The Transportation Opportunity Program, Inc. (TOP) is a special demonstration, multi-occupational training center designed to train "hard-core" recruits as professional heavy-duty truck drivers and as automotive specialists in such skills as brake repair, front-end alignment and tune-up. It provides remedial and basic education, counseling and job placement services, using the services of Teamsters Joint Council #42, of Southern California, to assist in finding secure, high-paying jobs for its graduates.

TOP couples this program with an upgrading component designed to upgrade the skills of men presently employed in the transportation field, thereby building job ladders and creating openings for new men entering the field upon graduation.

TOP is a non-profit educational institution, incorporated by the State of California. The Board of Directors is composed of Teamster officials and community leaders from the Los Angeles area.

This is the final project report under Department of Labor Contract No. 82-05-69-02. Since TOP has been in operation for more than two years, the narrative and statistics will, in some instances, refer to activities and events occurring under a prior Department of Labor Contract, No. 82-05-67-38.

The report is divided into categories based on the operation of the program including major sub-headings for Job Development and Placement, Educational and Supportive Services and New Developments, and is devoted to changes and developments both internal and external to the TOP operation. It should be noted that due to increased emphasis on the upgrading aspects of the Truck Driving Program, a separate sub-section is devoted to discussion of this topic.

After two years of operation, this is TOP.

JOB DEVELOPMENT AND PLACEMENT

August 14, 1967, under initial Department of Labor and Department of Health, Education and Welfare contracts, TOP began training its first class of trainees. The role of the job development and placement staff might best be described as "missionary", in the sense that they were beating the bushes, trying to convert employers in the Southern California freight and automotive industries to more realistic hiring policies. Though the work of evangelism is far from complete, significant conversions have been made.

During the present contract period, TOP has continued to develop and expand working relationships with the employers and to consolidate contacts previously made with the local unions and Joint Council of Teamsters #42.

Many problems were encountered early in the program in gaining acceptance of TOP by Teamsters unions. As the number of TOP graduates in their unions increased, and as it became apparent that TOP people could meet, and in many cases, exceed the standards of the industry, acceptance grew. At present, relations with the entire Joint Council of Teamsters #42 are excellent with the exception of one major freight local. Significant improvement in the attitude of that local has taken place in recent weeks.

In the trucking industry, TOP is now doing business (one or more placements) with one hundred thirty-six firms including most of the major trucking companies in Southern California. This demonstrates the viability of TOP's unique access to the industry through the intimate association of the Teamsters Union with the project. This access has helped the job placement and development personnel to overcome much of the employer reluctance they early had experienced. In the automotive area, the job development section is working closely with and making placements at every major oil company, the major tire and rubber companies, major discount houses and department stores, and new car dealer associations.

AUTOMOTIVE PLACEMENT

TOP has attempted to concentrate in placing automotive trainees with companies covered by union agreements, thereby finding jobs with earnings higher than the average presently paid throughout the industry. However, many automotive firms in Southern California are still unorganized. Therefore, TOP has also negotiated with independent dealers, many of whom have been extremely helpful in offering opportunities to hard-to-place trainees, especially those with physical handicaps, language problems and prison records.

In addition to its association with the Teamsters and with private companies, the job development and placement section has also developed working relationships with the International Association of Machinists, the United Auto Workers and the California State Employment Service, Job Clearing House (a job placement association of major poverty agencies), and other private and community agencies.

The Ford Motor Company is building a new training center one mile from TOP's Pico Rivera facility. Newly developing contacts with Ford Motor dealers promise to create excellent placement opportunities for the automotive graduate through additional training at the Ford Training Center.

The job placement staff has often found itself in the desirable position of having more job openings than graduates to place. The policy has been, of course, to place graduates in those jobs which provide the best earnings and the most promising job ladders. Present placements in automotive seldom pay less than $125.00 a week.

If it is necessary to place a well-qualified graduate in a low paying job, the employer is approached within a few weeks by a job placement specialist in an attempt to negotiate an increase. In several cases the success of this process has resulted in employers establishing higher beginning wages for TOP graduates than for general hires.

Especially in the automotive field, where Teamster ties are not as strong as in truck driving, the initial resistance to TOP graduates causes the job placement specialists to make many calls on the employer before the initial hiring breakthrough. Although this is a time-consuming process, it often results in a cordial relationship between the placement man and the employer. Then, when the first hire is made and the TOP graduate proves to be a satisfactory employee, rapid acceleration of the placement rate can be achieved.

EXAMPLE: After a long series of contacts, Goodyear Rubber Company finally hired its first TOP graduate a few months ago. Within a few days the company was not only calling for additional men, but had recommended TOP graduates to its customers.

Word-of-mouth advertisement among the employers coupled with the excellent and active cooperation of Teamsters Automotive Local 495, are the most important factors aiding automotive job placement.

With the refinements noted, job development and placement personnel have been able to devote more time to working with the trainee throughout the training period and to followup after placement.

The Job Development and Placement Program now has the following components:

TRAINING PERIOD	Orientation Job Counseling Total Guidance

POST TRAINING PERIOD

Placement
Follow-Up
Replacement if Necessary
Follow-Up

During the present contract period a significant trend has been reported by the job development and placement staff in the area of softening employer attitudes toward minorities, "hard-core" and any other labels applied to the previously "unemployable". Perhaps publicity of the minorities' problems has been a contributing factor toward this new willingness to talk about and act upon the problems. In some cases this trend has resulted in automotive employers taking "affirmative action" in dealing with the problems of hiring the hard-core.

An interesting difference between the trucking and automotive industries has emerged. In the automotive industry, lower level management appears to be most aware of social problems and the significant part that the employer can play in their solution. On the other hand, in the trucking industry, middle and upper management appears to be more cognizant of the social problems.

TRUCK DRIVING PLACEMENT

A good example of TOP's increased acceptance in the trucking industry is the recent developments in the truckaway field.

Auto carriers or truckaway operations have been recognized as an industry in the United States since approximately 1936 and in California

since 1945. During the past twenty-four years, the hiring policies of the auto carrier industry have changed very little and have been regarded as traditional, hence, inviolate.

Minority hiring was virtually non-existent in the auto transport industry, particularly in Southern California. The high salaries paid to the drivers of this industry have created a labor market which permits a high degree of selectivity. Therefore, employers have been able to maintain unrealistic pre-employment screening criteria.

In initial meetings between nine major employers in this industry and TOP job placement specialists, there was considerable friction. As presented by the personnel officers, the lack of minority drivers was due to the fact that many well qualified, experienced drivers were anxious to improve their earnings which allowed companies to select the elite driver without changing their standards. Counter arguments were that most minority persons applying could not meet these standards.

An early proposed solution to the industry's equal employment opportunity compliance problems, (and TOP's placement problems) was for Teamster unions and company personnel, working Saturdays and Sundays without pay, to insure adequate training for TOP students. This solution was suggested in part to give the company a look at the students before hiring. Impending model changeover and the resultant job shortage delayed implementation of these plans. In the interim a more direct approach was developed.

On September 16, 1968, a significant meeting took place between representatives from Locals 871, 381, 495, 224, the Auto Transport Committee, Robertson Truck-A-Ways, Insured Transporters, Pacific Motor Trucking Commercial Carriers, Hadley Auto Transport, Kenosha Auto Transport, National Auto Transport and TOP's job development and placement department. After several hours of discussion, the group made the following specific recommendations regarding TOP graduates:

1. Elimination of high school graduation requirements.

2. Partial elimination of pre-employment testing.

3. Age limit reduced from 25 to 23, and extended from 35 to 48.

4. Substitution of TOP training for three to five years experience.

5. Elimination of misdemeanor convictions as a device for screening out applicants.

6. Considerably relaxed hiring of men with felony convictions.

The two restrictions are against men whose driving records include drunk driving or felony reckless driving, either of which guarantees exclusion from this industry.

By September 23, 1968, nine TOP graduates had been hired and another twelve had applications pending in the truckaway industry. In follow-up calls since October 15, 1968, the general attitude of the auto

carriers toward TOP graduates has been satisfactory. Of the initial eleven men placed, one has been laid off due to very poor performance and attendance. At the last follow-up, TOP graduates in the auto carrier industry were earning $250.00 to $325.00 a week.

A TOP graduate in this industry can be assured of making $10,000.00 in the first year of employment even though he is at the bottom of the seniority list. (Basically this is a 10-month-a-year operation.) With a dependable record and increased seniority, he should be able to earn $14,000.00 to $17,000.00 a year plus life insurance, major hospitalization, eye care, dental care, generous vacation schedules and retirement benefits.

Although this breakthrough in the truckaway industry has not resulted in as many job openings for TOP graduates as had been originally hoped, it has provided a significant new opportunity for minority group members, some fifty of whom have been hired for the first time in this well-paid field.

In this, as in other areas, a strong factor contributing to hiring-pattern changes has been the pressure exerted on industry by the Contracts Compliance Office of the U.S. Post Office Department and the Federal Bonding Service. This pressure, coinciding as it does with the availability of TOP minority graduates, represents a happy confluence of events.

GENERAL

Persons whose attitudes have been molded by deprivation and by the development of survival techniques necessary in a ghetto have presented a challenge to the placement staff since the first class graduated. Recently, students with less than optimum physical conditions have become more significant to job development. Early in the program, on an experimental basis, a man classified as totally blind by the State of California, was successfully trained and placed as a brake and front-end mechanic.

More recently, men with serious overweight problems have challenged the placement staff. In one class a man with cerebral palsy was recruited into automotive. The trainee was trained in every phase of automotive service skills which TOP offers and was last reported working in an automotive repair shop in East Los Angeles. Special difficulties encountered in placements of this sort are more than compensated for by the results.

Further improvement of the placement process should grow out of TOP's increased cooperation with employers involved in the evening upgrading program.

JOB RETENTION SURVEY

JOB PLACEMENT SURVEY

September , 1969

Age ____ Ethnic ID: M-A ___ N ___ C ___ Other ___

SECTION A

1. Trainee's Name _____
First Last

2. Address _____

Phone Number _____ Graduation Date _____
Mo Year

if Automotive _____ or T.D. _____ Non-training related _____

driving fill out Sec. B; if automotive, Sec. C; if non-training
ill out company name, address, pay, how long, and union ONLY.

_____

SECTION B

if truck driver:

_____

_____

v rate _____ or _____
per hour per month

_ H.D. ___ Warehouse ___ Fork lift ___

_____

___ Private carrier _____

ck up and delivery _____

_____ Casual _____

l _____ or other

_____

_____

In September 1969, TOP conducted a job retention survey which was to include all vocational trainees graduating between the dates of August 1967, and February 1969. Of the 583 graduates included in the target group, 378 were located and responded to the questions asked by staff members participating in the survey. While a goal of at least 75% survey completions had been set, the final talley of 65% completions is felt to be a reliable indicator of graduate employment status.

Approximately 230, or 60%, of the trainees included in the survey population were relatively simple to locate. The remaining 148 respondents

were located only with increasing difficulty. In most cases they were employed in good to better than average jobs and had left their ghetto environment for better homes in the peripheral suburban communities of Los Angeles. Noting that the more difficult to locate trainees did not appreciably alter previously established employment percentages, it was decided to discontinue the costly process of tracking down the remaining 35% of the target population.

It is believed that had the survey been continued to include all unlocated graduates, the resultant ratio of employment versus unemployment could only have improved. Therefore, conclusions and employment rations derived from the survey and applied to the total population of graduates are felt to be realistic and perhaps even a bit conservative.*

In order to accomplish the assigned task of completing the job retention survey within the deadlines established, it was necessary to press into service as interviewers most of the manpower, clerical, instructional and administrative staff available, some twenty-three or twenty-four persons.

Aside from the job placement and counseling staff (five persons), nearly all the remaining personnel had very limited experience in the type

*Employment status of un-surveyed graduates stopping by to visit counselors and instructors serve to strengthen this conclusion.

of in-depth interviewing, particularly by phone, necessary to extract successfully the kind of sensitive information being sought.

Ghetto residents, generally, assume a strange voice inquiring about where they are working, hourly pay rates, income tax paid, etc., can only be a bill collector, skip tracer, or somebody trying to "con" them, in a word, it was the man. Even the counselors, fairly well known to most of the trainees, reported they were told quite bluntly in some cases that what was paid on income tax was none of their "god damn" business. Although the name TOP was a magic "open sesame" in the majority of the contacts, it was not able to accomplish the job in every instance.

Consequently, there were some gaps and discrepancies in the collected information that are reflected in the accompanying statistical tables. For instance, non-training related job categories were viewed differently by different interviewers. All the individual survey sheets were reviewed by the supervising counselor before final tabulation and where any doubt or possible difference of opinion existed, the reviewer's judgement was super-imposed so that a consistent standard was used. In all these instances, any dubious interpretation was resolved unfavorably to TOP. In other words, if a trainee had been employed nine months on a particular job, but had been unemployed, say, two weeks at the time of the interview, he was shown as unemployed for purposes of the survey although

the particular interviewer (with built-in bias for TOP) showed the trainee as currently employed. Additionally, because of some differences in interpretation of instructions by interviewers, the total target population for the period August 1967, through February 1969, does not equal exactly the total number of actual graduates for this period of time. Again, in the final review before tabulation, where a dubious contact may have been based on information in the case folder, rather than an actual contact with the trainee or relative, the dubious contact was discarded for the final tabulation, again not statistically in TOP's favor.

TABLE I

ANALYSIS OF TRUCK DRIVING AND AUTOMOTIVE STUDENTS

GRADUATING FROM AUGUST 1967 - FEBRUARY 1969

Target Group	-	583	100%				
Number of Graduates Contacted	-	378	65%	100%			
Number of Respondents Employed	-	309	53%	82%	100%		
Number of Training-Related Jobs	-	226	39%	60%	73%	100%	
Number of Union Members	-	117	20%	31%	38%	52%	100%
Number Belonging to Teamster Unions	-	99	17%	26%	32%	44%	85%

TABLE II

ANALYSIS OF TRUCK DRIVING STUDENTS GRADUATING FROM AUGUST 1967 - FEBRUARY 1969

Target Group -	331	100%				
Number of Graduates Contacted -	209	63%	100%			
Number of Respondents Employed -	189	57%	90%	100%		
Number of Training-Related Jobs -	167	50%	80%	88%	100%	
Number of Union Members -	95	29%	45%	50%	57%	100%
Number Belonging to Teamster Unions -	86	26%	41%	45%	52%	90%

TABLE III

ANALYSIS OF AUTOMOTIVE STUDENTS GRADUATING FROM AUGUST 1967 - FEBRUARY 1969

Target Group -	252	100%				
Number of Graduates Contacted -	169	67%	100%			
Number of Respondents Employed -	120	48%	71%	100%		
Number of Training-Related Jobs -	59	23%	35%	49%	100%	
Number of Union Members -	22	9%	13%	18%	37%	100%
umber Belonging to Teamster Unions -	13	5%	8%	11%	22%	59%

As shown on Table I, overall employment for the survey group equaled 82% of those contacted. In other words, of five hundred eighty-three graduates, four hundred seventy-eight were employed; 73%, or three hundred forty-nine, of the target group were employed in training-related jobs.

Tables II and III show a similar analysis of the two separate vocational areas of training.

Of particular significance is the percentage of employment in both groups even though the truck driving employment status overshadows that of the automotive graduates with a currently employed ratio of 90%. Applied to the total graduate population for the two contract periods, this means that four hundred twenty-seven truck drivers are currently employed as a result of TOP training, earning $3.87 per hour, for an aggregate annual income of $3,304,980.

Table IV indicates that 20% of the truck driving students were on welfare while attending TOP, and 41% of the automotive trainees were on welfare during training. Assuming an average welfare budget of $200.00 per month per family, TOP trainees accounted for an estimated $592,800 in Los Angeles County's annual welfare budget. At the time of the survey, 3% of the truck driving and 9% of the automotive graduates were on welfare. Again assuming an average monthly welfare budget of $200.00

per family, TOP graduates are accounting for an estimated $112,800 of Los Angeles County's welfare budget, which amounts to an annual savings of $480,000 to Los Angeles taxpayers.

TABLE IV

PUBLIC WELFARE STATUS

	TRUCK DRIVING								AUTOMOTIVE							
	On Welfare While at TOP				On Welfare at Time of Survey				On Welfare While at TOP				On Welfare at Time of Survey			
	Yes		No		Yes		No		Yes		No		Yes		No	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mexican American	14	27	38	73	3	6	50	94	18	45	22	55	5	13	36	87
Negro	13	18	60	82	1	2	63	98	11	43	15	57	2	8	24	92
Caucasian	6	17	30	83	0	0	35	100	1	20	4	80	0	0	5	100
Other	0	0	1	100	0	0	1	100	2	25	6	75	0	0	7	100
Total	33	20	129	80	4	3	149	97	32	41	47	59	7	9	72	91

2883

TABLE V

EFFECTS OF TOP ON THE WELFARE TAX DOLLAR

	% on Welfare While in Training		Total Trained		Total Receiving Welfare at TOP	Estimated Budget per Family		Yearly Budget	Annual Cost to Taxpayers
Truck Driving	20%	of	475	=	95	$200.00	X	12	$228,000
Automotive	41%	of	372	=	152	$200.00	X	12	$364,800
Annual Cost in Tax Dollars									$592,800

	% on Welfare After Survey		Total Trained		Total Rec'g Welfare After Survey	Estimated Budget per Family		Yearly Budget	Annual Cost to Taxpayers
Truck Driving	2.6%	of	475	=	14	$200.00	X	12	$ 33,600
Automotive	8.8%	of	372	=	33	$200.00	X	12	$ 79,200
Annual Cost in Tax Dollars									$112,800

ANNUAL TOTAL SAVINGS IN TAX DOLLARS $480,000

2884s

Truck driving graduates are currently making an average of $3.87 per hour for a two-thousand-hour work year; that amounts to $7,740.00. With an estimated four hundred twenty-seven truck driving graduates employed, that amounts to an aggregate income of $3,304,980. Automotive graduates make an average hourly pay of $2.83 an hour. The average yearly salary based on a two-thousand-hour work year comes to $5,660.00. 71% of the total automotive graduates are employed, meaning that two hundred sixty-four TOP automotive trainees are earning an aggregate income of $1,494,240. TOP's graduate population for the two contract periods is therefore earning a combined total of $4,799,220 per year.

Using a conservative estimate of 10% being paid in federal income taxes, it can readily be seen that TOP's graduates for the past two years are contributing approximately $480,000 a year in federal taxes. Combining this figure with the reduction of persons on the public assistance rolls indicates that TOP graduates are contributing nearly $1,000,000 a year to the local and national economy. It should be noted that this does not take into account the impact which these increased earnings have on state and local sales taxes and consumer goods.

TABLE VI

EFFECT OF TOP ON INCOME TAX DOLLARS

	Hourly Pay		Hours per Year		Yearly Salary		Number Employed		Annual Salary
Truck Driving	$3.87	X	2000	=	$7,740.00	X	427	=	$3,304,980
Automotive	$2.83	X	2000	=	$5,660.00	X	264	=	$1,494,240
Combined Annual Income									$4,799,220

APPROXIMATE ANNUAL INCOME TAXES PAID at 10% $ 480,000

TABLE VII

AGE ANALYSIS BY VOCATION AND ETHNIC/RACIAL ORIGIN

	TRUCK DRIVERS				AUTOMOTIVE				COMBINED			
	18-20	21-35	36-50	51 & over	18-20	21-35	36-50	51 & over	18-20	21-35	36-50	51+
Mexican American	0	43	11	0	2	22	7	0	2	65	18	0
Negro	0	56	15	4	0	10	7	1	0	66	22	5
Caucasian	1	29	6	0	0	2	3	0	1	31	9	0
Other	0	1	0	0	0	3	2	0	0	4	2	0
Total	1	129	32	4	2	37	19	1	3	166	51	5

TABLE VIII

	HOURLY PAY RATE													
	$2.00-2.50		2.51-3.00		3.01-3.50		3.51-4.00		4.01-4.50		4.51-5.00		5.01& over	
Truck Driving	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mexican American	0	0	6	12	5	9	14	28	24	47	1	2	1	2
Negro	0	0	6	7	16	20	15	19	25	32	2	3	15	19
Caucasian	0	0	4	11	4	11	8	22	12	34	0	0	8	22
Other	0	0	0	0	1	100	0	0	0	0	0	0	0	0
Total	0	0	16	10	26	16	37	22	61	30	3	2	24	14
Automotive														
Mexican American	11	36	8	25	8	25	0	0	2	7	2	7	0	0
Negro	3	16	2	11	8	44	2	11	2	11	1	5	0	0
Caucasian	1	20	1	20	1	20	1	20	1	20	0	0	0	0
Other	3	60	1	20	0	0	0	0	0	0	1	20	0	0
Total	18	30	12	20	17	29	3	5	5	9	4	7	0	0
GRAND TOTAL	18	8	28	12	43	19	40	18	66	29	7	3	24	11

TABLE IX

EMPLOYMENT STATUS - TRUCK DRIVER

	Drivers				Training-Related						Non-Training Related		Total	
	Heavy-Duty		Bob Tail		Warehouse		Fork Lift		Other					
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mexican-American	29	41	19	27	9	13	2	3	2	3	9	13	70	33
Negro	49	51	16	17	12	13	1	1	8	8	10	10	96	45
Caucasian	20	45	14	31	2	4	0	0	6	13	3	7	45	21
Other	1	50	1	50	0	0	0	0	0	0	0	0	2	1
Total	99	47	50	23	23	11	3	1	16	8	22	10	213	100

EMPLOYMENT STATUS - (Continued)

	Not Working or Not Available for Work										Status Unk. Out of Area		Total	
	Unemployed		Military		In Jail		Ill		Deceased					
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mexican-American	3	50	0	0	1	17	0	0	0	0	2	33	6	30
Negro	5	45	0	0	2	18	2	18	0	0	2	18	11	55
Caucasian	0	0	0	0	0	0	0	0	1	33	2	64	3	15
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	8	40	0	0	3	15	2	10	1	5	6	30	20	100

TABLE X

EMPLOYMENT STATUS - AUTOMOTIVE

	Training-Related										Non-Training Related		Total	
	Tires		Brakes		Front-End		Tune-Up		Other*					
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mexican-American	8	10	14	18	9	11	4	5	14	18	30	38	79	48
Negro	6	12	8	16	7	14	4	8	9	18	17	32	51	32
Caucasian	2	10	3	15	3	15	3	15	3	15	6	30	20	12
Other	0	0	0	0	0	0	0	0	5	39	8	61	13	8
Total	16	10	25	15	19	12	11	7	31	19	61	37	163	100

*Other includes four persons working in training-related jobs in a supervisory capacity - (2 Mexican-Americans; 1 Caucasian; 1 Other)

EMPLOYMENT STATUS - (Continued)

	Not Working or Not Available for Work										Status Unk. Out of Area		Total	
	Unemployed		Military		In Jail		Ill		Deceased					
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Mexican American	11	57	2	11	1	5	2	11	1	5	2	11	19	38
Negro	9	41	2	9	2	9	6	27	0	0	3	14	22	44
Caucasian	0	0	1	17	2	33	3	50	0	0	0	0	6	12
Other	2	67	0	0	0	0	0	0	0	0	1	33	3	6
Total	22	44	5	10	5	10	11	22	1	2	6	12	50	100

TABLE XI

TRUCK DRIVING

	EMPLOYED No. of Prior Jobs			Months on Job					UNEMPLOYED Months Unemployed					UIB	
	1-2	3	4 & over	1-3	4-6	7-9	10-12	13+	1-3	4-6	7-9	10-12	13+	YES	NO
Mexican American	19	7	12	16	9	5	9	13	1	1	2	0	0	2	2
Negro	37	7	14	10	16	12	18	18	3	1	0	0	0	1	3
Caucasian	11	7	7	11	7	5	2	9	0	1	0	0	0	1	0
Other	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0

TABLE XII

AUTOMOTIVE

	EMPLOYED No. of Prior Jobs			Months on Job					UNEMPLOYED Months Unemployed					UIB	
	1-2	3	4 & over	1-3	4-6	7-9	10-12	13+	1-3	4-6	7-9	10-12	13+	YES	NO
Mexican American	12	2	1	8	4	4	7	7	4	3	2	1	1	4	7
Negro	11	3	1	4	4	4	2	4	4	4	0	0	1	2	7
Caucasian	4	0	0	1	2	0	0	2	0	0	0	0	0	0	0
Other	2	0	0	5	1	1	0	1	1	0	0	1	0	0	2

2890

Table VII indicates that the preponderance of TOP trainees fell in the age group of twenty-one to thirty-five with an average age of just slightly over twenty-nine years of age. It was noted during the course of the survey that age had very little effect on income per hour with the exception of the small group over age fifty-one. These persons are at some disadvantage because of their age and must usually settle for jobs not paying quite as much as the average.

As shown on Table VIII hourly pay was fairly evenly distributed for each racial/ethnic group with the median for Negroes and Caucasians being slightly higher than for Mexican Americans. It is interesting to note, however, the surprising disparity in the over $5.00 per hour category in the truck driving group.

Tables IX and X show more persons employed than are indicated in Table I. This apparent discrepancy was caused by interviewers placing a person in more than one category if he was doing more than one job for his employer. In most union contracts, a person doing work in more than one occupational category will be paid at the rate of pay designated for the higher skilled occupation.

Job stability as shown in Tables XI and XII was somewhat higher than had been expected with the average trainees having had only one or two jobs prior to the position in which he was occupied at the time of the

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2891

survey. In the truck driving category, the Mexican American group showed slightly less time on the job and a slightly longer period of unemployment than either the Negro or Caucasian categories, while in automotive the reverse seems to be true.

In most respects the results of the job retention survey did not come as too great a surprise to staff members involved in the finding of employment for trainees. The survey bears out earlier reports and indicates that graduates have experienced many positive gains as a result of training.

2882

SUCCESS IN PLACEMENT - THE WHY AND HOW

TOP's job development and placement staff was asked to list those elements of the program they considered most significant. The results:

1. Placement activity begins during the first week of training.

2. TOP bends every effort to place each graduate within two weeks of graduation. Often, placement occurs before the normal training is completed if the trainee is judged to be job ready.

3. The job development and placement staff works closely with other sections--teachers and counselors--and has frequent contacts with trainees both in group sessions and through individual contact.

4. Job placement officers sit on the Total Guidance Committee*, which handles serious trainee problems.

5. Job developers consult with teaching staff about suggested changes in the training program. Teachers advise the placement section about trainee capabilities in order to assist in proper job placement.

6. TOP works with employers, encouraging them to lower entry standards for graduates, including pre-entry examinations, high school diplomas, experience requirements and police contacts. The placement record for ex-convicts roughly parallels the placement record as a whole.

*See Counseling Section

7. TOP has developed a case-load approach to follow-up which is expected to decrease the number of job referrals before a trainee finds regular employment.

CONCLUSION

The job development and placement section, as now constituted, provides an on-going support system for every trainee, both during and after training. By continuing to develop this system, the project hopes to improve on its previous placement record, both in placement and job retention.

TOP's upgrading program has always been successful in improving the earning capacity of its graduates. But its mission was two-fold: to improve the lot of the upgrader and at the same time create an entry job for a daytime student. It became apparent that the second part of the mission was not being fulfilled.

EXAMPLE: A paper-cutter from a large paper company came into the upgrading program, graduated, got a good job as a driver. His earnings were increased from $125.00 a week as a paper-cutter to more than $300.00 a week in the auto hauling industry. But no entry job was created for a new truck driver.

The upgrader was a more attractive new hire because of previous employment histories. Thus the effects of a successful upgrading program were decreased job opportunities for the daytime graduate. Therefore, the thrust of the upgrading program was changed from that of lateral mobility to one of upward mobility.

New criteria for admission were established. Intake for the upgrading program was limited to those employees who had established bidding procedures with their current employers, or to men capable of producing a letter from their employer stating that they would, as a result of training at TOP, be considered for promotion. In this fashion, training slots were provided for men who could be upwardly mobile without losing company seniority and fringe benefits. (Appended are several letters from common carrier employers indicating support and interest in the program.)

This had an added attraction in that men trained under these circumstances would be more apt to remain with their present employers. TOP job placement men could seek the entry-level job for a daytime graduate.

The Department of Labor incorporated this idea in TOP's 1968-1969 contract. Under the new ground rules, the waiting list of over four hundred applicants for upgrader training was reduced to about one hundred. Two hundred thirty-two upgraders were trained with the waiting list remaining at about one hundred men throughout the 1968-1969 contract period.

Operation of the program has uncovered several additional defects.

The men entering the training program came on their own initiative, usually without the knowledge and approval of their employer. In a few cases, the employer was displeased that TOP had upgraded a man whose work record with the company was not considered satisfactory. It was realized that increased employer participation in the upgrading program would be necessary. Several meetings were held with common carrier employers and officials of Joint Council of Teamsters #42 to determine the willingness of both the employer and the unions to develop a more effective upgrading program.

As a result of these meetings, general agreement has been reached on the following points:

1. The company will select the men, thereby sending men whom they wish to upgrade, based on past performance and seniority requirements.

2. Companies are worried about the shortage of qualified men for long-haul operations. This problem is further aggravated by the great numbers of experienced drivers now reaching retirement age. (Forecasts indicate approximately 50% of the current driving force will retire by 1975.)

   This shortage contributes to the increased cost of operation due to payment of overtime. Other factors, of course, such as fringe benefits and cost of equipment operation also contribute to the great amount of overtime worked in the industry, but there is no doubt that a shortage exists. Teamster Local 224 officials estimate that the

shortage is as high as four hundred in Los Angeles and Local 180 estimates that their companies could use two hundred more in sleeper-cab operations. At the present rate of training at TOP, it is doubtful that enough men are being trained to replace the retirees alone.

3. Since the upgrading program includes the fundamentals of preventive maintenance and trouble-shooting for minor breakdowns which occur on the road, the TOP upgrader can save money for his company by anticipating problems, thereby preventing expensive service calls on the road.

4. There is a great need for more education in the business aspects of the trucking industry for all drivers. Understanding the importance of bills of lading, the cost involved in misdelivered freight and other profit-reducing factors should be part of any truck driver training program.

TOP ACHIEVEMENT TESTING

In an effort to ascertain which skills it would be necessary to teach in the "business education" program, TOP administered a series of tests for its upgrading trainees.

The regular daytime program includes classes in basic and remedial education. To determine achievement levels, the Wide-Range Achievement Test is administered. The most recent regular class at intake achieved at 8.3 grades in reading and 5.7 grades in arithmetic. The range was from 1.7 to 12.5 in reading with a median of 8.3 grades.

However, the average for regular graduates at exit has been 9.9 grades in reading and 7.6 grades in arithmetic.

In the chart shown below results of the upgraders tested are compared with the results of the daytime trainees. There is no significant difference in achievement levels between those currently employed in the industry and the daytime trainees.

COMPARATIVE STATISTICS - (Upgraders vs. Day)

	NUMBER TESTED		MEAN		MEDIAN		STANDARD DEVIATION		RANGE	
	*N	*D	*N	*D	*N	*D	*N	*D	*N	*D
Reading Entry	141	264	8.4	8.4	8.4	8.2	3.0	2.7	1.6-13.8	1.8-17
Reading Exit	141	245	8.4	9.9	8.4	10.0	3.0	2.7	1.6-13.8	4.0-17
Arithmetic Entry	141	264	6.5	5.8	6.5	5.3	1.8	1.7	2.9-13.3	1.9-13.5
Arithmetic Exit	141	245	6.5	7.6	6.5	7.9	1.8	2.1	2.9-13.3	3.0-13.5
Age	141	264	29.7	30.8	29	29	5.4	7.8	20-47	20-53

*N - Nights - Upgraders

*D - Days - Regular

SIGNIFICANCE OF TESTING

The test results have helped TOP job development specialists to enhance employment potential of the daytime graduate by showing the minute differences between educational achievement of presently employed and daytime unemployed trainees. (Note 1)

The results point up the need to include "business" education classes in upgrading programs for at least half of the upgraders even though this might require a longer training period.

The test findings offer further proof that the trucking industry is one where the educationally disadvantaged can perform successfully in many capacities. Growth forecasts for the trucking industry during the next ten years coupled with retirement forecasts, indicates it will continue as an excellent source of employment for the disadvantaged. The tested upgraders' average age is thirty, indicating that they have entered the industry during the 1960's for the most part.

Since three of the great problems facing the trucking industry are costs of equipment maintenance, overtime pay and losses resulting from "O. S. and D." (over, short and damaged freight), training schools can contribute to the solution of all these problems by making more drivers available who are skilled in road maintenance, freight handling, and the paper work of the industry.

NOTE 1

Several recently-removed barriers to hiring TOP graduates have little relevance to the man's ability to perform the job for which he has been trained. A high school diploma does not guarantee academic achievement, as the testing program indicates. Pre-employment testing with the Wonderlich and other tests do not test ability to perform nor recognize motivation and other factors. Prison, jail, and especially arrest records should not be critical factors in barring a man from employment. TOP graduates may have one or many handicaps--lack of education, jail records, language problems or no previous experience, but they have been trained as drivers, a statement that cannot be made by 90% of the truck drivers on the road today.

FOLLOW-UP ON UPGRADERS

Up to the present time, TOP has trained more than three hundred upgraders. In order to determine what percentage have improved earnings as a result of their training, questionnaires were mailed to all upgrading trainees graduating prior to April 30, 1969. This was done in order to allow at least six months to permit time for job bidding procedures. Of one hundred ninety-four questionnaires mailed,

eighty-eight were returned. The returns indicated that 54% have improved their earnings, some by as much as $6,000.00 a year and that 41% have bid for and received better jobs.

The follow-up indicates the trainees felt both teachers and teaching methods were satisfactory, but complained of lack of equipment.

	TOTAL RESPONSE	PER-CENT
Present Employment Status (Total Response)	88	100%
Trainee employed same company, same job, same earnings	40	46%
Trainee employed same company, same job, increased earnings	12	13%
Trainee employed same company, better job	28	32%
Trainee employed different company, better job	8	9%

CONCLUSIONS

A high percentage of graduates have earned better jobs as a result of upgrading training, others are waiting for openings so they can bid for better jobs. Some have increased their earnings from overtime due to the ability to drive any type of truck.

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Since preliminary test results indicate half the upgraders have reading scores below 8.5 grades and arithmetic scores below 6.7, TOP is now planning a "business education" section as part of the upgrading program.

Through employer approval of men accepted by TOP for upgrading, vacated entry jobs have become more accessible for TOP daytime graduates, and reliable employees, selected by the employer, are getting an opportunity to improve their driving skills and increase their earnings.

The employer benefits from safer, more skilled drivers and lower maintenance costs. Through the "business education" program, TOP hopes to lessen such costs as misdelivered freight and O.S. & D. losses.

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PROFESSIONAL HEAVY-DUTY TRUCK DRIVING

The truck driving department of TOP, from August 1, 1968, to end of October 1969, trained two hundred forty-eight trainees, graduating in possession of newly-won Class I California driver's licenses.

Of those graduates, two hundred and six (83%) have become employed and of those employed, 89% (one hundred eighty-three) were placed with employers covered by union contract. Wages earned by graduates range from $2.25 to $4.25 per hour with a mean rate of $3.87 per hour for all graduates placed in employment.

During the present contract period, the truck driving department has dramatically improved the curriculum and methodology of training. This is evidenced by a current dropout rate for truck drivers of less than 6% (14 of 262). This remarkably low dropout rate has been achieved with men meeting all HRD requirements for "hard-core" trainees. Over 30% of truck driving recruits have been penal inmates with over 50% having had either felony or misdemeanor convictions. All recruits were certified by the California State Employment Service as meeting HRD requirements.

Intake standards have been kept as minimal as possible. Each recruit must pass the physical examination required by Interstate Commerce Commission regulations and that required by the California Department of Motor Vehicles. (These two examinations are essentially the same.) The potential trainee must be over twenty-one and have held a valid driver's license for at least one year. HRD qualifications are the only other requirements.

Achievement level testing for placement in an appropriate basic education class is accomplished AFTER the trainee is enrolled. Since the test is used only to ascertain at what level to begin remedial instruction, it can readily be seen that testing is not used as a device to screen out potential trainees.

A profile of the truck driving trainee shows the following:

	AVERAGE	RANGE	%
Math at Entry	5.6	1.9-13	
Reading at Entry	7.3	2.1-17	
Math at Exit	7.7	3 -13	
Reading at Exit	9.8	4 -17	
Head of Household			64
Ex-Convict			31
Previous Convictions (Felony or Misdemeanor)			50.7

TRAINEE MOTIVATION

As TOP completes its second year of operation, some tentative conclusions regarding trainee motivation are possible.

It is known that, to date, motivation efforts have been very successful in the truck driving department. It can, therefore, be deduced that some element, or group of elements, within the truck driving course, is conducive to the elevation of motivation with the student enrolled in truck driving.

It appears that the key element contributing to motivational success is a short-term achievable goal. Example: During the first week of training, trainees receive thorough indoctrination in "rules of the road", i.e., ICC regulations and California Department of Motor Vehicles (DMV) requirements for a learning permit. (Since August 1967, nearly

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five hundred trainees have successfully taken the DMV written test.) The new trainee, in his first week of training is given a goal--passing DMV's written test for a Class I license and subsequent receipt of a learning permit--is told he will achieve that goal, and in every case has in fact, achieved that goal.

His next short-term goal is learning backing and correct foot and hand coordination in a gas-powered tractor equipped with a 5-speed transmission and a 2-speed axle. Here again the trainee is given a goal, told he will be able to achieve that goal, and finally, does achieve that goal. This succession of obtainable goals continues through short semi's, semi's with 40' trailers, and finally, doubles (a tractor and two trailers). A final goal, road testing by DMV to receive his actual license, is usually achieved during the fifth or sixth week of training, allowing two to three weeks to gain valuable on-the-road experience. In other words, in eight weeks, an inexperienced recruit passes through a succession of short-range obtainable goals, graduates and becomes employed in a job paying an average of $3.87 per hour.

GENERAL

The work knowledge of the truck driving instructional staff is not open to question. The vocational personnel have been recruited from their own particular fields of expertise and can point to long years of

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experience. Successfully placed graduates attest to the knowledge which instructors have been able to impart. This opinion is further strengthened each time employers of TOP graduates request additional men from TOP.

The truck driving department, during the first year of operation, suffered for lack of sufficient rolling stock, which greatly curtailed students' time behind the wheel, (essential to grasping the rudiments of good truck driving). This deficit to the proper operation of the truck driving department was eliminated with the arrival of five new tractors during the present contract. The new equipment increased student "behind-the-wheel" experience from thirteen hours to approximately thirty hours. TOP would like the students to have still more time behind the wheel, but thirty hours is sufficient to insure a Class I license.

It was also found that by routing all truck driving students through a one-week course in heavy-duty servicing, an eleven-point average increase in students' DMV test scores occurred. It has yet to be determined why this is true, but the results have been most gratifying.

AUTOMOTIVE SKILL TRAINING

During the present contract period, TOP has continued the development of the skills "pipeline" approach to automotive training.

Early experience indicated that most hard-core recruits possessed so little knowledge of mechanics that it was necessary to start all trainees in a basic automotive course, where they learn lubrication, nomenclature and basic systems.

Each trainee then advances to tire repair, mounting and balancing, and analysis of tire wear. The schedule of advancement is to brakes and wheel alignment, at which time the trainee has four basic skills.

Upon completion of wheel alignment, the most qualified students are advanced to tune-up and diagnostic lane (advanced tune-up). The rest are graduated and placed in jobs.

The advantage of this procedure is that the program is developed around continued increases in skill level, and each skill prepares a man for entry into a specific area of the automotive service industry. The approach is to develop success patterns in less skilled occupations, advancing the trainees to those skills such as combination brake and front-end men and tune-up men which command higher earnings in the industry.

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This procedure also works as a screening device. Since TOP does not pre-test trainees, either academically or vocationally, trainees are sometimes referred to TOP who find that automotive training is "not their bag". These men will drop out during early phases of training.

TOP has also trained men for automotive service who are legally blind, victims of cerebral palsy, and persons with other physical, mental and emotional handicaps--men who could not be trained under the truck driving program because of the ICC physical examination.

To enroll a man must be eighteen or over with a valid Class III Driver's license. Other than meeting HRD requirements, no other conditions must be met.

During the present contract period, we have graduated one hundred eighty-eight trainees of whom one hundred thirty-seven have been placed in jobs. The average earnings of employed graduates is $2.83 per hour.

TOP has been successful in acquiring excellent training materials from several suppliers, plus the gift of engine mock-ups and materials from Ford Motor Company, which has been most generous.

TRAINEE MOTIVATION

At the initial point of contact, the intake counselor explains the advantages of participating in the training offered by TOP's automotive

department. It has been advantageous to place particular emphasis on the variety, complexity, quantity and quality of equipment used for training in the automotive department. This helps keep the new trainee motivated long enough to appear on the premises to check out the counselor's story.

Once on "location", instructors and counselors continue in their efforts to improve the attitude of the trainee toward his new vocation.

Short term achievable goals are more difficult to institute. Many long hours of "skull sessions" have been spent in attempting to find a solution to this dilemma. Licenses for smog control devices, headlight adjusting and other automotive adjustments controlled by the state, have served to fill this need to a certain extent.

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COUNSELING

The philosophy of TOP is that nearly all "hard-core" unemployed individuals have the potential to be trained successfully and develop into productive individuals of our society regardless of race, creed, color or previous condition of servitude. The function of the counseling department is simply to support that philosophy by assisting the trainees with those human problems which inevitably accompany him.

This is accomplished through three general functions: Off-site recruitment interviews; on-site supportive counseling, and field counseling.

RECRUITMENT

Consistent with the TOP objective of recruiting not less than eighty-five percent of its trainees from the two major ghetto areas of Los Angeles, TOP has maintained for recruitment purposes a sub-office in the East Los

Angeles Mexican American community, and another in the black ghetto. The training facility itself is located in Pico Rivera, approximately equidistant from these two major recruiting areas.

These sub-offices were established at the outset of TOP on the hypothesis that if the project were to achieve a meaningful program of recruitment including substantial numbers of persons either rejected or bypassed by other available programs, it would be necessary to develop intake procedures both simple and direct, involving a minimum sit-and-wait, come-back-tomorrow, you're-in-the-wrong-office frustration.

The typical hard-core trainee whom TOP wished to enroll is alienated from society, distrustful and suspicious of all authority, and reacts with hostility if his interpretation of the interview experience reinforces the misconceptions and prejudices he himself may bring to the interview. In short, the trainee is a man in search of an identity. It is at this initial face-to-face confrontation that the art, skill and sensitivity of the intake counselor is most needed.

The key function of the counselor at intake is to change a negative syndrome, "trainee-alienation", and all that is encompassed by that phrase, to a more acceptable mode of behavior. The counselor attempts to start this change through creation of a sense of identification, loyalty, and esprit de corps, that eventually comes to mean TOP

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in the mind of the trainee. The trainee may be unable to articulate or verbalize his changed feelings, except to perhaps say he was "treated like a man". This new view, however tentative, if successfully established in the initial interview, begins to open the door to the possibility of change for the trainee.

If TOP is successful, it will become the trainees own "outfit" and he will defend it with feeling. In this context it is hardly surprising that in the preponderance of recruitment referrals in the program's second year, a "former trainee" was the source of information about the program.

The number of former trainees who return to visit the school, bringing friends and relatives to introduce to staff members, attests to their feelings of identification with TOP. The foundation for these feelings should begin with the initial intake interview.

ON-SITE COUNSELING

The welding of relationship between counselor and trainee is not intended to create within the trainee a total reliance upon the counselor.

It is expected, however, that strength will be developed rapidly in order that the trainees can, upon completion, begin to adapt to a complicated, affluent society in a productive manner.

Most trainees enter the school with many hangups, with misdemeanors, felonies, traffic tickets, probation, parole, court cases, appeals, transportation problems, dependent hospitalizations, welfare disputes, lawyers, etc.

TOP counselors must be capable of helping in all these areas at least to the point of communication with the involved agencies.

Many trainees approach the counselor with what appears to be a problem to them, but later, through discussion with the counselor, they find that no real problem exists, or at most, it turns out greatly minimized. For example: A traffic ticket is due to be paid on the following day and the trainee has no money. The counselor will provide the trainee with a letter requesting extension which usually is granted. In several instances, as a result of counselor intercession, cases have even been thrown out of court.

The counselor also takes part in the relationship with the trainees and their instructor. TOP students while attending vocational classes are exposed to an industrial attitude of discipline. For many of the trainees this is the first time they have experienced the regimentation which will be expected of them upon employment. This often causes emotional difficulties for the student. The counselor then enters the scene as a safety or relief valve for the upset trainee. Where trainee

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grievances appear to have some validity, the counselor will speak with the instructor and trainee in an attempt to arrive at an amicable settlement. In effect, the counselor's role is much the same as that of a shop steward.

TOTAL GUIDANCE

To insure that all its resources are brought to bear upon the problems of trainees, TOP has established a Total Guidance Committee.

Total guidance committee meetings are attended by representatives of vocational and basic education, counseling, job placement and administration. Any staff member who recognizes a problem involving a trainee can bring the problem before the total guidance committee.

The committee has been very successful in bringing problem trainees to the attention of the staff early in the program so that those persons involved with the trainee are aware of the problem and can provide whatever support is necessary to insure the trainee's continuation and progress in the program.

Total guidance committee meetings also serve a useful purpose in being a medium for the interchange of ideas, attitudes and philosophies between instructors, counselors and administration. The committee has served to weld the entire TOP staff into a more cohesive unit whose primary objective is a trained and successfully placed graduate.

FIELD COUNSELING

Field (home) counselor techniques include crisis and emergency coverage. When a trainee, for whatever reason, does not attend school regularly, it is necessary to discover the reason and assist whenever possible. This service often involved intervention with public agencies in the trainee's behalf.

CONCLUSION

TOP trainees, whether black, brown or white, have all evidenced the deep scars of neglect and destitution. The needs are essentially the same, regardless of racial or ethnic origin. TOP counselors must be ever aware of this fact and become involved with every trainee if they are to succeed in overcoming the legacy of personal disabilities resulting from past patterns.

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BASIC EDUCATION

The basic education program presently serves as one of the supportive services to the total TOP program. One of its primary functions is to help teach unemployed or underemployed adults the basic rudiments of reading, writing and arithmetic. It also provides English instruction to those who are bi-lingual but have problems communicating in the English language.

To accomplish these goals and objectives, trainees are taught in a pseudo-formal classroom setting with a relatively low (1:10) teacher-trainee ratio. This ratio has been found to be conducive to learning without unreasonable expenditures for teacher personnel.

ENTRY TESTS FOR HOMOGENEOUS GROUPING

It has been found that there is a great range of reading and arithmetic abilities among the TOP trainees. Because of this wide range of abilities, tests will continue to be utilized as a determin-

ing mechanism for homogeneous grouping. In this manner, areas of concentration may be employed for those individuals who need review and/or development of new concepts in the basic skills.

The WRAT (Wide Range Achievement Test) serves as the measuring device for trainee grade placement. TOP found that other types of entry tests previously administered to trainees were too tedious. These tests also tended to build trainee anxieties and fears of the basic education program.

The WRAT can be administered in a relatively short time. Scoring is accomplished almost immediately after the test is completed, and the trainee may be placed in a homogeneous group.

Since the WRAT is a wide-range test, trainees occasionally have been grouped improperly. This has been especially true with that portion of the test that deals with arithmetic. Because of this inadequacy, TOP has devised its own test for this phase of the testing program. The test has proved to be quite accurate in determining where the trainee is in regard to arithmetic skills and concepts.

The same test is administered at exit to determine how much the trainee has achieved during his tenure in the basic education program. It is felt that this is necessary in order to facilitate proper job placement after the trainee completes his skill training at TOP. Since a

minimum of eight weeks elapses between entry and exit, the findings are felt to be valid.

BASIC EDUCATION AND ITS RELATION TO THE TOTAL GUIDANCE PROGRAM

Basic education teachers help form the nucleus of the total guidance program. This is in keeping with the concept that provisions must be made to educate the total trainee. During this process, each individual at TOP who comes in contact with the trainee becomes aware of the trainee's behavior patterns. This "teacher-awareness mechanism" serves to facilitate teacher-counselor verbalization of trainee problems. This tends to assist the staff in recognizing that the trainee with problems is more than just an irritant to instructors; that he is a human being in need of assistance.

CONSUMER EDUCATION

Lessons in consumer education instituted during this contract period continue to have a positive effect. Practical instruction in budgeting, the high price of interest and nutrition have served to increase trainee interest in other areas of basic education. After instituting this program, it was found that student "class cuts" from remedial education diminished by approximately 75%.

ERIC 2920

The basic consumer education program consists of information concerning:

1. Quality and quantity buying.
2. Credit buying and installment contracts.
3. Loans and types of lending agencies.
4. Consumer frauds and misleading advertisement.
5. Insurance - auto, life, home, accident, etc.
6. Food and nutrition - health and medical care.
7. Family budgeting.
8. Bankruptcies, judgements and garnishments.
9. Consumer guides and reports.

OPERATION

In the period from August 1968, to February 1969, the basic education section consisted of a staff of five; four teachers and a supervisor. The daily schedule was three classes each of two hours duration for each of the four teachers.

From February 1969, to the present, the schedule changed to four classes each of one-and-one-half hour duration. The purpose of the change was to accommodate an increased load in basic education, (partially due to a four-week intake period in the automotive section) and maintain an optimum teacher and trainee ratio for greater individual instruction.

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On the second day of each incoming class (twenty trainees have entered automotive training every four weeks; thirty-five trainees have entered truck driving training every eight weeks) a standarized test, the Wide Range Achievement test and a more definitive math test constructed by TOP, are administered.

The tests are scored and evaluated, and the trainees are then assigned to a basic education teacher. Classes are structured so that homogeneous groups are approximated. At the completion of training, the student is given an exit WRAT test. The time spent in training varies according to the vocational section: automotive, from eight to twenty-four weeks; truck driving, eight weeks.

The charts that follow will give a statistical analysis of the results achieved.

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CUMULATIVE STATISTICS FOR AUGUST 1, 1968 to OCTOBER 31, 1969

ETHNIC ANALYSIS

	INCLUDING UPGRADERS		EXCLUDING UPGRADERS	
TOTAL TRAINEES ENROLLED	721	100%	496	100%
Negro	213	30%	190	38%
Mexican American	238	33%	176	36%
Caucasian	245	34%	109	22%
Other	25	03%	21	04%
TOTAL TRAINEES GRADUATED	650	100%	433	100%
Negro	184	28%	162	38%
Mexican American	216	33%	156	36%
Caucasian	227	35%	96	22%
Other	23	04%	19	04%
TOTAL TRAINEES NOT COMPLETING TRAINING	71	100%	63	100%
Negro	29	41%	28	44%
Mexican American	22	31%	20	32%
Caucasian	18	25%	13	21%
Other	2	02%	2	03%

	AUTOMOTIVE TRAINEES		TRUCK DRIVER TRAINEES		UPGRADER TRAINEES	
TOTAL TRAINEES ENROLLED	232	100%	264	100%	225	100%
Negro	96	41%	94	36%	23	10%
Mexican American	98	42%	78	29%	62	28%
Caucasian	27	12%	82	31%	136	60%
Other	11	05%	10	04%	4	02%
TOTAL TRAINEES GRADUATED	187	100%	246	100%	217	100%
Negro	71	38%	91	37%	22	10%
Mexican American	84	45%	72	29%	60	28%
Caucasian	21	11%	75	31%	131	60%
Other	11	06%	8	03%	4	02%
TOTAL TRAINEES NOT COMPLETING TRAINING	45	100%	18	100%	8	100%
Negro	25	56%	3	17%	1	13%
Mexican American	14	31%	6	33%	3	37%
Caucasian	6	13%	7	39%	4	50%
Other	0	0%	2	11%	0	0%

AUTOMOTIVE PLACEMENT

*NUMBER OF GRADUATES	187	100%	
NUMBER EMPLOYED	137	73%	100%
Negro	55	29%	40%
Mexican American	59	32%	43%
Caucasian	16	09%	12%
Other	7	04%	05%

Average Hourly Earnings for Automotive $2.83

TRUCK DRIVING PLACEMENT

NUMBER OF GRADUATES	246	100%	
NUMBER EMPLOYED	206	84%	100%
Negro	78	32%	38%
Mexican American	56	23%	27%
Caucasian	66	27%	32%
Other	6	03%	03%

Average Hourly Earnings for Truck Driving $3.87

	**TOTAL	PERCENT
Present Employment Status	217	100%
Trainee Employed same company, same job, same earnings	100	46%
Trainee employed same company, same job, increased earnings	28	13%
Trainee employed same company, better job	69	32%
Trainee employed different company, better job	20	9%

*Completing One or More Phases of Training
**Projected Employment Status Based on Upgrading Follow-Up Survey

AUTOMOTIVE SECTION

	NUMBER	MEAN	MEDIAN	S. D.	RANGE
READING ENTRY	232	7.3	7	3.2	1.7-16
READING EXIT	188	8.5	7.4	3.0	3.9-15.8
ARITHMETIC ENTRY	232	5.3	5.3	1.7	1.0-12
ARITHMETIC EXIT	188	6.8	6.7	2.0	4.0-14.1
HOURS PRESENT (RAW)	57	39.4	34	23.5	2 -112
HOURS PRESENT (Those compl. B. E.)	28	55.5	57	20.1	24 -112

TRUCK DRIVING SECTION

	NUMBER	MEAN	MEDIAN	S. D.	RANGE
READING ENTRY	264	8.4	8.2	2.7	1.8-17
READING EXIT	245	9.9	10	2.7	4.0-17
ARITHMETIC ENTRY	264	5.8	5.3	1.7	1.9-13.5
ARITHMETIC EXIT	245	7.6	7.9	2.1	3.0-13.5
HOURS PRESENT	74	31	32	8.1	8.0-46

NEW DEVELOPMENTS

WORK-FURLOUGH PROGRAM

Shortly after TOP began training, it became obvious that convicts paroled into the community had experienced great difficulty in finding permanent employment. About one-third of the trainees recruited for TOP had served either jail or prison sentences. The employment histories of most ex-convicts reflected periods of unemployment extending as long as two years.

Being aware of an automotive training program at the Chino Institution for Men, a state correctional facility at Chino, California, it was decided an attempt should be made to couple their program with an experimental TOP program for men about to be released from the institution. It was hoped by this method to short-circuit the frustrations of an unsuccessful job experience by placing men fresh from training, and directly from prison, into good paying jobs.

In September 1967, members of the TOP staff visited the Chino facility to discuss the possibilities with correction officials. The original idea was to recruit men who had previously taken Chino's automotive course, bring them to TOP on work release for an eight-week specialized course in brakes and front-end alignment, then seek their release from prison upon placement in jobs.

Unfortunately, a preliminary investigation indicated that this idea was not feasible. Men with less than one year to serve were not admitted into Chino's nine-month program. As a result, many men who had completed Chino's training were often either not eligible for parole or had been transferred to other facilities. Besides, the program was very small, usually limited to eight or ten men every nine months, so it was not possible to couple the training programs.

Instead, TOP decided to recruit a class of eight men with previous automotive experience having four months or less to serve. In the meantime, project administration sought approval from the California State Employment Service to pay training allowances from the Title II funds allocated for the TOP project.

In February 1968, word was received that no funds were available under Section 251 of the MDTA and that regular training allowances could not be used for prisoners. Nevertheless, it was decided to establish the program, provide an 8-passenger carry-all to the prisoners for transportation and provide them with $10.00 per week expense money from the Title I travel allowances account.

In April 1968, TOP counselors interviewed sixteen prisoners of whom eight were selected to begin training on April 29, 1968. The men were assigned to the special barracks which houses men on work-furlough at Chino.

Since a special eight-week course for the prisoners was planned, it was decided to put them in one class under a single instructor. At first, they wore civilian clothes, but before the first week ended, the prisoners requested to wear their prison dungarees. In the process of driving to school, working, living and studying together, the men developed a genuine "esprit de corps", and all men progressed well during the training period.

Of the eight men, four were on RUAP (Release Upon Approved Parole program). Employment was found for these four upon completion of training and they were released within seventy-two hours. Jobs were found for two more men, who then went before the parole board, were placed on RUAP and released. This procedure took about ten days.

Jobs were found for the remaining two men, but the parole board denied their request for RUAP and they were returned to the main cell barracks from the work-furlough residence center. This caused some resentment on the part of the men involved. However, upon completion of sentence, both were placed in jobs.

In an effort to prevent the recurrence of such a situation, TOP counselors met with the chairman of the California Adult Authority and with the chief administrative officers at Chino in order to develop a

more effective means to provide immediate release for all men who successfully completed training and were placed in jobs. After several months had elapsed, the Chino Institution was asked to recruit eight men in the hope that men selected by them would be more apt to be released upon placement in jobs. Unfortunately, experience with the second group closely paralleled that of the first group.

The second group differed from the first in that they were recruited for a sixteen-week program and no previous automotive experience or training was required. The schedule was similar to that of the regular trainees, including the daily two hours of basic education. The educational achievement levels of the second group also coincided with the levels of achievement of regular trainees.

Of the eight men enrolled, one left the school and was later apprehended. Of the remaining seven, two finished their sentences before completion of training, but remained in training under the regular program, then placed in jobs. Two were released with little difficulty. Three, however, faced the same frustrating experience of no release.

Apparently, because of differences between TOP and prison staff, the institution decided not to continue the program. At any rate, several weeks elapsed before the prison agreed to send eight additional trainees.

Training proceeded well, but the last group had been recruited from various institutions and forestry camps and sent to TOP with no idea why they were being sent. Two of them really had no desire to learn automotive skills, and none had received counseling about the program. Nonetheless, the challenge was accepted.

Again TOP experienced difficulty in seeking release to coincide with job placement, and as of this date, no negotiations are in progress for future programs.

TRAINING ALLOWANCES

TOP continued to pay $10.00 expenses per week to each inmate, but also attempted to get incentive allowances under Section 251 of the MDTA. Finally, in April 1969, through the assistance of TOP's funding office in the U.S. Department of Labor, working with the California State Employment Service, permission was obtained to establish the Chino program as a TOP sub-project. The Excess Title II training allowances from other sub-projects were transferred to this sub-project to allow payment of incentive allowances of $20.00 per week, plus $5.00 per week travel allowance.

The inmate was allowed $5.00 from the $20.00, plus the $5.00 travel money. The remaining $15.00 per week was placed in a savings

account to be collected upon release. The dependents' allowances were mailed directly to them.

TOOLS

While the first Chino group was in training, TOP's counselors established working relationships with the parole officers who would supervise the trainees upon release. It was learned that through a working relationship with the Department of Vocational Rehabilitation, released prisoners could get sets of tools if they were needed for employment.

All of the Chino men who were placed received tools through DVR.

TERMINAL ISLAND

During the period when the Chino Institution was discussing discontinuance of the program, TOP was approached to establish a similar work-furlough program for the Federal Prison at Terminal Island.

Since Terminal Island had an established work-furlough program, a man could be released in twenty-four hours to take a job upon completion of training, and serve his additional time on work-furlough.

In setting up this program, however, it was decided to take men from Terminal Island into the regular program, and place them in

classes with regular trainees. They were provided with an excess property carry-all and given the same $10.00 per week expense money.

Again, several difficulties developed. The institution sent some men who were released before completion of training. Some left to take jobs, but some continued training. However, the institution desired to keep the number in the program at eight, and they would willy-nilly send another man to replace the released prisoners.

TOP had no control over intake. The men riding together were not at the same point in training, and consequently, TOP's experience with this group was not as effective as with the Chino program.

In addition, TOP and prison officials had never actually reached agreement on who should control the trainees. One day the prison officials walked into the TOP facility and two of the men were out road-testing a car. An instructor was supposed to accompany prisoners, but had failed to do so. Consequently, the Terminal Island officials took the prisoners back to Terminal Island without consulting the TOP administration.

The next day six prisoners were returned to TOP while the two men were kept at the prison. Whereupon TOP sent the other six back and asked for a meeting to determine responsibility. A few meetings were held, but no additional trainees have attended from Terminal Island.

FINDINGS AND CONCLUSIONS

TOP's experience with work-furlough training programs indicates that in states having indeterminate sentences, where there is a split jurisdiction between corrections and adult authority, it is nearly impossible to establish working agreements which will be followed out.

It is believed that the corrections men who worked with TOP were well-motivated and honorable men, but endless meetings and telephone calls and honest attempts to reach meaningful agreements resulted only in disappointment.

As an example, at intake for the last Chino group, it was agreed that TOP would establish a sixteen-week program. At the end of eight weeks, the men would be evaluated and, if performing satisfactorily, would be sent before the parole board with a request that they be placed on RUAP.

Of the eight men, all of whom received favorable reports, not one was placed on RUAP after eight weeks. It is not known where the responsibility lies, but TOP was determined not to enter another work-furlough program without a complete, written agreement involving the training facility, the prison officials and the Adult Authority. Without such a contract, agreements are meaningless.

TOP achieved best results with prisoners in a single class, with a single instructor, progressing together. It is possible that such a setting reflects the "Hawthorne effect"*, but the Chino prisoners established better rapport with the staff and seemed to progress better than the Terminal Island prisoners. The fact that the Chino men elected to wear prison dungarees while the Terminal Island men generally wore civilian clothes lends weight to this idea.

In one important regard, all prisoners expressed appreciation for the opportunity to attend TOP, and almost universally expressed the idea that TOP had acted as a half-way house before release from prison.

The TOP administration allowed some freedoms. Visitors were allowed under controlled conditions. The men could leave the facility for lunch if accompanied by their instructor. Transportation was provided for job interviews. The men drove their own vehicles to and from the training site each day and provided the fuel from their expense money.

Terminal Island (Federal) prisoners were not eligible for tools from the Department of Vocational Rehabilitation, so arrangements

*See: Fritz J. Roethlisberger and William J. Dickson, Management and the Worker (Cambridge: Harvard University Press, 1939)

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were made for tool loans from the Jewish Free Loan Society. Not one prisoner has defaulted on his loan.

During the program, one of twenty-four Chino men escaped. Two of sixteen Terminal Island men escaped, and one graduate who was on the job as a work-furloughee also took off. All have been apprehended. A recent follow-up indicates that of the remaining men, all are working save one and none have been returned to prison. However, the one unknown has violated his parole by leaving the state without permission and will probably be returned to prison when apprehended.

TOP's experimental work-furlough program was successful in terms of the thirty-seven prisoners who benefited from the training. The program was discontinued only because of insurmountable inter-agency conflicts. It is the opinion of the TOP staff, however, that similar training programs established in prison, geared to the job market and offered immediately before a man's release would dramatically reduce the recidivism of released convicts.

Such programs will be expensive, but prisons are expensive to maintain and unless repeaters are eliminated, the prison population will increase. Training may not be the answer for every prisoner, but for a man lacking a vendable skill, it's a good place to start.

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EXPERIMENTAL SOLID WASTE PROGRAM

In early June, 1969, an experimental program to train men as drivers for the Solid Waste Disposal Industry of California was begun. TOP trained two classes of six men each for a period of four weeks, graduating the second group on July 31, 1969.

The graduates from this program were supposedly assured of placement with one of the member firms of the California Solid Waste Disposal Association, a group of forty-three firms.

The association provided the trucks to be used in training, plus a training site at one of the members firms' yard. TOP provided a training and supportive service.

Of the first class of six enrollees, one trainee had irreconciable license problems. Three admitted they entered the program only for training allowances. The remaining two completed training and were placed on jobs. They both terminated a short time later expressing that in their opinion, the work was too hard for the pay received.

It was felt upon investigation, that perhaps the intake counselors had oversold the program. For the second class of six, counselors utilized the services of the California Department of Motor Vehicles to ascertain license problems. A more realistic evaluation of the type of training they would receive was presented to the trainees before accep-

tance. Four of the second group of six men graduated, and of these four, three were successfully employed.

For one reason or another, these three men were either laid off or quit within several weeks. One person quit for medical reasons, and upon release from the hospital, will probably become re-employed in the industry.

Upon evaluation, this pilot program appears to have failed for several reasons. All of the trainees for this program were recruited from the East Los Angeles area. As luck would have it, most job openings occurring within the California Disposal Association were geographically located some twenty to forty-five miles from the trainees' home address. The association members themselves, in most cases, expected too much of the new graduates assuming that four weeks of training would prepare them with the same skills as employees with one or more years' experience in the industry. The employers were not accustomed to working with the hard-core disadvantaged nor to making allowances for people with newly developing working habits.

A final problem meriting attention is the wage structure within the industry which at the present time has many inequities in terms of a standardized salary structure. If the program had been successful and the member firms of the CDA had been able to recognize a potential

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for stabilizing their work force, it had been hoped that an ongoing program would be negotiated perhaps with the California Refuse Removal Council (CRRC).

The CRRC is composed of numerous associations throughout California and it was proposed that a training program be established to train new employees for all Southern California. The training program was to have been funded in part by the CRRC, but in view of the failure of the pilot project and the limited funds with which the CRRC operates, it appears that the program will be dropped.

STAFF DEVELOPMENT AND COMMUNITY LIAISON

After the Transportation Opportunity Program, Inc. surveyed its staff, it was found that many individuals wanted to upgrade themselves by expanding their educational horizons. (This "self-improvement" awareness might be a residual product of the TOP upgrading program in truck driving.) The survey also indicated that many staffers felt the community should be involved in TOP. After considering the various responses elicited by a questionnaire, a new function was established at TOP -- Staff Development and Community Liaison.

The primary activities:

1. develop staff personnel
2. involve community agencies in TOP

STAFF DEVELOPMENT

Because the staff development and community liaison section was created about the time that TOP employees were being hired for the truck driving "Upgraders' Program", it was felt that this would be an opportune time to begin a program to help develop staff personnel. Therefore, each new instructor was given an intensive week of in-service training which included:

1. Orientation in TOP history and objectives.

2. Methods of teaching disadvantaged adults.

3. On-the-job training.

ORIENTATION

This period of training took approximately eight hours. Included in the training were:

1. Philosophy of TOP.

   (a) how it started

   (b) who started it

   (c) why TOP was necessary

2. Tour of the TOP facility and introduction to and function of various TOP departments.

3. Correct method of record-keeping and reporting mechanisms.

METHODS OF TEACHING DISADVANTAGED ADULTS

Though the new staff members had an average of twenty years experience in their vocational skills area, none of them had experience in teaching. Therefore, the next two days of in-service training were spent giving instructors an overview of:

1. The psychology of the disadvantaged.

2. Methods of teaching disadvantaged adults.

ON-THE-JOB TRAINING

The next two days were spent giving instructors on-the-job training. It was felt that being involved in the actual educational process would give them an opportunity to adjust to their role as teachers more readily and with less anxiety and frustration.

In later evaluation, those who participated in the in-service training reported that this method of training was extremely beneficial to them.

GED PREPARATION COURSE

In-service training requests were made by staff members who wished to obtain their high school equivalency certificate. UCLA was extended a contract to prepare interested TOP staff members for taking the GED.

A total of twenty-two individuals enrolled for the GED preparation course.

To teach this course, the coordinator from UCLA provided the services of one consultant, one lead instructor and two UCLA graduate students who were conducting studies in the field of adult education. The course itself consisted of sixty hours of instruction.

During the mid-point of the course, the instructors and the course content were evaluated by the TOP participants. It was found that the

TOP participants were ambivalent about the course. Since this was the first purely educational course that most of the employees had participated in for several years (mean of seventeen years) it was extremely difficult to determine if the negative feelings they harbored toward their instructors represented the same teacher-school syndrome felt by our trainees.

Fifty percent of the participants indicated the GED course was a waste of time and money. Later, however, 92% of the participants indicated they would strongly recommend that other teachers in similar training programs take the GED preparation course.

RESULTS OF GED PREPARATION COURSE

Of the 22 participants in the GED prep course, there were seven dropouts. Three were only taking it as a refresher course. One felt the teachers were too dictatorial. One was already taking two courses at an L.A. junior college, and the others (ages 55, 58 and 60) felt they were a little too old but said they would continue studying on their own.

Since many of the TOP participants felt ill at ease in their role as "students" and were having problems with their homework, a TOP tutorial team was formed.

At this time twelve of the participants have taken the official GED test. There were two failures, both in the area of "Language Arts",

which seemed to create problems for all TOP staff members taking GED courses and dropped their average percentile scores at least thirty points.

ADULT EDUCATION COURSE

After TOP staff personnel completed their GED courses, some wished to continue their education on a college level. The Educational Extension Service of UCLA was contacted and plans were developed to teach TOP staff "how to teach most effectively".

After careful curriculum planning, the two courses in adult education were given to our instructors. After evaluation it was found that over 95% of the TOP instructors felt they had derived new methods of classroom presentation from the courses which they could utilize in their classroom situation.

OPERATION "SHARE"

On several occasions it was discovered that during lunch time and after work, spontaneous discussions developed concerning TOP and other agencies and institutions. It was felt by each of these small groups that there should be some way to include others in their discussions. Therefore, the "Share" group was organized.

This group consists of TOP persons who are interested not only in the psychodynamics of people, but the laws that govern them. At

this time, though the group is still in its embryonic state, there has been a definite trend to equate that which is happening to the people of the world with the role of TOP and how its staff and trainees function in it.

It is felt that because each person must read the various articles to be discussed, it has increased their ability for reading and has drawn out individuals who usually do not verbalize their thoughts and opinions. In effect, each participating member is actively involved in actually creating his own in-service training mechanism which will make for better human relations at TOP.

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USE OF OTHER COMMUNITY MANPOWER RESOURCES AND SERVICES

NEIGHBORHOOD YOUTH CORPS (NYC)

Many staff members felt their time could be utilized more effectively if they did not have to perform tasks that required a minimum amount of technical skill. Realizing that this condition existed, contacts were made with the NYC office and an order was placed for the services of NYC workers.

PROBLEMS

During a one-month period there was a turnover of 90% of our NYC personnel. This constant personnel flow was beginning to create problems for TOP personnel who had pledged to engage the NYC workers in, 1) meaningful tasks; 2) provide on-the-job training; and, 3) allotting them time to practice their new job assignment.

It was felt by some that the NYC workers were "clannish". They usually knew one another and recognized each others' problems long before their immediate supervisors were cognizant that a problem existed. (Their problems were usually centered around transportation and problems with the court.)

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To have the NYC workers retain their feeling of belonging, it was decided that weekly meetings would be held with them as a group. (It was also decided that they would participate in their immediate supervisor's regular unit meetings.)

The transportation problem was solved by using the car pool or buddy system.

The problems they had with the courts were a little more difficult. The TOP counselors have been successful in establishing and maintaining a rapport with the courts in regard to TOP trainees. However, it was found that on several occasions when TOP interceded for the NYC workers, it did not prove successful. Though the courts were lenient with the NYC workers they demanded that the NYC workers change certain of their behavior patterns. In numerous instances, the NYC workers did not perform according to the agreement they made with the court.

PRESENT STATUS

Therefore TOP has decided, at least for the present time, not to continue its relationship with NYC. The task of continually training new recruits proved more time consuming and costly than had been originally estimated.

SMALL BUSINESS LOAN ACTIVITY FOR TOP GRADUATES

Inquiries have been made by three TOP graduates concerning Small Business Administration loans. After assuring each that TOP would help write the proposal, information was provided concerning those individuals, including TOP personnel, who would then offer consultant services. One applicant decided to use his own source of capital to go into business, and one is still collecting the necessary data to accompany the SRA loan application. TOP was instrumental in helping the third person obtain a $10,000.00 loan from SBA.

Staff personnel at TOP have continued to provide consultant services to those who are involved with SBA. It has provided technical skills and services to help the one successful loan applicant defray some of his operating costs by using his truck during the teaching process.

PARTICIPATION OF TOP IN THE EDUCATIONAL OPPORTUNITIES PROGRAM

Eight to ten percent of the student body is usually exempt from taking remedial education. After closely scrutinizing that portion of the TOP trainee body, it was found that some of the students might want to pursue a college education.

It was casually mentioned that there were special programs at colleges and universities for qualifying members of the student body who

wished to obtain college credits. Instructors were told to keep an eye on their students in order that they might be able to make recommendations of students to the special college program.

After the selection and counseling process, three students indicated they would like to participate in the EOP (Educational Opportunity Program). Arrangements were then made for them to take the college-level examinations.

Although each candidate successfully completed the college entrance tests, only one student was chosen for the special college program. The other two were ineligible because they had not completed certain prerequisite courses in high school. They were told by the review officer that if these courses were successfully completed in the very near future, the candidates would receive careful consideration for admittance in the EOP program or be highly recommended for a similar special educational program if their grades indicated they needed special aid.

FIRST AID PROGRAM

It was early recognized that first aid should be a component of the training program for TOP truck drivers. However, no one at TOP was eligible to teach the course. Therefore, the American Red Cross was contacted to conduct a training course for interested individuals who

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might serve as first-aid instructors to the training program. The planning and developing of the course has been completed and the course will begin shortly.

"BROADENED HORIZONS" -- EDUCATIONAL ENRICHMENT PROJECT FOR STUDENTS AND FAMILY

Though students receive training at TOP in the vocational skills, it was felt that it might be useful to open educational enrichment avenues. It was hoped that such a project would help provide effective use of leisure time, and that it should also include the family. Numerous contacts were made with various theaters, sports arenas, educational institutions and others who would be interested in participating in the TOP "Broadened Horizons" project. The responses have been extremely positive, and our students and their families have used complimentary tickets amounting to approximately $15,000.00 to attend various events. These events have included tennis, basketball, football, ice-hockey and baseball. Many have attended several plays, the circus and movies. They have also attended the taping of various T.V. shows.

O·N·C
MOTOR FREIGHT SYSTEM
WASHINGTON·OREGON·CALIFORNIA·NEVADA
BRITISH COLUMBIA

LOS ANGELES AREA TERMINAL
4700 EASTERN AVENUE, BELL, CALIFORNIA
MAIL ADDRESS: P.O. BOX 710, BELL, CALIF. 90201

PHONE 685-4700

July 21, 1969

Transportation Opportunity Program
7777 South Industry
Pico Rivera, California

JUL 22 1969

Attention: Mr. Geary

Dear Mr. Geary,

One of our employees Mr. Joe Kaiser, an office worker, would like to advance himself to truck driver. As you know we have no training program and it is financially impossible for him to take training at one of the commercial schools. As you are aware, the rate of pay in the office is much lower than the drivers rate and Mr. Kaisers' responsibilities demand that he make more money. Upon completion of his training as a truck driver he would be in a position to be considered as a driver and would be given consideration for transfer when driver positions are again open. All driver positions are filled at the present time.

Anything you can do for Mr. Kaiser will be appreciated, so thanking you in advance for your consideration to this matter, I remain

Very truly yours,

O.N.C. MOTOR FREIGHT SYSTEM

Alfred G. Jacques

Alfred G. Jacques
Personnel & Safety Supervisor

AGJ:ar

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FREIGHT SYSTEM

YELLOW FREIGHT SYSTEM, INC.
9933 E. Beverly Boulevard, Pico Rivera, California
90660

19 June 1969

TO WHOM IT MAY CONCERN:

This is to certify that Lou Laplante is an employee of Yellow Freight System, Inc., 9933 East Beverly Boulevard, Pico Rivera, California.

He will be available for drivers training in the day time as his work shift is from 12:30 p.m. to 9:00 a.m. each working day.

Very truly yours,

YELLOW FREIGHT SYSTEM, INC.

Milt Huebsch
Dock Supervisor

Milton H. Huebsch

MH/cel

SIGNAL
TRUCKING
SERVICE, Ltd.

August 27, 1969

Mr. Steve Stockdale
TRANSPORTATION OPPORTUNITY PROGRAM
7777 Industry Avenue
Pico Rivera, California

Dear Mr. Stockdale:

On behalf of Mr. William E. Chamberlain, who has been with our Company since September 9, 1962 and is applying for admission to TOP, I wish to advise that upon satisfactory completion of the course, Mr. Chamberlain will be given every consideration for any future opening requiring a Class I license.

Very truly yours,

SIGNAL TRUCKING SERVICE, LTD.

J. A. McGlynn
Personnel Manager

JAMCG:ncy

SIGNAL FOR SERVICE

VT 012 074
Program for Industrial Careers (PIC). Employers' Guide for a Work-Training Program.

New Britain Public Schools, Conn.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - 5Feb68 8p.

DESCRIPTORS - *PROGRAM GUIDES; *WORK EXPERIENCE PROGRAMS; *EMPLOYERS; *TRADE AND INDUSTRIAL EDUCATION; JOB TRAINING; COOPERATIVE EDUCATION; COORDINATION; STUDENT PLACEMENT; VOCATIONAL EDUCATION

ABSTRACT - This employers' guide to a work-training program explains the purpose and operational procedures of the Program for Industrial Careers (PIC) at the New Britain schools. In directing attention to the importance of work training in vocational education, this guide provides the employer with information on these aspects of PIC: (1) Work Experience, (2) Selection of Students, (3) Placement of Students, (4) Schedule and Working Hours, (5) Student Pay, (6) Status of Student, (7) School Course, (8) Training and School Credit, (9) Training Agreement, and (10) Coordination. (JS)

VT 012 074

ED0 54390

NEW BRITAIN PUBLIC SCHOOLS

NEW BRITAIN, CONNECTICUT

" P I C "

PROGRAM FOR INDUSTRIAL CAREERS

" Education Today - Success Tomorrow "

EMPLOYERS' GUIDE

for

A WORK-TRAINING PROGRAM

Arthur H. Kevorkian

Director of Vocational Education

Administration Building

Hillside Place

Telepnone: 224-9121

VT012074

Revised: February 5, 1968

Mr. Ralph M. Gantz
Superintendent of Schools

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OFFICE OF EDUCATION
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FOREWORD

In our modern day technology and with the rapid advances that are taking place, almost all new jobs require some skill whereas before this was not true.

In the past, there were jobs for students who left high schools, either with or without diplomas. They entered the work force with no skill training. Now these jobs are vanishing rapidly and the change in the work needs is such that the work force will not provide sufficient entry jobs for the unskilled worker. The achievement of our potential capacity for economic growth and development depends upon the full work force being trained for the jobs that will be available.

Every American youngster today has to be given, as part of his education, some know-how about making a living, especially for the many who will not or cannot continue on to a college education. These students need vocational education. They need a system of education and training in our public schools which will be responsive to the changing labor market and the skill needs of tomorrow.

The New Britain Board of Education has recognized the need for this vocational education. The "Program for Industrial Careers" will provide the training and education necessary to meet the needs of the community.

The training employer will play a major role in this innovation of training and education. Your cooperation and participation will enhance the learning of our youngsters and will provide competent workers for the work force of this community.

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SYNOPSIS

"P I C"

PROGRAM FOR INDUSTRIAL CAREERS

"Education Today - Success Tomorrow"

INDUSTRIAL CAREERS DEFINED

The Program for Industrial Careers is job directed education. It is developmental in nature leading to specific occupational goals rather than being exploratory and pre-vocational.

PURPOSE

The Program for Industrial Careers is directed to prepare students for initial entry into employment in a specific occupation, or one related to it. It embraces the various occupational core areas, or "job clusters" in the manufacturing and non-manufacturing industries.

The emphasis is on career training and related school curricula which provides maximum development of a student in terms of his abilities and potential.

DIVERSIFIED WORK EXPERIENCE

A work experience program cooperatively determined between the school and the training employer will provide actual "on the job" training for students who want it, and can learn from it. Students will work and get paid during the school day while school is in session.

The work experience is a definite part of the school curriculum involving school officials, the parents, the student - learner and the training employer.

CURRICULUM

Academic course offerings are now being reconstructed to meet the abilities of those students who can advance to their maximum potential. Courses in mathematics, English, social studies and science are being revised to be both meaningful and purposive to those students who enroll in the Program for Industrial Careers.

LABORATORY CLASSES

= Laboratory classes at the junior high level will continue to be orientational and exploratory in nature. At the high school level, students entering the Program for Industrial Careers will enroll in laboratory classes; first, in prevocational and; second, in specialized vocational classes leading to the development of saleable skill in the various "job clusters." All phases of the program will be related and geared to the needs of the community.

AIMS OF THE PROGRAM FOR INDUSTRIAL CAREERS

The controlling aim of the Program for Industrial Careers is to develop students with saleable skills by relating career training and instruction to specific occupational goals. It is more inclusive than training for career skills. It develops proper attitudes, understanding, work habits and appreciations which contribute to the dignity and worth of the individual in a challenging social, technological and economic society.

As a supplement to the existing program in the New Britain Public Schools, the Program for Industrial Careers will enhance the education of youth toward more meaningful goals in life and will contribute to the growth and development of the community.

THE WORK EXPERIENCE PROGRAM

I. WORK EXPERIENCE

The purpose is to provide students with realistic "on the job" training to better prepare them for entry into employment when they leave high school.

The training period will provide diversified work experiences to develop the abilities and potential of each student in the occupation of his choice.

II. SELECTION OF STUDENTS

Students will be selected for "on the job" training by careful investigation of all records, tests, aptitudes, interest and attitude. Emphasis will be placed in identifying students for each occupational cluster which will show reasonable promise for success.

III. PLACEMENT OF STUDENTS

Employers who wish to cooperate in the program will be contacted by a school work Coordinator. Employers will be asked to furnish brief job descriptions and personal criteria for placement of students. The Coordinator will work with the employer in the establishment of work schedules, hourly pay, training plans and arrange for student-employer interviews.

Students will go through a preparation period prior to placement. All necessary information pertaining to the program will be explained to the students.

IV. SCHEDULE AND WORKING HOURS

Students will work half-day during the school day while school is in session. Normally students will work from 1:00 P.M. - 4:00 P.M., a minimum of three (3) hours. Extension and modification in working hours would be allowed upon mutual agreement of the school and the employer. Noon hours are preferred. However, it would be possible to arrange a morning schedule in some cases.

Students may be employed during school vacations and during school holidays. Employers should consult with the student and school coordinator for mutual

agreement, prior to placement of the students. Students are not required to work on days school is not in session.

Summer employment on a full-time basis is permissible in cases where a junior student is placed in a training position. Student would then continue on the job in the senior year.

V. STUDENT PAY

Students will be paid by the employer at the minimum hourly rate as set by law. The employer may provide raises for students based on skill levels attained. Upon graduation from school, a student will then become a full time regular employee receiving benefits other employees receive. The student has the choice of staying with the employer if the position is available.

VI. STATUS OF STUDENT

The student shall be deemed a "trainee" and it is understood will not replace a regular worker.

Students should not be required to obtain membership in a Union since they are considered student-trainees under the extension of the school day. In firms where a labor-management agreement is in effect, consultation with the Union is necessary for mutual agreement.

The Coordinator will be responsible for handling student problems.

VII. SCHOOL COURSE

The student will enroll in a related school course that will complement the necessary learning for "on the job" training.

VIII. TRAINING AND SCHOOL CREDITS

Students will receive credit and a grade for "on the job" training applicable toward graduation. Students must show satisfactory progress and cooperation in the work program. Employees will grade the student. Students are required to turn in to the school a weekly progress report signed by their supervisor.

IX. TRAINING AGREEMENT

Since "on the job" training is part of a planned school program, it is expected that the school and the employing agency will cooperatively plan the training schedule for the student in a given occupational cluster. This plan should be in the form of a written agreement for clarity and direction.

X. COORDINATION

A school work Coordinator will work with a designated Coordinator or Supervisor of the employing agency for continued appraisal and progress of students. Since the program is "student centered" every effort should be made to provide facilities and procedures for maximum development of the student's abilities and potential. The Coordinator will work closely with the employer to insure a good working relationship.

The student is required to call his employing supervisor on any day of absence. The student is also required to call the school. Students who do not have a legitimate excuse for absence, are not to report for work the day they miss school. (Employers please note.) Employers are also requested to call the school on student absenteeism.

Employers will grade students every ten weeks. A report card will be sent for grading. The immediate supervisor of the student will do the grading on a check-off card.

Dismissal of students from a position shall be done through the School Coordinator. Please notify the school first, since school schedules and records are involved.

A student suspended for school reasons shall also be suspended from his job training. Employers will be notified of student suspensions.

VT 012 078
Survey of the Instructional Use of the Computer in Connecticut's Public and Private High Schools.

Connecticut State Dept. of Education, Hartford. Bureau of Elementary and Secondary Education.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Oct70 ~~12~~p. 20p.

DESCRIPTORS - *STATE SURVEYS; *SCHOOL SURVEYS; *SECONDARY SCHOOLS; *INSTRUCTIONAL PROGRAMS; *COMPUTERS; QUESTIONNAIRES; DATA COLLECTION; PRINCIPALS

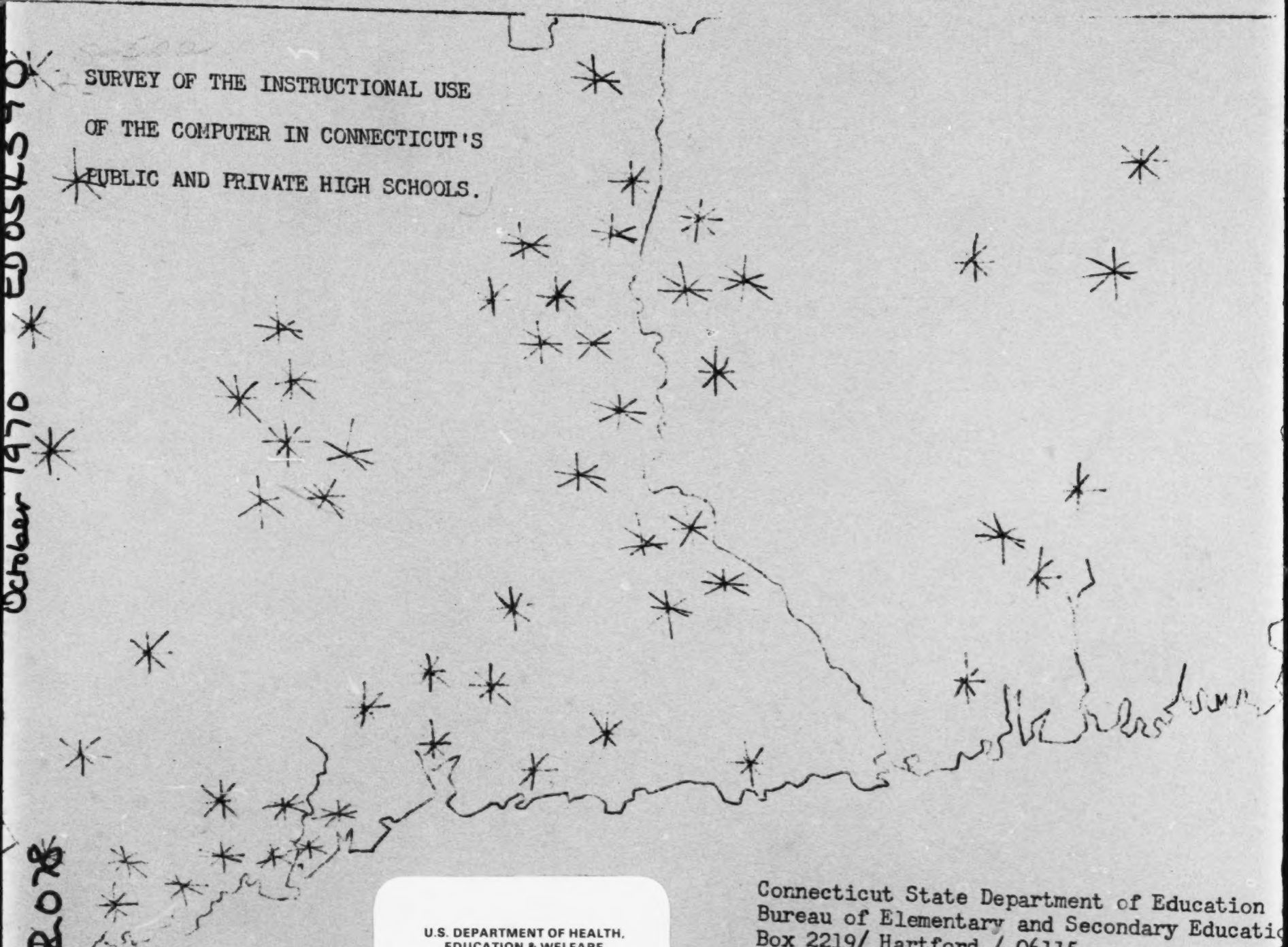
ABSTRACT - To gain insight into the expanded use of the computer for instructional purposes, a questionnaire survey was conducted of the principals of all public and private secondary schools within the state of Connecticut. An 82 percent return revealed that 25 percent of all Connecticut secondary schools make some instructional use of the computer. Moreover, there was a 77 percent increase in the use of the computer, as compared with an earlier survey. These color-coded pages present a summary of the statewide survey and include information on time sharing, hardware, location of the computer, and computer languages used. (JS)

VT 012 078

ED054540

October 1970

SURVEY OF THE INSTRUCTIONAL USE OF THE COMPUTER IN CONNECTICUT'S PUBLIC AND PRIVATE HIGH SCHOOLS.



Connecticut State Department of Education
Bureau of Elementary and Secondary Educatio
Box 2219/ Hartford / 06115

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PREFACE

The purpose of this document is to disseminate information about the instructional use of computers in Connecticut secondary schools.

The procedure of gathering, processing analysing and publishing information can be a time consuming and difficult activity. However, this document was prepared easily and in a short time because of the excellent cooperation of secondary school administrators in returning questionnaires promptly. Special recognition is given to Mr. Kenneth Gresk who designed the questionnaire and tabulated the returns.

Appreciation is extended to all who contributed to the preparation of this document.

Elizabeth M. Glass
Mathematics Consultant
Connecticut State Department of Education

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In 1968, a survey was made of the use of the computer in instruction in Connecticut secondary schools. With increased activity in this area and numerous requests for information, this document was developed as an update of the original survey.

In the summer of 1970 a questionnaire was mailed to all principals of private and public secondary schools in the State. The questionnaire dealt with the instructional use of the computer only and included questions that would determine the curriculum area(s) it was related to, the type of hardware involved, the location of the computer and the software utilized.

Eighty-two percent of all public and private secondary schools in Connecticut responded to the questionnaire. This represented a 56% return from private and parochial schools and 100% return from public schools.

In answer to the question, "Will a computer be used for instruction during any portion of of the 1970-1971 school year?" the results are as follows:

Type of School	Number	Yes	No
Private(including Parochial)	56	14 (25%)	42 (75%)
Public	138	46 (33%)	92 (67%)

Those schools answering "yes" to the initial question submitted additional information. This information is included on pages 4 to 11.

SUMMARY

More than 25% of all Connecticut secondary schools are making some instructional use of the computer.

Compared with the survey of 1968, in a two year period, there has been:

A 77% increase in the use of the computer in all Connecticut secondary schools.

A 96% increase in the use of the computer in public secondary schools.

A 36% increase in the use of the computer in private secondary schools.

The table below shows the frequency of computer use in curriculum areas.

Area	Frequency (No. of schools)
Business Education	10
English	5
Foreign Language	2
Guidance	3
Industrial Arts	3
Library-Audiovisual	2
Mathematics	54
Music	3
Physical Education	1
Reading	1
Science	27
Social Studies	10
Other	
Cafeteria	1
Programming	1
Vocational Education	1

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-House (I) OUT-OF-HOUSE (O) TIME-SHARED (TS)
Avon	*Avon Old Farms School		Mathematics Science	O
Branford	Branford Sr. High School	House, Alfred	Mathematics	O
Bridgeport	Bassick Sr. High School	Kaplan, Harry E.	Mathematics Science	TS
Bridgeport	Warren Harding Sr. High School	Ravitz, Phillip	Mathematics Science	TS
Cheshire	Cheshire High School	Bialobzeski William		
Clinton	Morgan High School	Dempsey, Alice	Business Ed. Eng., For. Lang., Mathematics, Science, other	TS
Cornwall	*Marvelwood School	Pennell, Henry P.	Mathematics	I
Darien	Darien High School	O'Meara, John	Mathematics	O
Durham	Coginchaug High School Reg. Dist. #13	Brown, Byron	Mathematics	TS

...TS ...VED	IN-House (I) OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (If "O" or "TS")	LANGUAGES
...atics ...e	O	DEC PDP8/I Link 8	Talcott Mt. Science Center	FOCAL
...atics	O	IBM 360/50	North Haven High School	FORTRAN II
...atics ...e	TS	IBM 360/50	Fairfield University	APL
...atics ...e	TS	IBM 360/50	City Hall Bridgeport	APL
...ss Ed. ...For. Lang., ...atics, ...e, other	TS	IBM 360/50	Fairfield University	APL
...atics	I	DEC PDP8/L		FOCAL
...tics	O	NCR Century 100	Board of Education Darien	FORTRAN
...atics	TS	IBM 360/50	Fairfield University Morgan H.S. Terminal	APL

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-HOUSE (I) OUT-OF-HOUSE (O) TIME-SHARED (TS)
East Lyme	East Lyme H.S.	Steery, Lawrence	Mathematics Science	I
East Windsor	E. Windsor H.S.	Maskiewicz, Helen	Business Ed.	
East Windsor	E. Windsor Middle Sch.	Coelho, Sandra	Mathematics	I
Fairfield	Andrew Warde H.S.	Strout, Vincent Peterson, K. Rice, Ella	Business Ed. Mathematics Science English	TS
Glastonbury	Glastonbury H.S.	Mihur, Richard	Physics	I
Greenwich	Greenwich H.S.	Breen, John	Mathematics Guidance	TS
Guilford	Guilford H.S.	Fiondella, Roger		I
Hamden	Hamden H.S.	Treacy, Jane	Mathematics Science, Social Studies	I
Kent	*Kent School	Mott, Robert	Mathematics French, Music Physics	TS

ACT N	SUBJECTS INVOLVED	IN-HOUSE (I) OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (If "O" or "TS")	LANGUAGES
ery, rence	Mathematics Science	I	OU Programma 101		
skiewicz, en	Business Ed.				
elho, ndra	Mathematics	I	DEC Computer Lab.		
rout, ncent erson, K. ce, Ella	Business Ed. Mathematics Science English	TS	IBM 1130 IBM 360/50	Bridgeport Bridgeport	PLI APL
ur, hard	Physics	I	OU Programma 101		
en, n	Mathematics Guidance	TS	GE	Boston, Mass.	BASIC FORTRAN
ndella, er		I	DEC PDP8/S		FOCAL
acy, e	Mathematics Science, Social Studies	I	DEC PDP8/S		FORTRAN FOCAL
t, ert	Mathematics French, Music Physics	TS	GE 625	Dartmouth College	BASIC

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-HOUSE (I) OUT-OF-HOUSE TIME-SHARED
Litchfield	Litchfield High School	Fisher, Francis	Mathematics	TS
Manchester	Manchester High School	Wilson, Eileen	Mathematics	O
Mansfield	E. O. Smith High School	Hyde, Thomas	Bus. Ed. Mathematics Science	TS
Montville	*St. Bernard's Boys High School	Doyle, William M.J.	Mathematics Science	I
Meridan	Platt High School	Chain, Marvin	Bus. Ed. Mathematics	O
New Canaan	New Canaan High School	Littlefield S. Keith	Mathematics	TS
New Haven	*Day Prospect Hill	Benedict, Henry	Mathematics	O
New Haven	Richard C. Lee High School	Tyler Patricia	Mathematics Science, Social Studies, English	I
New Milford	New Milford High School	Bucknam, Ray W.	Mathematics	I

SUBJECTS INVOLVED	IN-HOUSE (I) OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (If "O" or "TS")	LANGUAGE
Mathematics	TS	IBM 360/50	Fairfield University	APL
Mathematics	O	IBM 1401	Board of Education Manchester	FORTRAN II
Bus. Ed. Mathematics Science	TS	IBM 360/65	University of Connecticut	CPS
Mathematics Science	I	Wang 320-360		
Bus. Ed. Mathematics	O	IBM 360	Wesleyan University	
eld n	Mathematics	TS	IBM 360/67	CSV Stamford	FORTRAN BASIC BRVIN
t,	Mathematics	O	IBM 7094	Yale Computer Center	FORTRAN IV
a	Mathematics Science, Social Studies, English	I	DEC PDP8/S		FOCAL BASIC
n,	Mathematics	I	OU Programma 101		

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)
Newtown	Newton H. S.	O'Hara Eugene	Programming	TS
North Branford	North Branford H.S.	Hickey, Raymond	Mathematics	
North Haven	North Haven H.S.	Schlosberg, William	Industrial Arts Mathematics Science	I
Norwalk	Administration Serv. Center	Austin, Malcolm	Mathematics Science	I
Norwich	*Norwich Free Academy	Levanto, Joseph	Bus. Ed. Mathematics	I
Pomfret	*Pomfret School	Hrasky, William C.	Mathematics Science Library	I
Redding	Joel Barlow Reg. H. S.	Dobelstein, Russell H.	Mathematics, Bus. Ed., English Phys. Ed., Social Science, Reading	
Salisbury	*Hotchkiss School	Husted, Gerald	Mathematics	I

TACT RSON	SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (If "O" or "TS")	LANGUAGES
Hara gene	Programming	TS		New York Cambridge Philadelphia	FORTRAN BASIC CAL
ckey, mond	Mathematics				
hlosberg, lliam	Industrial Arts Mathematics Science	I	IBM 1620		FORTRAN II SPS, APL WITRAN
ustin, alcolm	Mathematics Science	I	HP-9100A HP-2007A DEC PDP8/L OU Programma 101 Commodore AL 1000		BASIC BASIC FOCAL
Levanto, Joseph	Bus. Ed. Mathematics	I	IBM 1401		FORTRAN II COBOL
Hrasky, William C.	Mathematics Science Library	I	DEC PDP-8		FOCAL FORTRAN II PAL III
Dobelstein, Russell H.	Mathematics, Bus. Ed., English Phys. Ed., Social Science, Reading		IBM 1620		FORTRAN, BCI, AFIT, AP, SPS, NCE, WITRAN
Husted, Gerald	Mathematics	I	IBM 1620		FORTRAN

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)	
South Windsor	South Windsor H.S.	Duffy, Ann	Mathematics Science	I	D
				O	I
				O	I
Stamford	Rippowam H.S.	Moss, Sylvia	Mathematics Audiovisual	I	D P
Stamford	*Stamford Catholic H.S.	Caputo, Sister Carmel	Mathematics	TS	I 3
Stamford	Stamford H.S.	Wiener, Sandra M.	Mathematics, Science Social Studies, Vocational Ed.	I	D P
Suffield	Suffield H.S.	Greenleaf, George	Mathematics	O	I 1
Wallingford	Lyman Hall H.S.	Burner, Richard	Bus. Ed. Mathematics Social Studies Ind. Arts, Science	I	D P
Wallingford	*Choate School				
Waterbury	Crosby H.S.	Augelli, Nicholas	Bus. Ed. English Mathematics, Science Social Studies	I	D P

UBJECTS VOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (If "O" or "TS")	LANGUAGES
lathematics cience	I	DEC PDP-8/S		FOCAL FORTRAN PAL III BASIC
	O O	IBM 1620 IBM 1130	Hfd. State Tech. Col.	FORTRAN IID FORTRAN IV
lathematics udiovisual	I	DEC PDP-8L		FOCAL FORTRAN
Mathematics	TS	IBM 360/50	Fairfield University	APL
athematics, Science ocial Studies, ocational Ed.	I	DEC PDP-8/L		PAL III FORTRAN FOCAL
athematics	O	IBM 1620	Springfield Tech.	FORTRAN
us. Ed. athematics ocial Studies nd. Arts, Science	I	DEC PDP-8/L		PAL FOCAL
us. Ed. English athematics, Science ocial Studies	I	DEC PDP-8/L		FORTRAN FOCAL

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)	HA US
Watertown	*The Taft School	Baker, Talbot	Mathematics Science (Cafeteria)	I	DE PD CU Pr 1C
Watertown	Watertown H.S.	EdPolo, Gerald	Mathematics	I	DE PD
West Hartford	Conard H.S.	Fox, James	Mathematics	I	IB 16
West Hartford	Hall H.S.	Frazier, Harold	Mathematics	O	DE PD
West Hartford	*Kingswood School	Roberts, William	Mathematics	O	DE PD
West Hartford	Plant Jr. H.S.	Hague, Gerald	Mathematics Science Social Studies	I	Monro EPIC OU Progr 101 IBM 1620
Weston	Weston H. S.	Pierson, Elliot	Mathematics Science Social Studies	I	DEC PDP-8
Westport	Bedford Jr. H.S.	Hightower, Glenn	Mathematics Science Social Studies	TS	IBM 360/

SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (if "O" or "TS")	LANGUAGES
Mathematics Science (Cafeteria)	I	DEC PDP8/L OU Programma 101		FORTRAN LISP FOCAL Converter
Mathematics	I	DEC PDP-8		FOCAL
Mathematics	I	IBM 1620		NCE FORTRAN WITRAN Mach. Lang.
Mathematics	O	DEC PDP-8/L	Maynard Mass.	BASIC FOCAL FORTRAN
Mathematics	O	DEC PDP-8	Trinity College	FOCAL
Mathematics Science Social Studies	I	Monroe EPIC 3000 OU Programma 101 IBM 1620	 Conard H.S.	Mach. Lang. Mach. Lang. FORTRAN
Mathematics Science Social Studies	I	DEC PDP-8/L		FOCAL FORTRAN Macro 8
Mathematics Science Social Studies	TS	IBM 360/50	Fairfield University	APL

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (TIME-SHARED (T
Westport	Staples H.S.	Tilley, George	Mathematics Science	I
Wethersfield	Webb Jr. H. S.	Watt, James	Mathematics Science	I
Wilton	Wilton Sr. H.S.	Butler, Clarence	Mathematics Bus. Ed. Science	I O O
Windsor	*Chaffee School	Mulcahy, Elizabeth	Mathematics	TS
Windsor	*Loomis School	Hauber, John C.	Mathematics Science History Music	TS
Wolcott	Wolcott H.S.	DesJarlais, Eugene	Mathematics Guidance	I
				10

SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (If "O" or "TS")	LANGUAGES
Mathematics Science	I	HP Programmable Calculator X-Y Plotter Card Reader		
Mathematics Science	I	OU Divisuma 24		
Mathematics Bus. Ed. Science	I	DEC PDP-8/L		FORTRAN IV BASIC FOCAL
	O	IBM 360/30	Perkin Elmer Corp.	A variety
	O	RCA Spectra/70-45	WCL/ Needs	A variety
Mathematics	TS	GE 625	Dartmouth College	FORTRAN BASIC
Mathematics Science History Music	TS	GE 625	Dartmouth College	FORTRAN BASIC
Mathematics Guidance	I	DEC PDP-8/L		FOCAL 8

TOWN	SCHOOL	CONTACT PERSON	SUBJECTS INVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)
Woodbridge	Amity Reg. H. S.	Trachtenberg, Sidney	Industrial Arts Mathematics Guidance Music	I
Woodbury	Woodbury H.S.	Dorsett, Edward	Mathematics	I

NOTE

*Private School

ABBREVIATIONS

CSV	Computer Solutions Vendor
DEC	Digital Equipment Corporation
GE	General Electric
HP	Hewlett Packard
IBM	International Business Machines
NCR	National Cash Register
OU	Olivetti Underwood
RCA	Radio Corporation of America

UBJECTS NVOLVED	IN-HOUSE OUT-OF-HOUSE (O) TIME-SHARED (TS)	HARDWARE USED	LOCATION (if "O" or "TS")	LANGUAGES
Industrial Arts Mathematics Guidance Music	I	DEC PDP-8/L		FOCAL FORTRAN BASIC
Mathematics	I	DEC PDP-8		FOCAL

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Selected Papers.

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ABSTRACT - This publication contains selected papers presented during a 3-day training institute for rehabilitation facility specialists. Papers are: (1) "Rehabilitation Facility Financing and Utilization: Viewpoint on the Crucial Issues" by R.K. Barnes, (2) "Facility Utilization: In Desperation or by Design" by R.W. Will, (3) "A Work Adjustment Technique" by I. Salkind, (4) "Workshop Administration: Some Suggestions for Improvement" by R.W. Will, (5) "Training Needs of Rehabilitation Workshop Administrators" by H.I. Friedman, (6) "Industrial Engineering in the Sheltered Workshop" by R.R. Stroud, and (7) "Standard Accounting and Reporting: Its Potential Effect on State and Private Agencies; Budgeting, Planning and Management" by R.N. Galloway. A related document is available as VT 012 083, also in this issue. (SB)

VT 012 082

SELECTED PAPERS

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...SELECTED PAPERS...

presented at

National Training Institute for State Rehabilitation Facility Specialists

Dallas, Texas
September 9 - 11, 1969

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REHABILITATION SERVICES ADMINISTRATION
Washington, D. C. 20201

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The materials in this publication do not necessarily represent the official views of the Rehabilitation Services Administration nor of State vocational rehabilitation agencies. They do, however, reflect serious effort by able persons to keep practices in the State-Federal programs of rehabilitation current with developments in the field.

298708

Foreword

So many fine papers were presented at the 1969 National Training Institute for State Facilities Specialists in Dallas, Texas, that a final selection was extremely difficult to make. Since many of the papers have already been published elsewhere, those that appear on the following pages represent some of the best which may not be available in other publications, and in our opinion, merit permanent inclusion in the literature on vocational rehabilitation.

Edward Newman

Edward Newman
Commissioner

...SELECTED PAPERS...

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...Rehabilitation Facility Financing and Utilization: Viewpoint on the Crucial Issues...

*R. Kenneth Barnes, Ed.D.

"The U. S. government has historically, since the inception of the rehabilitation facility movement, recognized the virtues and value of rehabilitation centers and workshops for their intensified and comprehensive services to handicapped persons. But, in the situation where it really counts -- fiscal authorizations and, more importantly, appropriations consistent with documented needs -- we have promised more than we have been able to deliver. This is the pervasive problem that has perplexed State rehabilitation agencies and the facility movement as they have attempted to meet their responsibility for serving the handicapped.

In a world pervaded with international tensions, and a multiplicity of problems, a national commitment Now (!) to meet only one need such as the needs of the handicapped does not appear likely to be realized. In spite of the budgetary limitations imposed by these problems, those of us involved in the rehabilitation facility movement need to plan for the day when there will be a reordering of national priorities and a redirecting of the use of the nation's tax resources.

It is important to note the extent to which State agencies use facilities

*From the invited address by Dr. Barnes, Associate State Superintendent of Schools for Supportive Services, Maryland; formerly Chief, Division of Rehabilitation facilities, RSA.

...Rehabilitation Financing and Utilization...

and to see that utilization by VR agencies is increasing, not diminishing.

> ...Increased utilization and client flow may be demonstrated by a comparison of fiscal years 1967 and 1968. During this period expenditures in facilities increased from $42,126,000 to $55,496,000, or by 31.7 percent. Total client flow increased from 64,920 to 101,598, or by 56.7 percent.

In addition to Section 2 funds for the purchase of rehabilitation facility services, the good facility administrator recognizes that direct project grants can be supplemented by 'establishment,' 'third-party,' and other types of fiscal 'hitch-hiking' -- and <u>that fiscal innovation is necessary to the facility's survival</u>.

Emphasizing a conviction that the rehabilitation facility presents the prime resource for intensified vocational rehabilitation services to the severely handicapped, the following 'issues' are presented as a course of action which admittedly represents the bias of my own experience:

1. <u>Maximum VR Fiscal Support for Existing Facilities v.s. National Expansion via New Construction</u>

In this period of limited public funds for construction, initial staffing, and facility improvement, I believe that it is important to opt for selective improvement of <u>existing</u> rehabilitation facilities so that they may offer a quality service to the severely handicapped who need these services now. At the risk of being considered 'short-sighted,' if $20 million or more in each of Federal section 12 and 13 funds were appropriated next year,

...Rehabilitation Financing and Utilization...

I firmly believe that more of the nation's severely handicapped would be served by improving a number of existing rehabilitation centers and workshops in each State than in constructing, for example, one or two new rehabilitation and training centers.

2. State VR Agency Clients Should Be Referred Only to Rehabilitation Facilities Which Are Accredited or Approach NPPC Standards

Recognizing that many small rehabilitation workshops do not meet accepted standards, it is proposed that State agency facility plans stipulate that given sufficient lead time, i.e., three years, only those rehabilitation facilities which meet NPPC Standards or are accredited, be eligible for receiving case service and other funds.

3. Supplement Professional Facility Staff with Technicians, Aides, and Volunteers

Existing training programs for rehabilitation facility administrators, counselors, evaluators, and instructors will not provide enough professional workers to staff existing programs adequately. Recognizing that a basic core of professional workers is needed to meet minimum standards, many services offered in rehabilitation facilities can and should be performed by support personnel. I think, also, there is a great third force which has been largely ignored. I have no specific name for it, but it comprises the many public spirited citizens who do volunteer work in their free time -- free in terms of their cost to the taxpayer. I

feel strongly that the volunteer offers something money cannot buy.

4. The State Facilities Supervisor Is More than a Grants Management Specialist

While the State facilities supervisor's role in grants management is delineated in RSA regulation, he needs to be more than that. If he is to have a major impact on improved rehabilitation facility programs and services in this period of limited funds, he must (a) stimulate development of rehabilitation facility support from both public and other sources; (b) train State agency counseling staff to use the rehabilitation facility for accomplishing what the counselor cannot do as well on an individual basis; (c) develop appropriate State agency working agreements with private rehabilitation facilities; and (d) represent the State's total rehabilitation facility interests in developing State-wide proposals and priorities designed to meet the short and long-range needs of all the States' handicapped.

5. Support Is Where You Find It

Vocational rehabilitation has made the major investment in rehabilitation facility programs over the years. However, there is nothing sacrosant about using Vocational Rehabilitation funds. If one looks at the outstanding rehabilitation workshops in the United States, he will find that not only the variety of vocational rehabilitation fund 'pockets' have been used, but also OEO, DOL, MR and NIH, and other monies have been obtained.

...Rehabilitation Financing and Utilization...

Current federal legislation also provides that specific percentage of ESEA Title VI and Vocational Education appropriations be used for services to the handicapped.

We are here in Dallas this week because the State rehabilitation agency must exercise more aggressive leadership in all aspects of rehabilitation - but especially in relation to rehabilitation facilities. This training institute is an effort to challege you, one and all, to provide the leadership in your State to insure the maximum utilization of rehabilitation services to the nation's handicapped."

...Facility Utilization: In Desperation or by Design...

*R.W. Will

"Today we use facilities and the facilities let themselves be used in desperation for we do not have the basic tools available to use facilities by design. We hope that through some magic formula a percentage of cases will get through the mill to a successful conclusion. Hopefully for all of us a percentage of clients do get through despite our lack of focus on relevant problems and somehow, almost subconsciously, our staff members do think, if not record, a more relevant framework of vocational outcome references.

Our nation today is first discovering that a social problem can be as disabling as a medical or psychological problem. In fact, in the field of vocational rehabilitation we are finally discovering that an individual lives on a continuum of time with an ever changing combination of medical, psychological, and social problems which individually or in combination cause vocational problems.

In the medical sector of the 'people helping' profession a definitive taxonomy has been developed to further the purposes of medical services. Far less specific, but nonetheless helpful, the psychologist group has

*From paper delivered by Mr. Will, Executive Director, Minneapolis Rehabilitation Center.

developed a means of classification, identification, and naming of problems in their field. The vocational field and the social field unfortunately are stepchildren who have tried to borrow the problem classifications from these other fields and have not bothered to develop their own descriptive materials. As a result we are all groping for solutions to problems for which we try to use the descriptive language of others with notably poor results.

If the vocational rehabilitation industry is to move boldly into the future and deal adequately with the groups referred to as the hard-core unemployed, the disadvantaged, and not just with hysterectomies and hernias, a vocational model and language must be developed to either augment or replace the medical and psychological model currently in use for people on all levels of the rehabilitation continuum.

In fact, if the vocational rehabilitation industry is to think in terms of costs as related to effectiveness, a taxonomy will have to be developed which will enable the rehabilitation industry to start to think (1) in terms of degrees of outcome, (2) in terms of multiple facility utilization for the multiple problem cases, and (3) in terms of monitoring a client over the course of several years through a continuum of services and through multiples of agencies.

Today we deal in undiscriminating non-measurable terms which are merely symptomatic of the multiple underlying problems. We deal with such terms

as personal adjustment training, work adjustment training, motivation, etc. None of these terms specifically defines problem elements and as such outcome measurements cannot be applied.

The rehabilitation structure, with the help of the physician, can fairly well define the medical problems of people and with the language of the psychological profession it can define the psychological problems of people it serves--but the VR industry seemingly cannot define the vocational problems it deals with.

We continue to hang onto the medical and psychological model and try to apply it to a definition of vocational problems. Unfortunately, the newly instituted triple R reporting system, used in vocational agencies, merely reinforces this concept. It does not describe a vocational problem, it merely describes pre-existing medical and psychological problems.

As the results start coming in from the triple R reporting system I'd like to see an analysis made of the report forms from sheltered workshops that do not have medical treatment programs or are not staffed in the mental health treatment area. For each client the question of the problem treated by the agency must be answered. How can a vocational agency without a strong medical or mental health program treat cerebral palsy; lower back injury; cardiac condition? These are statements of medical problems! How can a vocational agency without a strong mental health treatment staff

treat schizophrenia or manic depression?

Nowhere in the triple R reporting system are there specifications of treatable vocational problems, not even such statements of vocational problems as: 'The client does not know what his skills are;' or 'He needs help in finding a job;' or 'He can't hold a job.' Why can't he hold a job? Is it because of his amputation? Or is it that he can't get along with his peers, or he can't get along with his supervisor? Or is it that he smells so badly that no one will work next to him?

For the past three years the Minneapolis Rehabilitation Center has been doing a bit of experimental work on how the client perceived the reason for his being in the vocational portion of the rehabilitation continuum. In a group situation we asked the client why he came to our vocational agency. The following answers are frequently given: 'I have a lower back injury and so no one wants to hire me;' 'I have a heart condition;' 'I was in a mental hospital;' 'I am too old;' 'I am blind;' 'I am an Indian.'

As far as we're concerned these are non-treatable problems by a vocational agency. As long as a referral counselor, the client, and the facility staff focus on these stated problems as the causal problem, nothing can be done. We can't reduce the age of a person. We can't change the color of one's skin. If the client's problem at the time he

...Facility Utilization: In Desperation or by Design...

is referred to us if truly defined as a cardiac situation, then he had better see a heart specialist. If it's paranoid schizophrenia, he'd better go to see a psychiatrist or go to a mental health center for active treatment of the stated problem.

However, if the staff finally accepts the fact that his medical and psychiatric problems have been treated by the medical profession to the best of their ability then we'd better start looking for the real reason why he is not in the competitive economy. Most often this reason is that he doesn't know his skills; or, doesn't know how to land a job; or, if he has landed a job or jobs and then been released, the problem might be that he can't keep a job once he has it.

There are quite a few definable subgroups under each of these major groupings. Time does not permit delving into them. My staff informs me that if a client's only problem is that he doesn't know his skill level, we find that this can be resolved in a matter of from one to five days at the most. But from here it gets 'stickier.' The problem that's keeping him out of work may be that he doesn't know how to explain his skills to an employer or, if he can, he may not be able to communicate why he was five years in prison or in a mental hospital, and why this should not interfere with a new job situation. Or he may not know how to use public transportation. Not knowing how to manage money may result in garnishments causing employers to drop him. Or he has poor grooming habits or can't get along with peers or supervisors. Or his problem may be a mother or wife

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who has protected him or dominated his every move.

Today the tools and technologies exist to use facilities by design and not through desperation. We have the means available, in fact, just over the horizon, to evaluate the effectiveness and efficiency of any given facility in relationship to a given sequence of problems. Just over the horizon is the capability of harnessing the computer and the new management tools to develop and control the client's program through multiples of agencies and resources, to determine both the cost and effectiveness of each facility in each client's program.

However, what will be required first is the foundation tool of a taxonomy. We need to systematically distinguish the definitive problems in the social vocational field so that outcome measurements can be developed.

Until basic research is done in this area much time and money will be wasted in vocational rehabilitation using improper non-vocational labels to define the purpose and function of programs, agencies and disciplines.

Until a social - vocational taxonomy is developed, outcome measurement, and thus cost effectiveness, cannot be determined. Until we can describe vocational problems in operational terms, we will not be able to use facilities by design but will have to continue to use them in fumbling desperation!"

...A Work Adjustment Technique...

*Isadore Salkind, Ph.D.

"There has been considerable debate in the rehabilitation workshop movement about what kind of people should be hired for the job of foreman. Some agencies have insisted upon professionally trained, psychologically oriented people, while others have maintained that the role should be filled by industrially trained people whose main positives are in the area of production skills. We feel that the most practical way to shed light on this problem is to detail as carefully as possible what the job entails.

Since no two work adjustment centers will be more than roughly similar, it is probable that our job description may fit only our perception of what work adjustment should be. Nevertheless, we offer it because there are common basic elements.

Probably the most direct way of describing the foreman's role is to divide it into three parts; first, his responsibilities on the floor; second, his duties off the floor, and third; his general attitudes and relationships with clients, co-workers and his work.

Initial Contact with Client

The foreman's first contact is assignment of the client to a job. He

*Excerpted from the remarks of Mr. Salkind, Director, Rehabilitation Workshop Administration, San Francisco University.

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observes the client's learning pattern, use of energies and abilities, attention span and concentration, and handling of materials.

In the initial and succeeding contacts he will be sentitive to the client's ability to accept and utilize supervision, and to all the interpersonal relations with co-workers in as detailed a way as possible.

Observation of Client

From a purely observational and diagnostic point of view, he will attempt to gauge the client's degree of gratification from work, the client's self-concept as a worker, his ability to adjust to challenges and pressures his general ability to grasp the purpose of his being in the workshop.

Quality Control

The foreman also has frequent, direct personal contact with the client in order to instruct, demonstrate, or display methods of work. He will want to check regularly on the hour or half hour for adherence to the proper method of work, the output, and the quality.

The quality of work is to be stressed, and only after this has been established will the foreman press for quantity in production. Having established the proper quality, he will seek to challenge the client by pointing out what the industrial rate is. He will note the rejects and subtract this from the total amount produced.

The client-foreman relationship is work-centered and is directed to

challenging the client to expand more energy in work. The relationship is essentially non-verbal. The foreman role is prescribed by plan and may range in tone from supportive through neutral to authoritarian. Emotional involvement with the client enters only as it fits the productive needs of the client.

Work Habits of Client

The direct, frequent contacts of the foreman assist the client in establishing proper habits of work, economy of motion and correction of posture, as these relate to the physical environment.

On another level, the direct contacts are designed to correct lapses in work behavior, such as lateness, resistance to supervision, talking too much, etc. The foreman is able to confront the client with the reality of his performance, be it quality of product or manner of behavior, in such a way that the client may gain strength and insight and establish more acceptable patterns of behavior. The client's expression of hostility, aggression or withdrawal as a response to confrontation should not cause the foreman to overact or withdraw.

At the same level, the foreman is also able to enforce the structure of the workshop, such as when to call in about illness, use of the telephone, appropriate behavior toward other clients and staff.

Manipulation of Work Environment

It is this direct contact between client and foreman that permits effective

challenge to the client by manipulating his work environment and content. The foreman may change the kind of work, or he may keep the client on the same job for a long time. He may change the client from an individual to a group job. He may find a more complex job to test client ability, or step up pressures to see if the client can tolerate more.

The foreman is constantly on the alert for the client's area of need at the moment and for new techniques by which to help the client move forward toward a vocational goal. In all of these, the foreman is working according to a prior plan which has been worked out off the floor. In doing this, he should be careful to record his notes so that he will not have to rely on memory for important reactions that took place on the work floor.

Responsibility for Contracts

The foreman receives instruction on methods and standards of production from the chief foreman regarding proper production of the various items. Before teaching a client the foreman must know the job operations involved, and prepare the layout of the work materials, seeing that all is in readiness for the client to work, including pre-count of the materials. He will report to the chief foreman all materials needed to complete the work.

Frequently the foreman will be assigned responsibility for a subcontract, in which case he should know production schedules, control the flow and

quality of materials, and inventory. This requires careful coordination with the chief foreman and the procurement officer.

The foreman has the key role in orienting the client toward WAC as it simulates a genuine work situation. We can take elaborate steps to convince clients that this is neither a school nor an institution, but unless the foreman is seen by the client as the line authority on output, we are not offering the necessary atmosphere for evaluation.

Now we shall turn to the duties of the foreman off the floor:

Writing and Recording

Each foreman must have forty minutes in which to record daily his observations and impressions, so that at evaluation time we receive a coherent, factual and well-organized account of client behavior.

Planning Meeting

Each day at 2 p.m. (client's coffee break) there is a brief planning meeting to assign clients to the next day's work. Here there is a chance to raise special problems, work out the specific assignments suitable for the client. Of particular importance is the opportunity to check on whether we are following the plan for the client, or whether we need to modify it.

Evaluation

At the bi-weekly evaluation of each client, the progress of that client is reviewed; his assets and liabilities are described in relation to employ-

ability. Here the foreman is called upon to present his observations of the client's performance in a well organized manner which highlights the most cogent aspects of the client's 'work personality,' so that other agencies can intimately know with what they are dealing.

The quality of a foreman's work is reflected in the evaluation. A good evaluation is the product of close supervision, intelligent challenge to the client, intense observation, and specificity of description. Cliches should not be substituted for individualized views of the particular personality.

The following general qualifications are equally important for a good foreman:

Foreman's Relationship with Client

The foreman constantly questions his feeling level toward himself in relation to the client without allowing this consciousness to become self-consciousness and get in the way of free response.

Foreman's Relationship with Co-Workers and Referring Agencies

A central requirement for a foreman is the willingness and ability to communicate with co-workers. A free flow of information must exist from previous foremen as well as from records. The foreman must have the ability to work within an organizational framework; this implies the ability to follow instructions and to benefit from supervision.

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Meetings with personnel outside the agency are also important. The foreman's contact is usually related to the evaluation. However, responsibility goes beyond mutual interest in a client. It requires interpretation of services to the other agencies by familiarizing them with structure and introducing them-many for the first time-to a situational technique for evaluation. Their greater understanding of the services available prepares them for better direction of their clients toward placement.

Foreman's Attitude toward Work

The foreman's attitude toward work is his most important contribution. The foreman is a producer of a service and of things. To the extent that he respects these roles, he transmits this respect. This respect for people as producers is the greatest instrument in stimulating them to become producers.

On this job, the satisfaction in work is strongly tied in with two factors. First, the conviction that the client is best served if he receives a realistic evaluation of work performance should require the creation of an atmosphere which directs his energy toward work. By his own work habits, self-discipline and concern for standards, the foreman sets an example which becomes an influence. The transmission to the client of a sense of satisfaction in the production of the subcontract, of identification with the mainstream of the economy, is the second factor.

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The foreman should observe the client's manner in handling material as an expression of attitude. He cannot evaluate performance or potential in a work setting unless he respects the relationship between people and material.

(If we lose sight of the importance of things and their meaning to people, we tend to become a clinic rather than a workshop. And if we lose sight of the main problems, the relations between people, and become more concerned with the production of things, we become a production workshop with production as the end goal rather than the improvement of people.)

Foreman's Attitude toward Placement

The ultimate goal of the workshops is preparing people for real jobs outside the shop. The foreman therefore must feel some real urgency in seeing clients make internal gains which spell movement toward a job. Without this relationship to the outside world that has jobs, with its rewards and its difficulties, the work of the foreman can be sterile or overclinical. Even though the foreman does not enter directly into the placement function, it becomes clear in evaluation that the foreman must be aware of the demands of a real job in order to help the client and the placement officer find the most realistic spot for the client. A placement orientation is therefore something that a foreman should have built into his own structure of values."

...Workshop Administration: Some Suggestions for Improvement...

*R. W. Will

"If we had to use one word to describe the general administration of the facilities of today, that word would have to be archaic. Each time the facilities specialist gives way to continued use of current obsolete systems he perpetutates mediocrity and waste. In the last 20 to 30 years, the management professions have learned a good deal about improved management techniques, but few of these techniques have rubbed off on the facility field.

Let's briefly take a look at some of the archaic concepts which are causing problems in the facility field today:

1. Obsolete problem identification, which leads to obsolete planning.
2. Obsolete board function and structure which leads to obsolete policy decision making.
3. Obsolete criteria for selection of board and chief executive which leads to many of the current inadequacies among facilities today.
4. Obsolete general management and program management systems which lead to obsolete and inefficient operations.

1. Let's briefly explore the first item; the keystone of the four; problem identification, purpose and planning. Requests come in to the State DVR office for the establishment of a sheltered workshop in Central City.

*This is from the paper presented by Mr. Will, Executive Director, Minneapolis Rehabilitation Center.

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It has been my observation that a survey is next conducted on how many retarded individuals there are in the community; how many CP's; how many epileptics; etc. I have often wondered what bearing the number of medical problems in a community have on the needs of a sheltered workshop?

From my point of view, if the survey were conducted on the basis of the number of individuals who were marginally employable, a more accurate picture of community needs for a sheltered shop would be obtained. There are many CP's, retardates, epileptics, who are employed in our economy and will continue to be employed. On the other hand, there are many inadequate individuals who are socially disabled, black, white, red, and disadvantaged who could benefit markedly from a sheltered employment situation.

Once a survey is done, does anyone bother to check the ecological situation which will exist ten years in the future in that community? Do they bother to find out where the population growth will take place? Where families of high income will live and where people and families of low income will? Do they game out the idea of establishing satellites of existing facilities rather than the establishment of other costly, separate administrative units?

2. Let's assume however, that the facilities specialist has finally decided to set up a new sheltered shop with its own board of directors and administrative superstructure. In yesteryear, when the ground rules for social

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agency administration were developed there wasn't any professional staff. Mr. Gottrocks, local philanthropist, was urged by his wife to help the deserving poor. If Mr. Gottrocks agreed, he set up a private organization of his colleagues and 'presto' you had a board of directors of which he was president. He was the number one decision maker, policy setter and check writer from his personal checkbook.

As his operation grew, he didn't have enough time to spend on all of the new details and so one of the board members was appointed executive secretary, or being a director of the board, executive director; the number one office boy to the chief executive, the president. This was the start of many of our problems of today; this simple move has caused a psychological power vacuum which is causing many of your problems today in your jobs as facilities specialists.

Over the years, we have retained these historical titles, but responsibility and function have changed. As taxes started to take the wealth, boards were increased in the size of their membership up to 40 or 50 persons.

As this increase in size took place, it was gradually found that board members were no longer selected for the ability to develop policy, but rather for their broad community representation for fund raising purposes. This must be changed back today. Boards must be selected not on the basis of community representation, but rather on the basis of what skills they can

bring to the policy decision making process, and this is variable from agency to agency and from one five year period to the next in an agency's life.

3. The next major item which should be reviewed is the selection of the chief executive. In the early days of social agency development the president was the chief executive officer and spent a fair amount of his personal time administering the agency's program. Today the presidents of most agencies do well if they spend one hour a week in an agency; the executive director, or executive secretary, is in essence the chief executive officer, but without the authority title.

In today's method of functioning, the social agency president should really be titled chairman of the board, and the executive director should be titled president with the assistant executive directors being titled vice presidents. This slight shift in title can make all the difference in the world as to the image of the type of person who is hired as chief executive officer and in the way that he perceives his job and how the board perceives the job.

In most agencies, there really is <u>not</u> a chief executive officer and decisions are chaotic. The hot potato is passed between the president and the executive director with both interested in the authority but neither often interested in the responsibility or accountability.

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This has strong carryover into the manner in which today's executive is employed. Today anyone who is competent as a counselor, psychologist, social worker, or vocational evaluator can be tapped as an executive director. The magic wand is waved over this individual and suddenly a new chief administrative officer is made; a man is graduated into a totally new profession. We have a man who may be highly competent as a program manager, but as far as the field of general management is concerned he is a babe in arms. This same man, if he is at all bright, will recognize the major job shift he has made and will beat a hasty path to the nearest university which teaches administration. If he is not bright, he will sit on his new exalted omnipotence and manage the familiar client service program with his new title while the finances of the agency and the board go into a state of receivership.

When the collapse takes place the Board members never point a finger at themselves and admit that they hired a program manager and not a chief executive officer; they'll never admit that since they hired a program manager, they and the president should have conducted the general management of the agency or provided it exceptionally close supervision. When things are in chaos it is the executive who is dispensable not the Board members who made the decision to hire him; not the Board who didn't know what duties they were hiring the man for.

And there you are, Mr. Facility Specialist, right smack dab in the middle;

maybe you or your predecessor even recommended the formerly employed executive. With the old executive gone, you have another crack at the situation. What are you going to do about it? Are you again going to lead them down the primrose path by letting them hire another counselor, social worker, psychologist or evaluator? Or are you going to ask them to define the job duties from a general management point of view and then hire a trained general manager who knows how to hire and use trained program managers and stay out of their hair? General management is a specialty in its own right and the day you'll admit that any Liberal Arts graduate can function as a clinical psychologist, that is the day that I'll admit that any clinical psychologist, evaluator or counselor can function as a chief executive officer of an agency.

4. The volume of a given problem, be it a client problem or be it one of general management, dictates the sophistication of resources we can bring to bear on the problem. In this technological age of ours, we can no longer afford the luxury of wasting our resources; we must use today's management advances to solve today's problems. We can no longer afford to have little facilities scattered across a state or metropolitan area each just large enough to survive on charity, but not big enough to provide both efficiency and effectiveness in quality services. The small agencies of five or even 15 or 25 staff persons cannot afford sophisticated general management systems or enough sophisticated program delivery systems covering a broad spectrum of

problems. Hard data and its day to day use in management decision making in both the client service process and the general management of an agency is going to become more significant as time goes by. A small agency cannot afford to employ sophisticated data staff as well as program staff or accounting staff. It is becoming increasingly important that agencies have precise accounting systems and accounting staffs which lend themselves to cost accounting.

As greater awareness is being developed around newly discovered people problems such as is happening in the OEO situation, we are finding shortages creeping up on us in the supply of the various trained disciplines. To counter this it is becoming more essential that we incorporate programmed packages operated by technicians in our service delivery system, but only large volume client organizations can justify packages and the equipment these packages require.

As the medical field has moved into the development of medical service campuses for the care of people so is the social service sector, of which we are a part, going to have to develop what might be termed social rehabilitation campuses. On these campuses, will have to be gathered the communities' social agencies; they will continue to do their 'thing' but will have general management services provided by a group management unit. This group management unit will provide central accounting, central data, central maintenance, etc., and more importantly a coordinated effort to bring all of the

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services to bear concurrently on a given client's problems as needed.

From the central campuses of intensive service, mutual satelliting of programs will be provided to the suburbs and nearby rural areas. With mutual satelliting, conservation of resources will take place and intake and follow-up services can be provided to the client in each geographic area of the community.

In rural areas, regional service centers will have to be established, which centers will be responsible for coordinating the efforts of the facilities possibly in a 75 mile radius.

Group management must be considered as a strong management tool if we are to achieve any degree of success with the ever proportionately decreasing size of the fiscal and human resources in proportion to the ever increasing newly identified human needs. If we are to maximize the use of our resources, the foundation of this effort will be the development of a taxonomy for the social and vocational fields; the identification of problems in terms of function. If we can develop a taxonomy for the social and vocational field, we can then proceed to use the new technologies and management techniques which are already available to us."

...Training Needs of Rehabilitation Workshop Administrators...

*Harry I. Friedman

"An administrator of a workshop faces one of the toughest assignments of which I know. He must have the business acumen of Daddy Warbucks and at the same time the compassion of Mary Worth. Or, to quote another description of his duties: 'He must spend 50 percent of his time administering a rehabilitation program; 50 percent in community relations; with another 25 percent being spent between juggling and prayer.'

The administrators of California's workshops are as efficient as you will find anywhere in the country and the problems they face are the same as those faced by all workshop directors. The following training needs, which were reported to me by workshop administrators who are graduates of university workshop administration programs, include:

1. How to develop more successful contract procurement administration.
2. How to set up a cost accounting system.
3. How to conduct time studies.
4. How to prepare a bid to include overhead costs.
5. How to develop good production methods.
6. How to prepare a budget that his board will accept.
7. How to write evaluation and progress reports to the Department of Rehabilitation.

*This is from the remarks of Mr. Friedman, Facilities Specialist, California Department of Rehabilitation.

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These are the same problems expressed by workshop directors who have come on the scene through different routes.

The consulting staff of the Facilities Development Section in the California Department of Rehabilitation have noticed training needs of workshop directors in not only these same areas, but in others as well:

Our sales procurement consultant is continually appalled and frustrated by:

1. The number of excellent contract leads that are not followed up promptly or skillfully or at all;

2. Bids reflecting a basic lack of understanding of the pricing process which are frequently submitted; and

3. Lack of imagination and/or skill of workshop directors who state they cannot accept specific jobs available to their shops because of a deficiency in equipment, client capability, or because the shop lacks clients at the moment.

And many workshop directors seem at a loss in trying to solve these problems.

Our industrial engineer reports the inefficient and costly methods he finds in so many workshops. He notes waste of space and manpower caused by poor floor layouts and a lack of understanding of work flow methods.

But our accounting consultant is the one who complains the loudest about the lack of knowledge of basic record keeping he finds among workshop

directors as he visits them to evaluate their accounting systems and to audit their records of grant funds received and spent.

Without an understanding of the need for, and the lack of desire to install an effective cost accounting system, a workshop director cannot possibly bid correctly or budget realistically, or plan for Board or even community support of his program.

Another area of weakness we frequently see on the part of workshop directors is their inability to develop, work well with, and utilize a Board of Directors to the advantage of workshop programs. Too frequently, directors tell me that they have never seen their organization's constitution or by-laws, or that they do not attend Board meetings, or that the Board may meet once a year, if at all. Others live by ultimatums to and from the Board.

In California, we are particularly fortunate in that the Workshop Administration Program at the University of San Francisco has established and kept open lines of communication between the staff and the Federal Regional office, the State facilities staff, and the workshops - individually and through their associations, in order to better prepare students for administrative jobs in workshops upon completion of their schooling. But I have increasingly strong doubts whether in a nine months certificate course or even after a two-year curriculum leading to a Masters degree, it is possible to train, completely and successfully,

very many individuals to cope with the many faceted responsibilities of a workshop administrator.

I would like to read from a letter I received from a young graduate of a nine-month certificated course in Workshop Administration. He is presently doing a very effective job as assistant director of a medium-size workshop.

'There are two very basic areas which contribute significantly to the weakness in the program (University-conducted course). The first of these is a lack of clear definition of the objectives of the program itself. At this point, they seem to be a mixture of academic and practical business management techniques along with an attempt at some rehabilitation theory.'

He was also critical of the way field work assignments were being conducted. 'The student in his field work assignment is expected to learn how to manage accounts, how to bid contracts, and how to keep production records. The workshops in which the student is placed usually have such poor or inadequate means of handling these problems themselves that they do little more than show the student how to operate inefficiently on a marginal level.'

On the latter point, training institutions would find it helpful to consult with State facility specialists in their choice of workshops to be utilized for intern training. We are usually aware of specific workshop problems

and staff changes which might adversely affect the training of a student.

Ideally, the internship period should be lengthened so that it may be utilized for practical experience and not just for observation. Students can learn from well supervised practice in problem confrontation. Workshop executives and staff should be trained by the universities in how to conduct meaningful internship experience for the students they receive.

Training schedules should be developed in advance with specific areas of needed exposure well delineated, with a time schedule to enable students to gain specific experience.

Utilization of the Standards and Evaluation of Rehabilitation Facilities and Sheltered Workshop Survey Form is one suggested method students might use during an internship period.

I realize that universities have certain requisite courses which students must take. To lengthen and better supervise internship experience is costly to both students and universities. (And the recent budget cut the schools offering workshop administration training have received will not help matters.) However, as a minimum, I suggest that in the nine-month certificated course, the schools strive for the following:

Through lectures and seminars:

1. To thoroughly inculcate the students with a clear picture of the purpose of a workshop;

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2. To explain the structure of a workshop including the multi-functions of the director;

3. How to organize, reorganize and utilize Boards of Directors;

4. How to develop and maintain relationships with the Department of Rehabilitation and other community agencies;

5. How to locate practical funding sources for staff, equipment, and capital expenditures;

6. The importance of realistic budgeting;

7. The importance of cost accounting and its effect on all phases of workshop management;

8. The importance, availability and sources of technical consultation in all areas;

9. The sources of staff recruitment and, most important of all,

10. An attitude of humility.

The student should be taught to realize that no one knows all the answers to all workshop problems and that help is available for the asking. Probably one of the most difficult jobs we facilities specialists have is breaking through the hard shell of defensiveness developed by so many workshop directors, as well as the seeming inability of the workshop staff to convey to the Rehabilitation Department the goals and programs of the individual workshop. This important phase of community relations can be taught by schools of workshop administration with the cooperation of the Department of Rehabilitation staff. It could be implemented with the assistance of the facilities specialists if the latter would take on

this responsibility.

Training Institutes

The universities also provide two and three-day training institutes for workshop personnel and others in numerous subjects from contract procurement to client evaluation. However, the demand for this information is so great from so many individuals in such varied stages of their development that by trying to serve so many, the universities are, I believe, actually meeting the training needs of a very few.

In my opinion, training needs of workshop personnel can be largely met by universities if they would modify first, their teaching goals and second, their methods of presentation. Although both changes are difficult to achieve, I would make the following suggestions:

1. One of the prime purposes of institutes sponsored by universities or other organizations should be to provide practical training to meet specific needs. I think it is essential to find out from both the workshop directors and the facility specialists serving their shops just what the problem areas are.

2. Preparation by the participants should be required. For example - in an institute on bidding or one on method improvements, participants should be asked to bring actual contracts from their shops as topics for consideration. One of the frequent criticisms of the institute is that not enough planned time is allowed for an exchange of problem solving ideas among participants.

3. Attendance at the institutes should be limited to not more than 12 to 15 and group homogeneity should be sought. Serious consideration should be given to scheduling some

of the institutes during late afternoons and evenings in locations throughout an area to encourage attendance of workshop personnel who might not otherwise be able to get time off.

4. Other training resources

Since Board relationships seem to be a problem almost everywhere, perhaps sectional institutes could be held with effective Board members being used as faculty. Chambers of Commerce, Manufacturing and Trade Associations, and the Small Business Administration, are among other resources that can be utilized to assist in providing needed training in a variety of fields. I think, too, that facilities specialists should take a greater initiative in sponsoring and participating in institutes planned to solve specific training needs; particularly in areas where university courses are unavailable.

About three years ago, under the joint sponsorship of the State's Facility Section and the Southern California Workshop Association, we presented a course entitled 'The Role of the First Line Supervisor.' Supervisors from twelve different shops attended. Each session was three hours in length and ran from 4:00 P.M. to 7:00 P.M. for a period of thirteen weeks. The faculty core included a psychologist employed by a workshop, but now a member of the U.S.F. staff, the training director of a large workshop, a workshop director, a Department of Rehabilitation medical consultant, an industrial engineer under contract to the Department of Rehabilitation and myself. I mention this as an example of what we facilities specialists can do to help meet some of the training needs of workshop directors."

...Industrial Engineering in the Sheltered Workshop...

*Ronald R. Stroud

"The Region III Rehabilitation Research Institute at the University of Maryland conducted a national survey in 1966. Some of the problems, as reported by the shops surveyed, indicated a lack of sophistication with regard to production techniques and to the establishment and maintenance of quality control programs. In response to an item asking the type of consultants a workshop would choose if any type needed were available, the overwhelming favorite was industrial engineering, followed by sales and program consultants.

Requests for technical assistance referred to me have all been in the areas normally ascribed to industrial engineering -- plant layout and space utilization, work measurement, contract pricing and work design. Before looking at some of the general problems encountered, perhaps it would be beneficial at this point to understand the function of industrial engineering. Industrial engineers are to be found in every major industry in our economy. Divisions of specialization include management, value engineering, work measurement, plant layout, quality and reliability, information systems, production planning, engineering economy, operations research, and industrial and labor relations.

*This is an excerpt from the remarks of Mr. Stroud, Assistant Research Director, Regional Rehabilitation Research Institute, University of Maryland.

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General Findings and Impressions

Let us consider some of the more general industrial problems of the sheltered workshop:

1. Inadequate Business Knowledge and Experience

Rehabilitation workshops are staffed predominately by rehabilitation people. There is no question about the need for directors and supervisors to be well trained in rehabilitation. But how about the business aspect of administering and operating a sheltered workshop? A workshop is a hybrid organization--it serves a rehabilitation function first, and a business function second. There is no separating the two--it is a most perplexing marriage. A delicate balance is essential. An imbalance in one works to the detriment of the other. If too much emphasis is placed on rehabilitation services, the goal we are trying to achieve is diminished because a realistic work environment is no longer provided. The shop must rely more upon subsidy, and client wages decline. The results would be obvious if too much emphasis were placed on the business function. However, I have yet to observe a workshop where business took priority over rehabilitation. An inadequate business background seems to be the principle reason for the director's inability to speak the businessman's language.

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2. Types and Quantity of Contracts

In addition to the lack of expertise, inefficiencies are further generated by a shortage of the proper types of contracts. No real degree of efficiency could ever be realized on contracts lasting only short periods of time unless the workshop was highly specialized in performing a particular type of work. Profit-making job shops, with whom workshops must frequently compete for contracts, specialize in a restricted range of work and therefore, have skilled workers, machines and equipment and the technical 'know how' to process a contract in the shortest period of time and at a price which is readily and accurately determined from past experience.

Workshops not having an area of specialization, and needing a contract, must frequently enter competitive bids against these specialized jobshops without benefit of highly skilled workers, machines and equipment and without technical expertise. Sometimes, a workshop will be awarded the contract by underbidding. How can workshops, under such conditions, pay labor and overhead costs within the legal framework of the Special Provisions of the Federal Minimum Wage Law? The answer is quite obvious. If work must be obtained, however, alternatives are not always abundant for the workshop.

When work contracts are scarce, workshops have a tendency to subscribe to

...Industrial Engineering in the Sheltered Workshop...

Professor C. Northcote Parkinson's first law, which states: 'Work expands to fill the time available for its completion.' In other words, there is a tendency to stretch the work out until more work becomes available. When work is in short supply, there is little motivation to become efficient.

Workshops are sometimes able to obtain plentiful contracts. Many of the contracts, such as those under the aforementioned conditions, are destined to incur substantial losses. Other contracts are so short-lived that it is not economically feasible to spend substantial sums of money on machines or equipment, or to invest much time figuring the optimumly efficient method of processing the contract, even when the technical knowledge is present.

Part of the answer to this production efficiency dilemma lies in the possibility of an amendment to the Wagner-O-Day Act. This amendment would extend priority to all workshops in procuring Federal contracts. It would not, however, represent a panacea for the industrial aspects of operating a sheltered workshop.

3. Importance of Motivation

I feel that the general level of motivation to radically improve production efficiency is low, for the following reasons:

(a) There is a tendency to emphasize professional or rehabilitation programming to the detriment of industrial efficiency.

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(b) Subsidies relieve a great deal of the pressure for efficiency which exists in competitive business. These include contributions from the community, grants, and the indirect subsidy afforded by substandard wages.

(c) In some instances, good equipment is avoided because it is felt that the equipment will take away the clients.

Efficient production should not interfere with rehabilitation programming but instead should enhance the rehabilitation process by offering realistic work experiences. Since personal attitudes and philosophies usually filter down to the lowest rank and file employee in an organization, if the workshop director is motivated toward efficiency, it will probably 'rub-off' on his subordinates.

4. Safety Practices

There appears to be an apathetic attitude toward the recognition and correction of safety hazards. Of the various classes of safety hazards, poor housekeeping is the greatest offense There is little attempt to store materials in an orderly manner; work stations are seldom cleaned or organized; litter and defective materials are permitted to accumulate. The net effect of poor housekeeping practices results in tripping hazards, the greater probability of a fire originating or spreading, decreased morale and motivation and inefficiencies generated as a result of poor organization.

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There is a definite and immediate need to increase safety awareness in sheltered workshops.

The Need for Industrial Engineers in Rehabilitation

There is a need today for industrial engineering talent in sheltered workshops. However, most workshops have not sufficiently advanced to fully utilize this talent. If and when an amendment to the Wagner-O'Day Act is legislated, new problems will emerge to replace old problems and they will probably be more abundant. However, I feel that the new problems will be much healthier than the old ones and the industrial engineer will really have an opportunity to meet the challenge.

What will be the nature of these new problems? Let's look at a few:

1. An accurate evaluation of production capacities and capabilities, the physical plant, equipment and funds for capital expenditures will be needed. Decisions will have to be made on the types of equipment needed, whether or not the equipment is economically justified, its payoff period, etc. The industrial engineer is equipped for this challenge.

2. Production planning, manpower forecasting, and production scheduling must be refined. This can only be accomplished through a system of work measurement which is the very foundation for efficient operations and one of the earliest responsibilities of the industrial engineer.

I believe that almost any industrial activity can be pursued in a sheltered workshop as long as the job is processed in accordance with client

capabilities. For the mentally retarded, a finer division of labor is usually the answer in bringing the job within their levels of ability.

Raw and finished inventory will be a problem. How many workshops have the means to maintain an average inventory worth $300,000 like the Maryland Workshop for the Blind does? Since the workshop will be dealing with large volumes of materials, accurate inventory systems must be maintained, especially where many materials are needed for the completion of one product. Placing too large an order will tie up too much money and floor space while too small an order will result in work stoppages and the delivery date not being met.

4. Effective quality control must be exercised to maintain good customer relations and to minimize spoilage or scrappage of materials. One bad material cut at the Maryland Workshop for the Blind, for example, could result in $10,000 worth of scrapped material.

It would appear that if what has been said ever becomes a reality, sheltered workshops will become big businesses. I personally believe that sheltered workshops are on this threshold and it is only a question of time before this breakthrough occurs. The socially and culturally deprived groups, if they are to be effectively served in sheltered workshops will certainly need more realistic work experiences than workshops (as most of them exist today) can provide. Workshops located in remote regions of the country,

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far from industrialized metropolitan areas where subcontractural opportunities are practically nonexistent, who must now seek out their own markets and manufacture their own products in limited quantities, would benefit immensely from the amendment.

I don't know if the average workshop (shop with 20-50 clients) could ever afford to place an industrial engineer on the payroll. Perhaps the answer will be a central industrial engineering source, functioning in much the same way as centralized contract procurement works today.

Summary

In conclusion, I would like to say that I have much respect for the workshop director. He is on the receiving end of much criticism and pressure--the board of directors, state rehabilitation agencies, his customers and a whole host of sundry idealists like myself. An executive director or supervisor, effectively carrying out his responsibilities, does not have an easy job. Not having benefit of numerous staff specialists--industrial engineers, quality control engineers, personnel analysts, production planners, etc., the director or supervisor must be able to handle these functions himself. His decisions have direct and indirect, short and long range effects on the lives of many disadvantaged persons. To him, it must seem that some are requesting that he rehabilitate the world, or at least a large part of it, and others are implying that while he is in the process, to also do it on an

economical, break-even or show-a-profit basis.

The key to locating the point of optimization for providing good rehabilitation services at minimum costs is, I believe, the selection of workshop personnel with an appreciation and understanding of both rehabilitation and business. There are a handful of such people today, and we need more like them. But where can they be obtained? There are only three sources. First, they are already employed in the rehabilitation field and must be developed. Second, they must be recruited, and trained, or third, they are presently being developed through workshop administration programs such as those offered at a number of universities thoughout the country.

After proper training and meeting the standards set forth for executive directors, supervisors, and evaluators, now in effect, in many states, the salary levels should be commensurate with the level of training, experience and responsibility in order to retain them in the field.

My final comment will be in regard to assistance from local chapters of the American Institute of Industrial Engineers. The A.I.I.E. is organized and operated exclusively for scientific, educational, and charitable purposes.

Every chapter in the country (about 170), has a Community Services Committee which I encourage all of you to solicit or to refer workshops in helping them overcome some of their production problems."

...Standard Accounting and Reporting: Its Potential Effect on State and Private Agencies' Budgeting, Planning and Management...

*Robert N. Galloway, C.P.A.

"It is obvious to me that the field of rehabilitation is alive, healthy, and growing. It is also apparent that it is in the throes of self-examination, self-evaluation and self-analysis, which can only lead to maturity. All of us, in either the public or the private sector of the rehabilitation effort, have a common goal, and to achieve this goal, we must have cooperation, a common language, a common effort. I would like to discuss with you a common general systems approach to a financial and statistical reporting system -- a system which can act as a management base upon which to build the professional programs necessary to raise the socio-economic level of the physically, mentally, economically or socially disabled in our society.

It is my belief that government agencies, charitable foundations, federated fund-raising organizations, communities, and even the general public, are becoming more and more interested in a functional approach to the health and welfare needs of the nation and the local community. They are abandoning the 'agency' or 'disease' oriented approach to community services

*Excerpted from the remarks of Mr. Galloway, Director, Accounting and Business Administration, Goodwill Industries of America.

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with its overlapping services and functions.

In order to do this, they will need to know, first, what services and functions an agency performs; second, what each function or service costs; third, how much community subsidy is necessary to support, not an agency as a whole, but each function, activity or service.

The full utilization of private agencies will require clients sponsored by both public and private sources. Neither source will be willing to pay more than its 'fair share' for the services required by its sponsored clients. Therefore, it is imperative that there be an understanding, within both the private and public agencies providing vocational rehabilitation services, of their information needs.

I believe the necessary financial and statistical needs in the development of a general systems approach are the following:

First, a common catalogue of definitions of professional services to be utilized as a basis for purchase of service fees; Second, a commonly defined system of statistical information embracing the characteristics of clients and the type, number, duration, intensity, and professional level of services rendered; Third; a commonly defined system of accounting and financial reporting which will develop the financial information required to provide for cost accumulation by function, service, or activity to the extent that public or management need might require.

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How will this benefit the client? It has nothing to do directly with those 'hands on' rehabilitation disciplines whose services will assist him.

It will help him by enabling you to justify the cost of facilities, staff programs, and personal subsidy necessary for his rehabilitation.

Why must you justify the cost? Because, today, the demands on the contributed and tax dollar for ours and other worthy programs greatly exceed the supply.

Other departments of government have established common, detailed reporting to support their activities. They establish specifications, or definitions, for a purchase item or a service; then they contract for that item or service.

By determining what number of items or services are needed, by establishing budgeted expenditures -- not of dollars, but of these needs or services -- and multiplying that need by most recent costs, they are able to establish factual budgets and justify their programs.

I suggest that this must be your approach to attain those fiscal goals which are necessary to support both the programs currently in effect and those to be developed in the future.

There has been recognition of the three basic areas of information needs

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cited above, and there have been some 'beginnings', tentative in nature and recognized as such by the 'beginners' responsible for their inception. I would like to give some examples of these 'beginnings'.

The United Community Funds and Councils of America has published a catalogue of Functional or Program Service Categories.

The Rehabilitation Services Administration has set up 'The Reciprocal Rehabilitation Reporting System'. This is intended as a tool which will provide basic statistics for the purpose of evaluating existing services of rehabilitation facilities and in planning for future services. I suggest that you must directly relate costs to those service statistics gathered by the RRR's, and upon this base build your financial structure.

Goodwill Industries publication, 'Manual for Financial Records', was designed '... to serve all agencies, as a comprehensive reference book and guide on general standardized accounting procedures, and as a vehicle to bring before the member agencies timely and significant agency-wide comparative data; thus, it is designed to aid ... in establishing ... real costs of operations, in preparing meaningful financial statements and making comparisons of the particular agency with the movement as a whole'.

In December, 1964, the 'Standards of Accounting and Financial Reporting for Voluntary Health and Welfare Organizations' were published jointly

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by the National Health Council and National Social Welfare Assembly. The Standards were subscribed to by 17 of the participating member agencies of the National Health Council, and 37 affiliated agencies of the National Social Welfare Assembly, including the United Community Funds and Councils of America.

I would be less than candid if I gave the impression that the national agencies and their affiliates have fully implemented these Standards. This is not the fact, but concerted efforts are being made to require this implementation.

In early 1966, Goodwill Industries of America, Inc., recognizing the lack of uniformity of financial systems within its own membership, and generally in the workshop and rehabilitation field, and realizing that the Standards represented an authority on which a common financial system could be based, requested and received a pilot project grant from the Social and Rehabilitation Service. The purpose of this pilot project was to determine if a common system applicable to all sheltered workshops and rehabilitation centers could be developed from the Standards, and could be applied to data processing.

The 'Manual for Financial Records' which had been begun by Goodwill Industries was completed during the pilot project. The system was applied to data processing and it was found to be compatible.

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During the pilot project, it became evident to the staff that no one private agency or group of private agencies could ever finance the cost of developing an adequate financial system common to all and embracing cost accounting requirements necessary to establish realistic service costs, contracts costs, and a realistic basis for establishing fees.

An application was made to SRS and Goodwill was awarded a Research and Demonstration grant entitled, 'Development of a Standard Accounting System for Sheltered Workshops and Rehabilitation Centers, with Application and Analyses of Statistical Data Related to the Standard Accounting Bases'. The purpose of this grant is to establish a financial system which will develop not only the cost and operational information necessary for management, but will also develop the information required to satisfy the public reporting under the Standards.

Our first consideration was the whole spectrum of services, not present in any other single organization, with which the comprehensive rehabilitation agency is concerned. These are:

(1) Social service activities

(a) Evaluation

(b) Social adjustment training

(2) Health service activities

(a) Medical

(b) Psychological

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(c) Dental

(d) All therapy disciplines

(3) Transitional vocational training

(a) Manufacturing

(b) Retail

(c) Service

(d) Many others

(4) Sheltered employment

(5) Housing

(6) Placement

(7) Food services

(8) Transportation

Second; no comprehensive financial system embracing all of these activities and applicable to these peculiar needs had ever been developed, based on 'The Standards'.

There was need for a 'tailored financial system' to meet these unique purposes and to meet the future need of supplying the fiscal information necessary for a total systems approach to rehabilitation.

We have just completed the second year of our grant and can report the following accomplishments:

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A. An operative, standard, functional fund accounting system, based on the Standards of Accounting and Financial Reporting for Voluntary Health and Welfare Organizations, which is able to develop costs by:

(1) Agency as a whole.

(2) Major program service.

(3) Function or activity within each program service.

(4) By location within each function or activity.

(5) By each profession.

(6) By each client to 1/10 of an hour, per client service.

B. A 'step down' burden distribution technique to provide the cost accounting requirements to develop realistic costs for fees, for services, or manufacturing contracts required by management.

C. Financial statements based on the Standards which will reflect first, public reporting required under the Standards; second; the cost accounting requirements of management.

D. The necessary record-keeping technique on a hand-posted, machine-posted and an IBM 360 Data Processed bookkeeping system, required to maintain the accounting system.

E. A system which is adaptable to any health and welfare agency or group of agencies, by simply inserting defined program service into that section of the chart of accounts allocated to program service.

F. Implementation of the system in 92 Goodwills, and 10 agencies other than Goodwills. 21 members of the National Association of Hearing and Speech Agencies have indicated they have or will implement the system.

G. Assistance to NAHSA in its conversion of its Manual for Financial Records from the project manual. (They simply defined their program services).

...Standard Accounting and Reporting...

H. A comparative financial reporting technique for participating agencies from which they can compare, with like agencies, each object expense within each function on a national, regional, or dollar class (budget-size) basis.

I. A National Advisory Committee which has twice reviewed the project's progress.

J. A community-wide project with the Baltimore Community Chest which embraces three pilot agencies initially.

K. Statistical reporting based on the RRR's and the application of these statistics to costs in the near future.

L. A purchase of service fee technique where the sponsoring agency can purchase for each client only those services and number of services which the client would actually receive. We feel that this enables the sponsor to pay only his 'fair share'.

In the past, you as facility specialists, have had to deal with private agencies, no two of which have had common definitions or services or comparable financial systems.

Yours is the responsibility of carrying out the functions of the State agency in such areas as: setting of standards for rehabilitation facilities, utilization, construction and improvement of facilities, management of grants and services, coordination of grant programs with other State agencies, and updating and maintenance of State rehabilitation facility plans. You are required to negotiate purchase of service fees, determine merit and need for planning, staffing, research, equipment and construction grants.

Based on the following premise, I offer a solution to you. 'Like organizations with like functions can benefit by direct comparison of financial

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information. Such information is meaningful only if standardized classifications, definitions, and restriction of financial accounts are achieved. Such information is comparable only if prepared by common standards and principles of accounting and presented in a logical, informative, and consistent manner'.*

If the three common sources of information mentioned earlier, (1) a common catalogue of professional services, (2) a common system of statistical information and (3) a common system of accounting and financial reporting, were applied to the private and public agencies, it would be possible to build budgets for the agency, the State, the region, RSA, SRS, and HEW.

You would first establish the need, on a community basis. By need, we mean the number of people available, ideally by disability category or profile. Then, from prior systems information, updated to current projected costs, you would be able to determine the number and kind of services required, the amount of staff, space, and dollars needed in a community rehabilitation center, or the cost of purchased services from private agencies and/or public trade schools.

In most communities, you would be called upon to utilize the combination of agencies, public or private, (depending on existing capacity of the institutions involved), necessary to fill those determined needs for the services required for the people available.

* 'Standards of Accounting and Financial Reporting for Voluntary Health and Welfare Organizations,' December, 1964.

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Once a determination is made as to how the services are to be rendered, and by how many agencies, a projection can be made of the supervisory and administrative requirements. The size and structure of the State VR agency staff can also then be determined.

A realistic budget can be prepared and documented on a factual basis for presentation to State legislatures and RSA.

Most importantly, if each State and private agency had common systems, comparisons could be made with like activities in other States.

Rehabilitation is a costly process. I find it difficult for the uninformed layman to fully comprehend the staffing, time, materials, and equipment required in the process. If an agency executive staff member can show comparable costs with other like agencies, it is easier to justify these costs.

Therefore, I urge each of you to recognize the needs and lend your support and cooperation to a common financial and statistical reporting system.

This approach will give you a management tool which will make you more effective in your role as facilities specialist."

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Delivery of Rehabilitation Facility Services to the Disabled/Disadvantaged.

North Texas State Univ., Denton. Rehabilitation Services Administration (DHEW), Washington, D.C.
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ABSTRACT - A 3-day training institute on making our institutions responsive to the needs of the disadvantaged included the following panel presentations: (1) "The Board Member's View" by J.L. Collens, stresses the need to face the problem of providing services to the disadvantaged, (2) "The Facility Director's View" by L. Weitzman, defines the term disadvantaged and provides guidelines for developing a program of services, (3) "The Facilities Supervisor's View" by R.E. Sheppard and C.W. Whitehead, discusses the problem areas of outreach, communication, and client involvement, identifies several barriers to services, and describes two projects for disadvantaged inner city residents, and (4) "The Psychotherapist's View" by A.L. Rutledge, provides several impressions and recommendations based on experiences in a retraining program for disadvantaged males. A related document is available as VT 012 082, also in this issue. (SB)

VT 012 083

Delivery of Rehabilitation Facility Services to the Disabled/Disadvantaged

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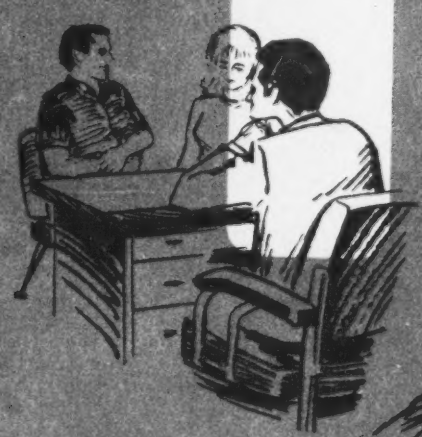

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"DELIVERY OF REHABILITATION FACILITY SERVICES TO THE DISABLED / DISADVANTAGED"...

A Panel Discussion
presented at

National Training Institute for State Rehabilitation Facility Specialists

Dallas, Texas
September 9 - 11, 1969

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Washington, D. C. 20201

FOREWORD

In a field such as rehabilitation there is a continuous stream of conferences which spawn an ever greater number of papers and speeches. Keeping up with this flood-tide of material requires the combination of a high degree of rapid reading and assimilative capability along with a fine sense of editorial discrimination as to what is really worthwhile. It is with an eye to assisting in the latter aspect that I most sincerely commend this particular set of papers to your special attention.

In the first place, they deal with an issue that is of transcendent importance in our current national environment - i.e. making our institutions responsive to the needs of the disadvantaged. Secondly, they are presented from a beautifully balanced diversity of viewpoint. But, most of all, they are by people who speak not from abstract theory but from the real-life experience of working directly in disadvantaged areas with disadvantaged people.

If you are concerned with making rehabilitation agencies, institutions, and services really responsive to the needs of disadvantaged people, this is must reading.

Stephen J. Ackerman

Stephen J. Ackerman
Associate Commissioner
Rehabilitation Services Administration

...''DELIVERY OF REHABILITATION FACILITY SERVICES TO THE DISABLED / DISADVANTAGED''...

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"DELIVERY OF REHABILITATION FACILITY SERVICES TO THE DISABLED AND DISADVANTAGED"...

INTRODUCTION

...The Board Member's View...

*Jonathan L. Collens

"The thrust of civilization has always been in the direction of increased recognition of the problems of people and increased activity to solve those problems. Rehabilitation is in the midst of this process. The needs of society have demanded that the skills of the rehabilitation professionals and agencies be directed at the disadvantaged.

We are now no longer dealing with anything as 'simple' as the human body. We now must come to grips with a man's environment--that which makes him what he is: race, family, housing, economic status, training, etc. We can no longer wait for the problem to come through the door to us, for the problem is bigger than the door and is not as mobile as a body. We must go to the problem.

*Mr. Collens, Manager, Manufacturing Services, Reliance Electric Company, Cleveland, Ohio, is past President, Board of Trustees, Vocational Guidance and Rehabilitation Services. The latter organization is involved in a Research and Development Pilot Study, partly supported by the Department of Health, Education, and Welfare, a cooperative effort with the Department of Human Resources and Economic Development of the City of Cleveland, and the Ohio Bureau of Vocational Rehabilitation. The major aim of this project is to test the effectiveness of a coordinated and responsive rehabilitation program for socially and culturally disadvantaged inner-city residents.

...The Board Member's View...

Innovation can take many forms, and certainly the innovation each individual brings to the problem is important. However, I believe that more than this is required. Not only must the creativity of the individual professional be brought to bear, but we need new organizational structures, new groupings of services and agencies. And when we have our newly integrated and coordinated services and facilities we will find that service for all disabilities has improved. I certainly hope so, for in Cleveland, where I come from, a number of agencies have been successfully housed together at Vocational Guidance and Rehabilitation Services and a complex of considerable size is being generated in an inner-city location.

But there are many approaches, and I assume that after a conference of facility specialists such as this, some new ones will be generated."

."DELIVERY OF REHABILITATION FACILITY SERVICES TO THE DISABLED AND DISADVANTAGED"...

...The Facility Director's View...

*Leonard Weitzman

"Within the past several years, we have begun to use the terms 'disabled' and 'disadvantaged' somewhat interchangeably, or at least in the same context. We should look more closely at these two words to identify some of the components which are similar and those which are quite different.

In an attempt to clarify the confusion presented by the similarity of the terms and the people included in these categories, let me try to set forth a simple description of what is really meant by disadvantaged people. The term 'disadvantaged' primarily refers to individuals from minority groups, usually black or Spanish speaking; who may come from rural areas but who generally live in inner-city decaying areas; have low income or are on public welfare; have had poor experiences and insufficient opportunities in obtaining quality education, adequate health services and decent housing; usually have less than stable family structure; and certainly a long history of facing definite patterns of employment discrimination.

For many years, sheltered workshops and other rehabilitation facilities have

*Mr. Weitzman is Executive Director, Vocational Rehabilitation Center of Allegheny County, Pittsburgh, Pennsylvania, where they have worked with the disadvantaged since 1955, beginning with the functionally retarded in cooperation with the Pittsburgh public schools, with the provision of speech education on a half-school, half-facility basis. The facility has also served relief clients from the Department of Public Welfare, is now participating in the Work Incentive Program and is, at this writing, awaiting funding with the Model Cities Program.

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...The Facility Director's View...

been serving a handicapped population which has many of the deficiencies confronting the disadvantaged. I am referring to disability groups such as those with birth defects, those who have become disabled early in life through disease or accident, and many who have endured long periods of institutional and custodial care. There has been minimal programming in the public school system for these individuals. They have limited knowledge of the world of work, they have little understanding of the value system which exists in our majority society and, what may be the most important factor, they have achieved very few successes and have very little hope of ever overcoming the failure expectations which society has imposed.

When Section 15 of the 1968 Vocational Rehabilitation Amendments was passed, it was felt that disadvantaged people had many of the characteristics of the disabled population served by the State-Federal rehabilitation program and that many of the same techniques could be effective in reducing the disabling condition and increasing the employability of the disadvantaged person. Indeed, many disadvantaged people do have physical and mental disabling conditions and could become regular clients of the established rehabilitation system without expanding the eligibility requirements.

To further clarify our frame of reference for this discussion, let us assume that we are not referring to those persons with definite physical and mental disabilities, but to all of the other characteristics previously mentioned, when we refer to the disadvantaged.

...The Facility Director's View...

What then does all of this mean for an effective delivery system?

To understand the total dimension of the problem, we must place in this kaleidoscope the issues raised relative to black pride, black identity and culture, the need for self-help, the use of indigenous personnel, and the almost total rejection of the established system of services. The current agencies, both public and private, have been construed as being part of the historical system which has been responsible for the present situation of these minority groups.

The 'dual track system' for serving the disabled and the disadvantaged. In most of the attempts to solve this problem, the Federal Government, various states, and many cities have furthered the development of a separate minority structure for dealing with local prevailing problems in health, housing, capitalistic ventures, education, pre-vocational evaluation, vocational training and placement. Consequently, a 'dual track system' has evolved. This includes funding mechanisms, planning - coordinating - administrative structure, and facilities for actual delivery of services.

One of the unfortunate aspects of this development is that the new ventures have not had the benefit of the experiences of the already established institutions. The lack of available trained personnel, and whatever knowledge or expertise they may possess, has been a major problem. But probably the most tragic circumstance has been the spend now - plan

...The Facility Director's View...

later - philosophy which has become necessary under our bureaucratic funding way of life. This leads to another problem, the necessity for achieving instant success, a prerequisite for continued funding, which is translated into a system where only those persons with better potential may be considered for service.

I can personally recall many telephone calls from neighborhood coordinators in the Community Action program making requests for referral of clients to our Center who could not be served by newly created employment programs. Unfortunately, the structure didn't allow for the purchase of service by these neighborhood units. I suspect from subsequent conversations that the people needing special help never really received it, even with the proliferation of many newly established so-called opportunity and training centers.

The hard-core client.

This basically presents the problem of those persons with so many deficits that they continually fall between the slats. Consequently, they end up being served by no system. We can conclude that the case with multiple handicapping problems, which takes a long time to process and where the employment objectives at best are still quite limited, is really the hard-core client. It doesn't matter whether this person comes from the new disadvantaged group or the traditional physically and mentally handicapped group of persons, he is still less than a desirable client for service. I am here representing the facility point of view and particularly the one

...The Facility Director's View...

which has employment as its major objective. I am sure that the question asked by my staff is typical of what is frequently asked in other workshops and rehabilitation facility programs. 'Don't we ever get the easy cases?'. My answer is always the same. 'If we don't serve the difficult cases, there is little reason for our existence'.

It is true that the rehabilitation client served today in facilities has many of the same hang-ups found in the hard-core disadvantaged group, many of whom have previously unknown physical ailments which need extra diagnosis, treatment and reduction of handicap for the individual to achieve optimal functioning and maximum productivity. Many, while really not mentally retarded, are certainly functionally retarded. By standardized psychometrics, they test out low. They have reading problems, limited vocabulary and low academic achievement.

Others, if not really psychotic, certainly have significant psychological overlay as a result of their life environment. Large numbers with unacceptable social behavior patterns need to be taught how to modify their conduct in ways we have yet to learn.

One of the most important objectives necessary for these hard-core cases is to achieve some measure of success, to know that someone really cares about what happens to them. Some of the experiences found at our Center are giving us many second and third thoughts about how to serve this group designated as the disadvantaged.

...The Facility Director's View...

The place of the client in the delivery system.

Let us talk first about consumer involvement, of which much has been written. The consumer, in this case the client, should have a voice in the development of services and what happens to him in the delivery system.

We know that many individuals who do not consider themselves as having physical or mental impairments, question what they are doing in a rehabilitation center where the handicapped are being served. How do we resolve this problem when we know we can be of help? We believe it is very important that they have interaction with a heterogeneous population which will do much for their ultimate adjustment into the larger community.

As an example, the deaf have to learn to function in a hearing world, the blind in a world of sight. Doesn't the black disadvantaged person have to operate basically in a white, middle-class society? Is it realistic to have programs in the ghetto, with black staff, with interaction only with blacks and then at the conclusion send this person out into a white society?

We're also finding out that clients learn a great deal from each other; the retarded learn sign language to communicate with the deaf, the frustrated brain-damaged person begins to understand the problems faced by the blind, etc. While the black person can learn much about the white person, the white members of society can gain great understanding about the world from which the minority member of society comes. I think the population mix is

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an important ingredient and we are doing much thinking about the structuring of our program in a way to accommodate all of these factors.

The role of supporting personnel.

Much has been written about the value of indigenous staff personnel. We employ supporting personnel in our Center and we call them aides. They are indigenous in character and work under trained personnel. We are learning that the basic problem of the 'haves' versus the 'have-nots' continually has to be faced. Such staff persons, the ones who have made it, can be more punitive of their own than some of the other personnel at the Center. I couldn't help but wonder that if this can happen at our Center, might it not happen even more frequently at a newly established facility completely manned by minority personnel.

Without doubt, supporting personnel can play a meaningful role. They do provide a meaningful communication link between the Center personnel and the client and give each group better insight into the other. With the shortage of trained professionals, they are a necessary adjunct. But they must be that - an aid to the professional who provides proper supervision, and I suspect that when trained persons aren't available, untrained personnel sometimes end up in key positions.

We are also finding that the need for status at all levels eventually poses the problem of 'professionalism' for supporting personnel. This entire matter will need considerable attention as we attempt to broaden our

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services in order to serve a greater number of people in the years ahead.

Need for improvement in utilization of facilities.

I might inject at this point our experiences in the WIN Program. The Work Incentive Program is a cooperative venture between Public Welfare and the State Employment Services to get assistance recipients into remunerative employment. We have a contract to provide work evaluation, testing, and work adjustment services. So far most of the referrals we have received do have a specific physical or mental disability which would make them eligible for the state rehabilitation agency.

As you can see, the dual track system involves a conflict between established systems as well. If this is so, and with all of the confusing overlaying characteristics between the groups identified as disabled and disadvantaged, isn't it reasonable to assume that this conflict might continue? And why shouldn't the facilities recently established to serve the disadvantaged begin to accept and program for disabled persons since they do exist in that population group?

Presently the relations between the old facilities and the newly established ones are less than the friendliness which appears superficially on the surface. If this trend continues, it is possible that the increased competition engendered will result in the best interests of the disabled and disadvantaged population not being served. Vital limited resources, such as funding and staff, will be wasted. Even more important, our less

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fortunate citizens will become bewildered and confused. Worse yet, they will be provided a ray of hope only to be submerged again into hopelessness and despair. This will re-inforce their failure image and make it even more difficult to reach them in the future when help can be provided.

We need to find more effective ways of maximizing current facilities in order to plug them into the changing scene. A recent study conducted by the Rehabilitation Research Institute of Cornell University serving Region II, concluded that workshops were underutilized and could serve many more persons. Also suggested was that their return both in economic efficiency and in client services, could be much higher with better utilization than by investing similar effort and dollars in starting new facilities.

It is axiomatic that rehabilitation facilities today are becoming totally dependent upon the State vocational rehabilitation agency for intake. The kinds of cases accepted by the State agency and referred to facilities will decide their population. With continued under-utilization by the State agencies, facilities will reach out to serve the Labor Department, Community Action, Model Cities or other new programs, and the State agency may find it necessary to establish other facilities to serve their referrals.

Usually, the facility is damned if they do and damned if they don't.

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Existing facilities must be encouraged and helped by the State agency and the facility specialist to provide innovative services and to reach out into the community. Workshops and centers should in effect, become case finders for the State agency of those persons who meet existing eligibility requirements.

It is unfortunate that some people believe that in order to create it is first necessary to destroy. I hope that the rehabilitation system will not be destroyed but will be encouraged to change so that it can meet the challenge of the new times.

In developing program content to meet the needs of disadvantaged people, we are discovering approaches and techniques which we believe will be helpful to us in serving our traditional disabled population group. With the proliferation of new manpower programs expected over the years, the emerging Model Cities programs, the welfare changes proposed by the President, the expanded role of the National Alliance of Businessmen, and the eventual funding of Section 15, we must find a way to effectively relate all of the services being provided in the community.

The established rehabilitation delivery system can do much in this new area if it understands the role it is to play and continues to gear its services for the person who will never be a popular candidate for service. This is the individual with such a multiplicity of problems that only the experience and expertise evidenced by our rehabilitation system and close

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cooperation between the public and private sector can be the ultimate solution to his achieving a dignified and meaningful role in life.

Let us address ourselves to this challenge!"

."DELIVERY OF REHABILITATION FACILITY SERVICES TO THE DISABLED AND DISADVANTAGED"...

...The Facilities Supervisor's View (I)...

*Richard E. Sheppard

"I am grateful to hear from Mr. Weitzman that he is not the only one who gets confused when we try to make this dichotomy between the disadvantaged and the disabled. At least this is true based on our experience in D. C. I would like to cite examples from a program that our agency established in 1966.

Utilizing OEO funds, we established a Vocational Assessment and Training Center which was a work evaluation and work adjustment facility. Because we were using OEO funds, we did not have to use the traditional vocational rehabilitation definition of disability as a criteria for referrals to the program. We simply said that we would take all those people who were 'bombing out' of other poverty programs. We had six hundred referrals during the first year of operation and the program was designed to serve only two hundred people. Four hundred clients completed services offered at the Center.

*Mr. Sheppard, Assistant Director, (in charge of Support Services), District of Columbia, Department of Vocational Rehabilitation, has been with that agency since 1965. Previously, he served in a variety of capacities, including that of Director of a sheltered workshop, and as a work-study coordinator for the Montgomery County (Maryland) schools.

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This is the main point! Seventy-five percent of the four hundred were clearly eligible under the Section 2 program of our agency. Many of the remaining twenty-five percent were closed out before eligibility was determined. So, theoretically, some of that group also could have been eligible under the Section 2 program.

Another myth that exists about the disadvantaged is that they are an extremely difficult group with which to work-more difficult than the deaf, blind, quadriplegics, etc. It appears that some of us here are fearful of entering into programs to serve the disadvantaged because we are afraid that our rehabilitation rate or rate of success might go down. I would like to point out that one third of the four hundred clients who completed the facility services were rehabilitated during the first twelve months. The overall success rate was not completely determinable since many of the remaining clients in that group were absorbed by the Section 2 program when the funding rug was pulled out from under us. I would suspect that the rehabilitation rate in that program was comparable, if not better than the overall rate in many of our state agencies. I think the main point that we are trying to make is that perhaps we should spend less time trying to dichotomize between the disabled and the disadvantaged and get down to the business of serving people!

Three problem areas:

I want to briefly touch on three major areas our agency has encountered in providing facility services to the disabled and disadvantaged. These

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three problems or problem areas are not totally independent of each other. The first one is the problem of outreach - the problem of how we most effectively reach the disabled and disadvantaged clients who need facility services. The second problem if that of communication. Once we reach clients, how do we attempt to eliminate communication barriers that affect the rehabilitation of the disadvantaged and disabled? The third problem area is that of client involvement. How do we increase the holding power of the facility programs and effect essential involvement on the part of the client?

1. Outreach.

I would like to make a few brief points about outreach. The most obvious solution to the outreach problem is to physically locate the services where they are most needed. We are establishing two facilities in D.C. One is in the heart of the Model City and the other one in a neighborhood where there is an extremely high incidence of welfare recipients.

Another approach for resolving the outreach problem is the utilization of indigenous workers to reach the disadvantaged and disabled people who need services. We are involved in working with a group called 'Project Progress', composed of men, all of whom had records and rather extensive records at that, who have been and are helping to control incidents which might lead to the outbreak of civil disorders in Washington.

This group was sponsored initially by a group of local businessmen and

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a Ford Foundation grant. Recently, our agency became involved with the project. Our first step was to relate to them the 'rehabilitation story' to break down the all too prevalent distrust of establishment programs. Right now, we feel that we have sold them on the rehabilitation concept.

One member of Project Progress is an 'ex-con' who is a local television celebrity. He appears weekly on a program sponsored in part with S. R. S. funds and has been an outspoken critic of many of the local service programs. This gentleman did say that of all the service programs in Washington, he felt that the rehabilitation program was the most responsive to the individual needs of people. He didn't say it quite that way, but he got the message across. We were really gratified to hear that, and we feel we have taken an important step in working with indigenous people in the outreach effort.

Another way of perhaps resolving the outreach problem is an approach that you are all aware of - that of coordinating services with relevant agencies. In two of our facilities, we are working very closely with the Department of Welfare and will have welfare staff physically located in the facility. In one of the facilities, we are also working with the D. C. Manpower Training and Employment Services Administration, Public Health Department, and several other private agencies engaged in the overall rehabilitation effort. Finally, I think the most effective way of resolving the outreach problem or that of case finding is to provide services that are <u>relevant</u> and <u>responsive</u> to clients' needs.

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In the OEO sponsored VATC program, a substantial number of clients were 'walk ins' who had heard about the program through friends or acquaintances who had previously received services. This large number of 'walk ins' represented to us the success of our outreach effort.

2. Communication.

The second major point we were to consider in providing facility services to the disadvantaged and disabled is that of communication. How do we attempt to eliminate communication barriers that affect the rehabilitation of the disadvantaged and the disabled? I contend that we cannot effectively rehabilitate disadvantaged, disabled persons if we cannot understand their language and values. Those who feel that there are no real problems of communication or alienation between rehabilitation professionals and black inner-city residents are simply fooling themselves. Incidentally, as we attempt to accelerate and intensify facility services for the disadvantaged disabled, perhaps we should be concerned about the sparcity of black and other minority group involvement in our own ranks as state facility specialists.

One obvious approach to resolving the communication gap is to recruit and train black individuals who are sensitive to the needs and values of the disabled and disadvantaged to staff our facilities. Another approach is to involve indigenous citizens in the planning of facilities and as an advisory group for ongoing operations. Although we worked with the Model Cities Commission relative to the establishment of our new Employment

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and Evaluation Service Center in the heart of the Model Cities area, we have not, as yet, appointed a citizens advisory committee for our center. We are committed, however, to the point of view that citizen participation would be constructive and enlightening to us as rehabilitation professionals, and we intend to name a citizens advisory committee in the near future.

Another approach to bridging the communication gap is to abandon some of the unnecessary formalism we have developed as professionals in the vocational rehabilitation industry. For example, at VATC and our new center 'professional pedestals' are not allowed. Also, we do not feel that one has to sacrifice courtesy to relate more informally to those persons we serve.

3. Client involvement.

Finally, we should be critically concerned with client involvement or how we may increase the holding power of our programs and vitally involve clients in the rehabilitation process. First, we'd like to suggest that we abandon as much as possible the medical model of treating or 'acting upon' a client and involve him in the rehabilitation process in a manner that is meaningful to him. It is absolutely essential that we adopt this philosophy if we are to effectively rehabilitate welfare recipients and others who have abandoned hope and have lived long-term dependent lives. Mr. Whitehead will elaborate on some service delivery techniques that are designed to help reduce the bureaucratic procedures

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that frustrate disadvantaged clients.

In closing, I would like to say that for the last few days we have heard about the uniqueness and effectiveness of rehabilitation services. However, I'm concerned, that if we do not quickly and in an enlightened manner mobilize our expertise to serve the neediest citizens in our nation, others will."

..."DELIVERY OF REHABILITATION FACILITY SERVICES TO THE DISABLED AND DISADVANTAGED".

...The Facilities Supervisor's View (II) ...

*Claude W. Whitehead

"Many authorities on programs and services for the disadvantaged have insisted that the traditional sheltered workshop does not have the capacity for serving the disadvantaged population. Many of the disadvantaged population members have been reluctant to enter sheltered workshops for the same reason - the inability of the workshop to adapt to their special and unique needs.

Over the past few years, our staff has identified the barriers which exist in the traditional sheltered workshop which have a negative effect on services to the disadvantaged.

(1) The most significant problem is that of the slow processing of referrals to the facility and the unreasonable delays and interruptions which occur in the provision of services. The production emphasis in the typical sheltered workshop prevents them from accommodating wide fluctuations in client services, particularly when the clients are directly involved in productive industrial work.

*Mr. Whitehead, Chief, Rehabilitation Facilities Development, Division of Vocational Rehabilitation, Department of Education, State of Michigan, has been associated with the Facilities Development Program in Michigan for four years, and was for thirteen years, an Executive Director for Goodwill Industries in several locations.

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(2) Although the trend is toward the transitional program, sheltered workshops tend to be dead-end streets. There is a limitation on the graduation potential of clients who are served. This is further complicated because of the lack of relationship of the workshop job assignment to an industrial or commercial job in the community.

(3) In many cases, the inter-dependency of sheltered workshops with other community resources is an asset, but in the case of the disadvantaged who may have to travel to several different locations within the community, the lack of comprehensive services can be a liability and a barrier to service provision. In many instances, the lack of comprehensive services is related directly to the inadequacy of financial support. This inadequacy has a secondary effect on the services provided to clients. Too often the sheltered workshop is dependent in a large measure upon client productivity - those who cannot produce are not served.

(4) Frequently the lack of diversification in the quality and quantity of work supply in the small sheltered workshop limits its ability to provide meaningful evaluation and allow opportunity for progression. Furthermore, typical workshop jobs, such as the salvaging of household goods, industrial packaging or collating, are in many instances geared to the level of function of the mentally retarded and other severely handicapped. The disadvantaged client may be unchallenged by such a monotonous routine job and, worse still, it may not permit him to earn an adequate income in comparison with the public assistance

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previously being received. His needs are greater than those of the middle-class client.

(5) The State and Federal public and private agencies have increasingly recognized the problem of inadequate staff orientation and training. This problem becomes even more crucial when the complex disadvantaged client moves into the sheltered workshop program. The staff has been introduced to the problems of the disadvantaged in most instances through journal articles or through brief short term institutes. The college training programs generally are void of any specific orientation to the needs of the disadvantaged. Training provided by most universities is not geared to serving the disadvantaged.

As State agency people, we have a stronger orientation toward the program and function of the State rehabilitation program than with the private facility operation. Too often we are critical of the private facility when the problem really begins in our own house. Many of the barriers to serving the disadvantaged, as identified in our State, are similar to the barriers identified for the sheltered workshops.

(1) As the Federal-State program is expanded and revised, new record keeping requirements are introduced. In addition, our agency has certain reporting requirements which are designed to assure that our counselors are serving the disadvantaged in significant numbers. The client is the one who suffers as processing and handling of referrals are delayed even

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further. These delays are compounded by the typical welfare client relocating frequently so that the mailing address previously listed becomes invalid and contact with the client is severed. The counselor automatically places the 'lost client' in the deferred file and services are stopped.

(2) The shortage of professional services is another barrier which creates delays in scheduling and interruptions in client services and there seems to be no relief in sight for this problem. Special attempts have been made to purchase blocks of time from medical and mental health clinics in order to assure continuous service delivery particularly in the areas of medical and psychological diagnosis.

(3) The State agency counselors are generally inadequately prepared for dealing with special problem clients by the training provided in our colleges and institutions. Stop-gap solutions are being developed through short-term institutes for agency staff. Michigan is fortunate in having the services of Dr. Rutledge, our panel participant, to assist us in solving this problem. In recent statewide training sessions, we regularly found a negative staff attitude toward the unmotivated client and a complete lack of knowledge of the unique characteristics of the disadvantaged population. I might add that this problem is further complicated when the poorly trained counselor is promoted to a supervisory position - he becomes 'doubly incompetent'.

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(4) As our program emphasis has shifted from the physically handicapped population to the disadvantaged disabled, we have discovered a need to develop new relationships with referral sources. Our counselors and supervisors were generally unfamiliar with the other agencies in the community which provide special services to the disadvantaged. In addition, our local office staff structure was geared toward a program of services for the physically or mentally handicapped rather than the disadvantaged. We found ourselves unprepared to provide the special supportive services within the local office. The largest deficit seemed to be the inability to deal with the family.

(5) The closure syndrome continues to discourage the conscientious counselor from tackling the more complicated client who requires extended services. Budget limitations dictate the type of service and the length of service in too many situations. An inadequate case service budget will often cause the counselor to concentrate on the 'quickie' closures.

(6) Our experience with the disadvantaged has shown that the need for supportive services, in addition to the traditional training, has equal importance in the rehabilitation of the disadvantaged. When the 1968 Amendments to the Vocational Rehabilitation Act were first published, our agency took immediate steps to do some advance planning of services to the disadvantaged. We employed two specialists in the State office

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to give concentrated attention to this population and they began cultivating working relationships with all agencies serving the disadvantaged throughout the State. We came out with a little 'egg on our face' when the Section 15 program was not funded in 1969 or 1970, but we have received good mileage from our manpower.

Pilot and Demonstration Projects in Detroit.

The city of Detroit has been recognized as a major problem area and, consequently, has received the majority of our attention in the past two years.

(1) Our first step was that of developing a special project which would concentrate on the disadvantaged population of the inner city. The project involved the addition of special supportive staff including case aides, indigenous workers, team leaders and specially trained counselors. (I previously mentioned the sensitivity training provided by Dr. Rutledge for our inner city staff and supervisors). Special arrangements were made for transportation of clients to service resources within the inner city area.

A second part of the project was that of developing an intensive relationship with the major rehabilitation facilities in the immediate area. Although three large sheltered workshops are located within the Detroit urban community, we encountered problems in the flow of clients from the

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State agency local office to the facility. This problem was alleviated by placing liaison representatives at two of the three agencies. While the grant provided program intensification and modification, another problem was a bottleneck that developed in providing continuous service to the inner city client. We discovered that dropouts increased when the client had to wait even one or two days between the time referred by the agency and the beginning of services at the facility.

(2) A second project was developed and funded in an effort to establish an intensive and continuous service program for this special population. Under the second grant, Goodwill Industries of Detroit made staff additions including physicians, psychologists, evaluators, counselors, aides and other special staff. Under this project, a client may enter a facility service program the same day as referred to the district office and receive diagnostic services on a continuing basis for a period of up to three weeks. If, for example, the physician could not accommodate the client immediately, he was placed in a vocational diagnosis program or, in some instances, placed in a job try out situation, or contract work, or similar work within the workshop. The client received immediate, continuous service, and in most instances, received some wages or incentive allowances during the period of service.

The second project provided an additional aspect to remedy the problem of job search. A data processing system was developed in which the Worker

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Trait Requirements from the Dictionary of Occupational Titles were fed into the machine and the individual client characteristics - physical and mental skills and limitations - were punched on an IBM card. This resulted in a printout which listed the jobs for which this particular client could qualify. Modification in the program permitted the isolation of the job printout to a particular industry such as the automotive industry in Detroit. A close working relationship with the State Employment Office provided information on jobs available. The major service provided was that of eliminating the requirement of counselor skill in creative thinking to 'dream up' the jobs for which a client might qualify.

Preliminary results of this project have been outstanding. We have removed many barriers and have established a demonstration program which will serve as a model for similar programs throughout the State. The two most significant results of the two projects have been the considerable reduction in client dropouts and the placement success with a properly evaluated client.

Summary.

There is much more yet to be done.

To perform effectively, the State agency needs a new image for the disadvantaged population and we will only have acceptance by performance.

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We need to do a better job of case finding. Typically, we respond to the client who is motivated enough to come to our office and this particular characteristic is not found in the disadvantaged population very frequently.

We need new standards for measurement of performance that will properly recognize the counselor who makes a substantial investment of time in services to the more difficult clients.

We need an improvement of interagency cooperation, the combining of resources and merging of programs and a sharing of responsibility.

In summary, we need a major engine overhaul and all we have gotten so far is a motor tune-up.

As State Facilities Specialists, we need to play the advocate role with both groups. We need to encourage the establishment of a statewide program of training for counselors and supervisors of the State agency and the executive and his staff in the private facility. We must demand more meaningful services from the rehabilitation facility - better evaluation in a realistic work situation. Many of our new grant projects include personal-social skills - training programs in their expansion package.

Finally - we have a chicken or egg situation in the financial problems. The facility must have additional financial support before the community will permit the development of comprehensive services. But the

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State agency withholds support because the facility does not have adequate and comprehensive services. The direct grant (plus the service fee payment) is a vital tool in serving the disadvantaged - we have the ball and we must carry it!

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...."DELIVERY OF REHABILITATION FACILITY SERVICES TO THE DISABLED AND DISADVANTAGED"...

...The Psychotherapist's View...

*Aaron L. Rutledge, Ph.D.

"These are 'Impressions and Recommendations' based on my experiences in a retraining program in practical nursing for twenty disadvantaged males in Detroit, nineteen of them Negro. Thirteen of the men are now working as practical nurses. Four others, of the six who were dropped from the course, have been able to hold other kinds of jobs. These nineteen Negro men did more than participate in a retraining program. Most of them made a transition to a new status in life. All contributed toward an increased understanding of America's disadvantaged population.

1. The Untrainable Disadvantaged Male. The disadvantaged frequently respond to retraining efforts in ways that make the task difficult and sometimes impossible to achieve. Unless they are given large amounts of support and assistance, usually more than provided in ordinary educative efforts, such men are often unable to attain the ambivalently-held goal

*Dr. Rutledge, Executive Director, Advanced Behavioral Science Center, Grosse Pointe, Michigan, was co-director of a project which provided psychological services to a group of twenty men selected by the Michigan Employment Security Commission for retraining in practical nursing. The program, funded by the Office of Manpower, Automation and Training, U.S. Department of Labor, was carried on in cooperation with the Shapero School of Nursing, Sinai Hospital, Detroit, Michigan. The experiences of Dr. Rutledge and his associate in the program, Dr. Gertrude Zemon Gass, are related in the book, "Nineteen Negro Men", based upon their work with these men.

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of economic betterment and stability. The impairment in functioning found in this population is based partly on cultural deprivation, but it also has a strong emotional component. If the training personnel remain constant in their interest, are accepting of the trainees, and are non-punitive in reaction to provocative behavior, some shifts can be made eventually in the behavior of most of the men from this group.

2. Selection by Tests. The widely used procedure of selection by means of tests, has definite limitations when employed with the disadvantaged. Given the personality characteristics of the disadvantaged, along with their cultural deprivation, tests now in use are, for the most part, ineffectual except in the most general sense in determining who will succeed or fail from this population. Intelligence and achievement instruments do predict how the men will fare in a traditional educational program (i.e., very poorly in most cases), but they are ineffective in determining in advance how members of this group will fare in a retraining program. Preliminary screening out of the intellectually impaired and mentally ill by tests is valid, but further screening will result in elimination of much of the hard-core unemployed that the programs are intended to help. For many of these people, the most difficult part of testing is not the content of the tests, but the very fact that they are being tested. If the requirements of a particular program dictate that tests be employed for selection purposes, methods will

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have to be employed to reduce tension associated with the testing process.

3. The Communication Problem. The trainee in any program generally must know not only what is being done and what is expected, but also why something is done and/or expected, if he is to work most cooperatively with training personnel. The burden of making certain that he does understand rests largely upon the training staff. Feedback of a meaningful type, a necessity to the sender, is difficult to secure from the disadvantaged trainee. Thus, the training person does not know whether his message has been received in a relatively clear and adequate condition. How does one know he is being understood clearly when the response to a message is a noncommittal monosyllable? Can one run the risk of assuming that instructions are being comprehended under such conditions?

There are few clear-cut answers to the difficulties posed by communication problems. Trying to talk in the idiom of the target group, for example, frequently elicits a negative reaction and is the wrong move to make. While not offered as a panacea for communication difficulties, one practice that has proved helpful in decreasing the confusion is the use of written communications, as a supplement to verbal, when information about programs and procedures is to be conveyed.

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4. The Disappearing Trainee. One of the errors made by program personnel is to assume that the disadvantaged are highly motivated and grateful for the particular training they are offered. Training and administrative personnel can become frustrated by the trainees' lack of evident motivation and seeming lack of appreciation of 'what is being done for them'. When pressed, such expectations result in an intensification of negativistic behaviors on the part of trainees. The combination of weak motivation for retraining projects and the tendency of the disadvantaged to flee from anxiety-provoking situations results in a trainee who easily 'disappears'. The retention problem in retraining programs is an omnipresent one which couples a need for techniques to reinforce wavering motivation with the provision of staff help to cope with ordinary work-related stress. The issue for training programs is not why the trainees so easily become anxious and flee but what can be done to keep their anxiety at a manageable level.

5. The 'Culture-Shock' Problem. Retraining the disadvantaged involves an attempt to effect upward social mobility for this population. The trainee is expected to make the move from a disadvantaged position into the working class level. Often this involves for him acceptance of middle class standards, such as the 'delayed gratification' norm, and the acquisition of rather basic social-occupational skills and values.

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The problem of acquiring these skills and values is often more immediate and pressing in the retraining process than the actual training itself. If the trainee is expected to make the transition into the subculture of the training personnel too rapidly, the result may be an experience of 'culture-shock'. Trainee reactions of 'freezing', lack of responsiveness, inattentiveness, and anger appear predictably as his values and very way of life are challenged.

It is important to recognize that for the trainee acceptance of a new set of norms and values invokes, perhaps subtly, a depreciation of those individuals who are emotionally significant for him. There will be an interim period in the program in which trainees feel that they can never please the training personnel nor satisfy their demands and during which they are beginning to alienate their own friends and families by the attempted changes. This is a dangerous period of limbo in which tensions increase and dropouts occur.

The trainee's struggle must be taken into account early in training, and the conflict clearly verbalized to him, so that he understands that the training personnel are not callous and indifferent to his difficulties, but understand them even though they may regard the requested behavioral shifts as necessary. Not only can the conflict be clearly labeled, but suggestions can also be made for handling it in ways that will be more tolerable and less frightening to his family and friends. An understanding training person can reduce the severity of the problem caused by two

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opposing pressures on the trainee that expose him to a 'fight on two fronts'.

6. The Disadvantaged Trainee's Family. The experience with the nineteen men suggests that not nearly enough is known about the relation between the family and work life of the disadvantaged. It was found that some changes occurred in the family as a result of the husband-father's participation in the retraining program. Some men encountered difficulties on the home front, the wives exerting a definite, although sometimes subtle, negative influence on the men's learning-training adjustment. Others were encouraged in the training effort by their wives. Some wives reported that their husbands were more relaxed and did a better job as husband and father after completing the program and beginning work. The picture was a mixed one in which both positive and negative aspects appeared.

Enough has been learned, however, to warrant the suggestion that the wives of male trainees should be considered in training efforts. A group meeting, or periodic group meetings, with the wives, conducted thoughtfully and skillfully, could help to give the women a better understanding of their husbands' job demands and pressures, as well as to recognize the pressures placed on them. This could serve as a powerful force in the retention and success of the men in retraining programs.

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7. Psychological Assistance for Retraining Programs. What is the role of psychological assistance in the over-all effort to assist the disadvantaged move out of the cycle of defeat and despair? The extensive and intensive psychological reinforcement used in this project for study and research purposes would be neither appropriate nor practical for most training projects. There are two major areas, however, where psychological assistance can be utilized with a minimum of expenditure and a maximum of return: (1) in the selection of training personnel, and (2) in consultation with the staff personnel in retraining programs. Staff and faculty for the disadvantaged should be selected more carefully than for any other population. The disadvantaged are a challenging group with which to work for personnel with stable personalities who can view them objectively, with understanding and compassion, and permit them to grow.

Emotionally mature individuals are required. Some of the current preference for the use of indigenous rather than professional personnel could bear examination. The qualities required for the most effective effort with the disadvantaged may be present in either indigenous or professional persons, but it is a mistake to assume that they are automatically present.

Psychological consultation may be used to help program personnel increase their skills in many areas. Such consultation could be provided through

...The Psychotherapist's View...

pre-program training courses which emphasize understanding the disadvantaged and the beginning mastery of specific techniques known to be effective with this population. Psychological consultation for staff would also be helpful in the middle and final phase of training programs. These efforts should include all personnel involved in both the theoretical and the applied aspects of the training. Since skilled consultants are scarce, much of the on-going consultation could be provided at a regional level through a series of training sessions geared to the staff being served.

Whether individual help or group counseling is indicated for a particular population of trainees would depend on (1) the amount of anxiety generated by the way the program is run versus (2) the ability of the staff members to commit themselves to a kind of atmosphere in which problems are expected but can be accepted and worked with, rather than one in which problems are permitted to force a man out because he does not know how to deal with his personal, family, and program difficulties.

This project has demonstrated that emotionally corrective experiences may be provided for this group of hard-core unemployed through environmental modifications with appropriate support that will enable many of them to succeed in moving out of their cycle of defeat and despair and, in many instances, to maintain their gains.

...The Psychotherapist's View...

In summary, we are not saying that all minority people are so personally impaired that they need psychological assistance. We are saying that thousands of individuals subjected from birth to the influences of multi-generational poverty, and especially when reenforced by actual second class citizenship, have had their personalities gravely damaged. The result often is the development of a characteristic core of self-defeating personality characteristics which make the disadvantaged person his own worst enemy. Without special understanding and skillful supportive services he will not be able to make creative use of opportunities for either re-training or ongoing employment.

Vocational rehabilitation must discover ways of facing these in-built personality liabilities of the disadvantaged, as well as learning to counter the effects of in-built prejudices and stereotypical thinking on the part of the trainer or supervisor. This becomes a priority assignment as V.R. counselors rework their traditional approaches, tailoring them to the needs of the socio-culturally handicapped."

GPO 889-891

VT 012 084
Practical Arts Survey; A Report to the Board of Education, Morton District 201.

J. Sterling Morton High Schools, Ill.
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ABSTRACT - An in-depth study of the practical arts offerings was conducted to determine whether or not the needs of students were being met. A survey instrument was developed, pilot tested by 37 firms, and administered by personal interview to 263 businesses and industries near the school. In addition, data were collected from students as well as from visitations and questionnaires sent to other schools. Survey results indicated that the practical arts program must be updated by providing programs not only for the college bound student who plans to enter the technical field, but also for the student who will terminate his education upon completion of high school. Some major recommendations were: (1) Special attention should be given to activating the interest of groups in the industrial and business community, (2) A curriculum materials center should be established, (3) School authorities should give highest priority to implementing a curriculum study for detailing curricular needs and providing new programs, and (4) Vertical practical arts articulation should begin in the elementary school and continue through Grade 12 and beyond. (SB)

VT 012 084

ED0 54390

PRACTICAL ARTS SURVEY

J. S. MORTON HIGH SCHOOLS

District Number 201

CICERO - BERWYN - LYONS

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A REPORT TO THE BOARD OF EDUCATION

MORTON DISTRICT 201

PRACTICAL ARTS SURVEY

J. STERLING MORTON HIGH SCHOOLS

1967 - 1969

J. STERLING MORTON HIGH SCHOOLS
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INTRODUCTION

In 1967, a self study by the J. Sterling Morton High Schools for the North Central Association of Secondary Schools revealed (among other things) the need for an indepth study of the Practical Arts offerings. After extended planning by the Practical Arts faculty, a request for a study was presented to the school board, district #201 and funds were appropriated to complete the total survey.

Dr. Eckhart A. Jacobsen, Professor and Department Head, Dept. of Industry and Technology, Northern Illinois University, DeKalb, was invited to serve as the major consultant throughout the project. Sub-consultants, representing special areas of the study are as follows: Mr. Robert Gray, Specialist, State Board of Vocational Education, Springfield, Illinois, Dr. E. Edward Harris, Professor, Office and Distributive Education, Northern Illinois University, DeKalb, Illinois; Mr. R. E. Hughes, Faculty, Morton High Schools, Cicero, Illinois; Dr. Beatrice Petrich, Associate Professor, Department of Home Economics, Northern Illinois University, DeKalb, Illinois; Dr. Jacob Stern, Associate Professor, Department of Vocational and Technical Education, University of Illinois, Urbana, Illinois; and Mr. Edward Vass, Specialist, State Board of Vocational Education, Springfield, Illinois.

A comprehensive committee chaired by superintendent of schools, Dr. Cooper, met to discuss implementation of the study. The committee included:

Chairman: William E. Wyatt, Morton High School Instructor
Secretary: Len Lippoldt, Morton High School Instructor
Adult Education: Art Clausen, Morton College, Center for Continuing Education
Consultant: Eckhardt Jacobsen, Northern Illinois University
Curriculum Coordinator: Irv Friberg, Morton
General Faculty: Giles Culver, Morton East High School Instructor
Guidance: Don Musil, Morton
Vocational Education Representatives: William Silhan, Dorothy Timm, Emil Dane
Principal: J. Keith Kavanaugh, Morton High School East
Public Relations: Bob Tudor, Morton
Vocational Advisors: Robert Desatnick, Hotpoint; George Johnson, Western Electric Company; Miss Rossie Ann Gibson, Home Economics Institute, Hotpoint

The study has made no attempt to gather or duplicate data and other information which has been accumulated previously from other Morton High Schools studies or information which does not significantly change the image and the problem that the survey seeks to analyze. Also the observations, conclusions, and recommendations contained in this report are intended to serve as guidelines for decisions to be made by the administration of the high school and the school board district 201. This report, as extensive as it may be, should in no way be considered an exhaustive analysis as the problem faced here is an extremely complex one and must be pursued once the report has been reviewed and decisions made. Those who are involved and concerned with the study have felt that the contribution represented by this report will be maximized, not by focusing upon how good the schools are with reference to Practical Arts, but rather by focusing upon how the program can be and must be improved, not only in the high schools of the district but as curricular leadership elsewhere in the country. It is our hope that the report will be helpful to those planning the future of Practical Arts and the total school curriculum in Morton District 201. Expression of appreciation for

their contribution to the study is made to the above individuals, as well as the many others of the Morton High Schools Faculty and academic staff who have helped in so generous a manner. A special citation of appreciation is extended to the business, home economists and industrial personnel and organizations who shared their views regarding this effort. A list of establishments surveyed can be found in the appendix of this study.

Special mention is made here recognizing Mr. William Silhan and Mr. William Wyatt for their many hours of dedicated, thoughtful service rendered this project.

E. Jacobson
Practical Arts
Northern Illinois University

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CHAPTER ONE

THE EDUCATIONAL SITUATION TODAY

To prepare for the 1970's and beyond a new educational philosophy has emerged. This philosophy requires that all high school students - the potential dropout, terminal graduates, and college bound - prepare for some type of job-entry skill.

Your School Commitment

The technological advances in our society are so vast that all levels of public education have a mandate to provide learning opportunities that maximize the students' capabilities through truly meaningful educational experiences. These educational experiences find their support, philosophy, and objectives in the current Staff Handbook of the J. Sterling Morton High Schools. District 201 schools encourage instructional experimentation and teacher participation in the development, revision, re-organization, and continuous evaluation of the educational program to meet changing student aspirations, ability levels, and both student and community needs.

Recognizing that education occurs in terms of meanings, experiences, and self-realization, the J. Sterling Morton High Schools' District is committed to a program of general liberal education which is related to the following functions of living in which all persons must become involved to develop meaning, and realize their highest potential. Unique to the area of Practical Arts are the following identified potentials listed in the Staff Handbook under Philosophy and Objectives for J. Sterling Morton High Schools:

1. Communications
2. Understanding the Physical Order
3. Examining the Measurable World
4. Preparing for Vocational Responsibility
5. Understanding Human Relationships
6. Unifying Meanings

Practical Arts in Illinois

Statistics from the State Board for Vocational Education in Illinois indicate that the 1968 Vocational Education Programs in Illinois showed a student increase. Most of the gain was in programs relating to newer technology and service programs. 1

Their data for 1968 indicate that there has been an increase of over 20,000 enrollees in vocational education. This has been the result of a direct effort to update vocational curricula, facilities, and faculties. In the area of program development it is viewed that by virtue of the newer technologies, there will be increased programs to serve more people. There will be curricula for new occupational areas to meet the newer manpower needs. It should also be emphasized that cultural forces of many diverse social groups, their interactions, differing backgrounds and individual ability levels must be considered when program development is undertaken. Increased articulation between schools at all educational levels is needed.

1 Annual Report for 1967-68 Vocational Education in Illinois, Bulletin #215, Board of Vocational Education and Rehabilitation Division of Vocational & Technical Education, Springfield, Illinois.

It should be kept in mind that improved vocational education promotes economic growth and social well-being. Vocational (practical arts) education is a strategic factor in the life of an individual as well as in the life of a community. As indicated in the recent State Report by the Board of Vocational Education and Rehabilitation, investment in Vocational Practical Arts Education increases individual ownership, gross national product and community revenue. It decreases such important public items as public aid, unemployment, law enforcement, losses to victims as a result of crime, and institutional support. Unique to the concerns of today is that such an investment also lessens the drop out rate, and the attitudes of hopelessness and defeat that ultimately are reflected in our unemployment rolls.

Education and Work-World Needs

It is a well-known fact accepted by both lay persons and professional educators that the average person will be employed at four or more occupations during his lifetime. Chronic unemployment and job turnover for untrained individuals is likely to increase in the future. To approach life's work in terms of a "One Lifetime Education" therefore, seems unrealistic. The schools must offer each student an educational program that will enable the individual to become a flexible, useful, employable and productive citizen. The educational program of today that reflects the past three to five decades based upon the industrial revolution is no longer applicable in its totality. The evolving citizen of today and for tomorrow must be oriented toward a flexible program in which he is ever alert to his own potential and the employment and educational programs available to him. He can then be alert to his present understandings and skills or the need for acquiring additional ones. Additional community educational programs which provide meaningful adult continuing learning experiences in both basic general courses and advanced career development can be invaluable.

Learning and Educational Change

There is often a public as well as a professional concern in the cause of curriculum improvement to take a "get tough" attitude. There is the somewhat dubious rationale that the more difficult the content, the greater the achievement. Quite obviously, this is not necessarily so. While education seeks to maximize pupil potential, as well as develop intellectual discipline, excellence is not achieved by the severity of the content but rather by the approach taken to learning. In addition, a balanced program shows concern for the different areas of learning, the methods of learning, the ability to learn, and the many vehicles that the educational program has at its disposal. Four guideposts are suggested here to achieve this balance:

1. Behavior emerges from learning activity. It is a compromise of all learning activities engaged in by the pupil. (Project work, research and experimentation, industrial process, group activity, etc.)

2. Single learning experiences may contribute to the pupils' development in many different ways. (Problem solving may take place as a social concern, as a mathematical concern, or as a process concern.)

3. Young poeple differ in their rate of growth, and growth is contingent upon readiness. (Growth may be physical in terms of finger or hand dexterity in the area of manipulation; or it may be mental in the area of technological concepts with reference to related subject matter areas; or it may be social in terms of group

learning experiences, such as found in a production work experience.)

4. Learning results are improved when the experience brings satisfaction. Here the principle of reinforcement in learning is acknowledged. (Students enjoy the activity approach to learning in industrial education. Learning activity may not only be in the form of project making but may deal with process, or concern itself with experimentation and research.)

Needs of All Youth

Educational programs that provide for contemporary occupational literacy of both terminal and college bound students are a necessity. Among the concerns that are noteworthy and recommended for J. Sterling Morton High Schools at this point are the following:

1. Testing Program. An improved standard testing program that measures primarily the mechanical and other special aptitudes relative to the needs of the work world.

2. Psycho-Sociological Testing. Psychological and sociological evaluation of students, in order that we may more accurately evaluate the human resources that the educational program must deal with.

3. Manpower and Employment Trends. Reliable trends need to be projected for the future. These trends should identify the technical, clerical, service, craft occupations, and other up-to-date technologies required in both local and the general business-industrial community.

4. The Place of Women in the New Work-World. Employment of women is increasing and will provide one of the more stable focal points of industry.

5. Population Mobility. National communication and transportation resources give the employable population great mobility. This mobility creates both problems and opportunities for everyone.

6. The Alertness to Technological Change. This concern is primarily one for vocational or industrial educators, who will be able to bring the newest developments of the work world to their students.

7. The Evolving and Recognized Status of Minority Groups. Present legislation and future social problems will make it increasingly important that educators be more sensitive to the presence and needs of minority groups with reference to the work world.

8. Costs. Provisions for financial support are necessary for adequate program development. Involvement at all governmental levels - local, state, federal - should assist in solving the problems of future development.

Practical Arts Needs

Certain problems are identified with contemporary practical arts education at J. Sterling Morton High Schools, especially of a vocational nature, and are as follows:

1. Some enrollments have been diminishing in vocational type courses, especially as they relate to the needs in the community.

2. Because of the innumerable responsibilities assigned to industrial educators, school participation in vocational placement and follow-up is rather limited.

3. The relationship of the vocational concept to the remainder of the educational program within a school often results in a diminished image for vocational or practical arts education. Objectives and programs are frequently not understood by the remainder of the faculty and student body. These attitudes are apparent whether the program is in a separate vocational regional school or is part of a comprehensive program. (It should be noted that these attitudes are inconsistent with present and future predicted trends which favor the inclusion of vocational programs as part of the comprehensive high school.)

4. Some employers question the value of vocational education as do some union officials who are reluctant to identify credits with school preparation.

5. Vocational offerings for girls were found to be limited in quantity as well as in scope. Female involvement in the future technologies is estimated to increase beyond the present or historical past.

6. While current placement and follow-up services are generally considered inadequate, it is expected that future successful programs will require different and increased placement and follow-up services.

7. It is estimated that the average school counselor relates to approximately 300 students for every one counselor. This ratio must be severely reduced so that adequate personal and human resources services can be provided.

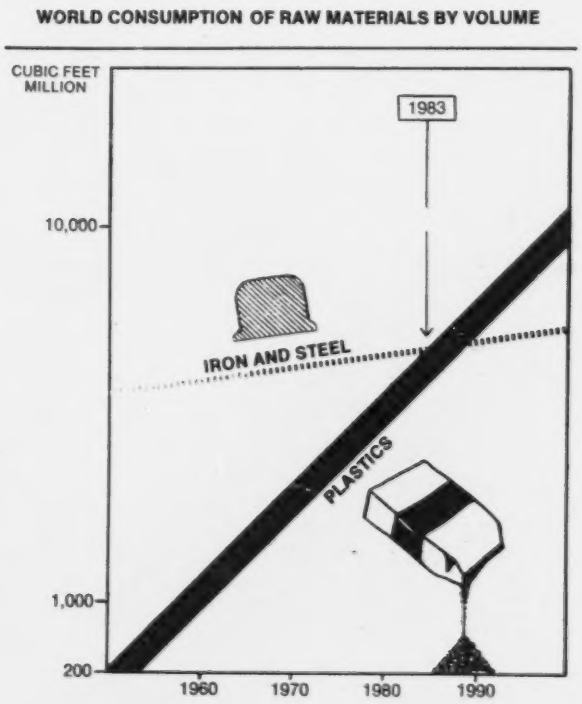
Deterrents to Change

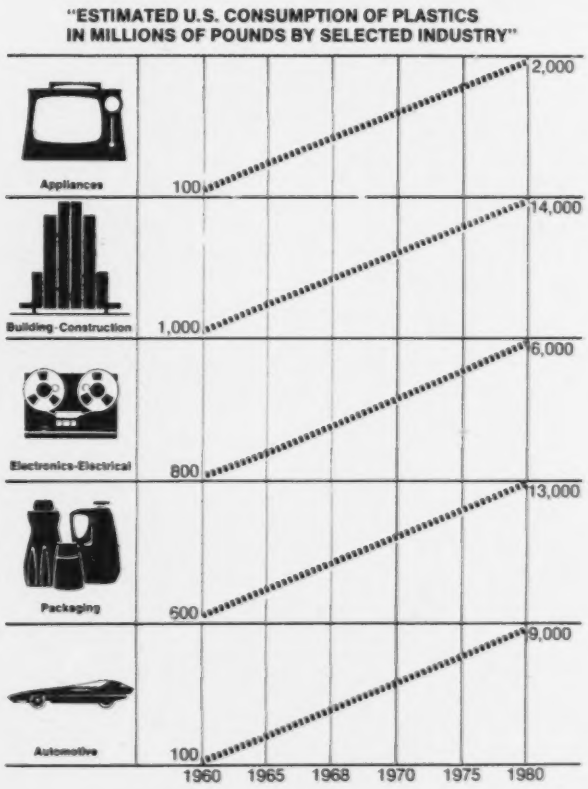
What are some of the handicaps to newer programs? Handicaps to contemporary change are often the ease of past success, the ease of rewards, and the assigned relatives to current needs. Good occupational education is good general education, and good general education is good occupational education, a bridge for the individual to the world of work and adult responsibility. Sound programs provide a potential and a viable means toward responsible citizenship in a changing society. These all become individual matters as part of a learning process. Young people today have difficulty in identifying educational relevance to the actual work world. Classifications of success vary in our society and the lack of responsibility to provide acceptable job entrance by our schools through acceptable learning experiences and placement, place the young person in an extremely difficult position today. It is estimated that there are approximately one million drop-outs per year in this country. This is a quantity far in excess of what should be a rightful proportion to the educational population today. High school graduation has been an historical concept presenting problems to many of our youth as well as educators. Quite often what we learn after graduation becomes far more relevant to our adult lives and the work world in which the young people find themselves, than the learnings that take place in high school today. In addition, newer concepts of education and what is assumed to be educational success must be identified by the contemporary educator. The fact is that a student who progresses through school should be able to enter programs when he is able to identify acceptable interest and aptitudes and to exit from such programs when in his judgment and

that of the professional educator's judgment, educational success has been achieved. If this is accomplished prior to what is considered the 12th grade level and graduation, then adequate forms of continuing education must be provided when the student chooses to enter the work world prior to the traditional 12th grade graduation. The alternative is often the tragic dropout. Our culture often obliges youth to remain at the adolescent level. This is contrary to the abilities, attitudes and interest of young people which relate to the work world. Individual dignity as it relates to the work world is often given to rather than earned by the student.

Feedback for Educational Change

There is a severe lack of feedback to the educational effort, hence, the United States has one of the highest youth unemployment rates in the world. Our educational programs provide narrow orientation for the work world with almost a total absence of remedial programs and so is one of our great needs today. What is needed are continuing education programs for the dropout or the student who has successfully completed a vocational or other work world program in the high school and has left prior to traditional graduation. These continuing education programs can provide not only for future work and cultural adjustment but also the often sought after status of high school graduation. Unique to the continuing education concept is the need for flexible programming in terms of content as well as a flexible dimension of time, so that people of all ages may relate on a continuing basis to a continuing process in the educative experience. Changes are continually taking place in terms of what constitutes the work world, whether by brain power, muscle power, machine processes, material development and usage and the like. By 1983, the world's consumption of plastic will supercede (by volume) the worlds production of iron and steel. Many current programs give no consideration to providing for such newer technologies.





The estimated increase in consumption of plastics from 1960 to 1980 for such man needs as appliances, buildings, electronics, packaging, and automobiles will increase from 7 to 90 fold.

In the past the work world was often classified either in terms of brain power or muscle power. With the advent of World War II and many technological developments, we now find that today's world and the world of the future will require many individuals to be knowledgeable in applied physics, mathematics, and the other tools of science in the world of work. In the work world of the past, a relationship was possible between the educational establishment and industry, and this relationship was very helpful. Today, this relationship with the work world is often not available. Technological advances and other reasons often cause a chasm to exist between education and the work world. Quality and greatness of the past often depended upon selectivity - a selectivity related to the quality of rigidity. Today and for the foreseeable future, quality and greatness in the work world are identified with the uniqueness of flexibility and its application.

Alliances Needed Between Work World and Education

New alliances are needed by public educators, alliances that will enable them to relate more closely with busines, industry, the home, employers and other facets of the cultural make-up. Also needed will be internships and cooperative work experiences of different kinds, especially in industry and the service occupations. Where we have non-contributors, whether in the educational establishment or in the establishment of the work world, everybody loses. One fact to be reckoned with is that change is permanent.

CHAPTER TWO

THE SURVEY

A Need Identified

In 1967 the staff of our schools worked on a self-evaluation for the North Central Association of Secondary Schools. During this examination and after seeing the final report, a group of Practical Arts teachers began to seriously question whether or not we as a school were really meeting the needs of all our youth. We expressed this concern to the school administration, and this survey project evolved from the discussions. After much preliminary planning, a request was presented to the school board and money was appropriated to do the total survey. Dr. Eckhart Jacobsen of the Department of Industry and Technology at Northern Illinois University has served as our consultant throughout this project. At our early meetings, we assigned priorities for our investigations and then training sessions for the future work were conducted. A brief history of the survey study follows:

History of Survey

1. Our first job was to develop a survey instrument to administer to the businesses and the industries in the community. Items for consideration on the preliminary survey were chosen from other public surveys and from information supplied by individual teachers of various subjects. These lists were complied and edited by Mr. William Wyatt of the Practical Arts Department. After items had been combined and condensed, they were re-submitted to the individual departments (industrial education, business education, and home economics) for their final consideration and approval. The survey instrument was then organized on the basis of curricular areas, details of which may be found in the appendix. The instrument was printed and administered to 37 selected firms within the community as a pilot study.

2. We studied the instrument and the findings of the pilot study to determine how both the instrument and interviewing procedures could be improved.

3. We developed a new survey instrument based upon the findings of the pilot study.

4. The final survey was administered by personal interview to 263 businesses and industries within and near the immediate school area likely to give employment to our former students. For purposes of consistency, interviewers were prepared in a training session.

5. An attempt at a saturation sampling was made with reasonable success. Businesses were selected by random sampling, in an attempt to obtain a representative cross-section.

6. The information was transferred from the survey instrument to punch-cards and the information was then processed by computer. A systems analyst was employed to develop the data program for analyzing survey data. A student questionnaire was also developed to be administered to the students throughout the District 201.

7. The student instrument was administered through the English classes at East and through Practical Arts and home rooms at West.

8. The data sheets for responses were coded and the information was transferred to punch cards - this information was sorted and cards were grouped into categories according to responses.

9. Data from each school were tabulated and placed on master sheets.

10. These data were then analyzed in preparation for making this final report.

11. As part of the study, we have reviewed much current published literature and many surveys conducted by other schools. A condensed summary of the findings is included in the appendix.

12. Educational discussions with selected business leaders were held during which they voiced their support of our school and the survey undertaken.

13. Visitations were made to other schools having notable programs, namely, Kenosha Technical Institute at Kenosha, Wis., Whiteside Area Vocational School at Sterling, Ill., the Richmond School District in Richmond, California, and the Consolidated School District at San Mateo, California. We also visited Santa Monica Unified District which includes both the high schools and the junior colleges in Santa Monica, California, Compton Union High School District, Compton, California, and the Dallas Vocational School, Dallas, Texas.

14. We have had our programs, facilities, and equipment analyzed by a team of educational consultants.

15. We have also had a visitation by staff representatives of the State Board for Vocational Education and have received recommendations and expressions of current trends found in this report elsewhere.

16. A questionnaire was developed and sent to all area vocational schools in the state. This questionnaire compared financial abilities, number of students, amount of money spent per pupil and other pertinent data.

The Community and the School

Data and subjective judgments from the survey indicate that the present educational level of Morton parents is greater than the 1960 census indicates for the total district. In 1960, the approximate grade level average was 10.5 years. At the present time, the average for parents is approximately 12.5. Parents in this district have greater aspirations for their children than they had for themselves in the past. Sometimes these aspirations are not consistent with the desires or abilities of their children. Many young people are guided by the parent into a straight academic college career, while other approaches to educational choices might prove to be more consistent with the students actual ability, interest and aptitude.

Our district population is rather stable. Our greatest rate of turnover is in Cicero. Business within the community is also rather stable, but will show a moderate growth rate in the immediate future.

Findings

College Bound Students

Of significant concern to the school district, the North Central Report indicates that over 65% of our June graduates are attending college. Historically, how many of the 65% actually finish college? Two questions are obvious: Question (1) What kind of college, and will these students really be college graduates? It is expected that over half of the 65% of our June graduates that attend college, half of them will attend Morton College and the other half will attend other junior and senior colleges. Of the 1,684 graduating seniors of both high schools - in our college prep programs, national trends predict that only 421 of these will become college graduates. What type career training are we giving the other 1,263 high school graduates that will not finish college with a degree? Question (2) The 1965 Morton East freshmen class had 859 members. This class graduating in 1969 has 696, and this in a stable population. Did the educational offerings meet the needs of the 163 or almost 20% who did not graduate? A reasonable assumption could be that we are meeting the total needs of less than 1/4 of our student population. The North Central Report states that most of the girls in our schools entered clerical, office and secretarial fields. It should be noted that in our school district many girls enter the Home Economics field. Boys enter the crafts, sales, and technical fields. A large number of girls enter beauty culture and art schools. Both our industrial and student surveys provide the same kind of evidence. The student survey does indicate that a greater number of Morton West boys do plan to attend college, but for others, preparation for entering employment is most important.

Non College Bound Students

When comparing survey results with the offerings of the present program the practical arts program must be updated to meet changing needs. Programs must be provided to accommodate the college bound and other students who intend to enter technical fields as is now true, but we must serve better and at more efficient levels the student who will terminate his formal education before or upon completion of high school, whatever the reasons may be - culture, economic or others. Educational planning must provide the way to meet the needs of those who dropout before completing their schooling. You must strengthen your offerings for those in the college prep program, but it is with the latter of the two groups where much work remains to be done. Much work is needed in curriculum and technological content to bring it up-to-date. In the interest of efficiency and cost reduction, it may be desirable to consolidate all the career-oriented programs into one location rather than have them spread throughout two buildings. Work world and technological orientation is essential, however, for all programs and levels of education.

Employment Summary

The nine employment classifications used in the study are represented in the chart that follows. The survey data give:

1. Percentage of total employment.
2. Average number of employees per firm.
3. Projected total number employed.

National trends indicated that the Professional and Technical catagories will show substantial growth in the near future, as will the numbers of Officials and Managers.

There will be an interaction and overlapping of functions especially among skilled technical, professional, and sales employment levels. Personnel requirements for an evolving technology will change dramatically within the next decade.

EMPLOYMENT CLASSIFICATIONS	PERCENTAGE OF TOTAL EMPLOYMENT	AVERAGE EMPLOYEES PER FIRM	TOTAL NUMBER EMPLOYED
Officials and Managers	7 %	42	11,046
Professionals	4 %	23	6,099
Technicians	3 %	16	4,208
Sales Workers	9 %	51	13,413
Office and Clerical	13 %	74	19,462
Craftsmen (skilled)	12 %	71	18,673
Operatives (semi-skilled)	34 %	179	47,377
Laborers (unskilled)	14 %	77	20,251
Service Workers	4 %	23	6,049
	100 %	556	146,578

Recommended Preparation by Classification

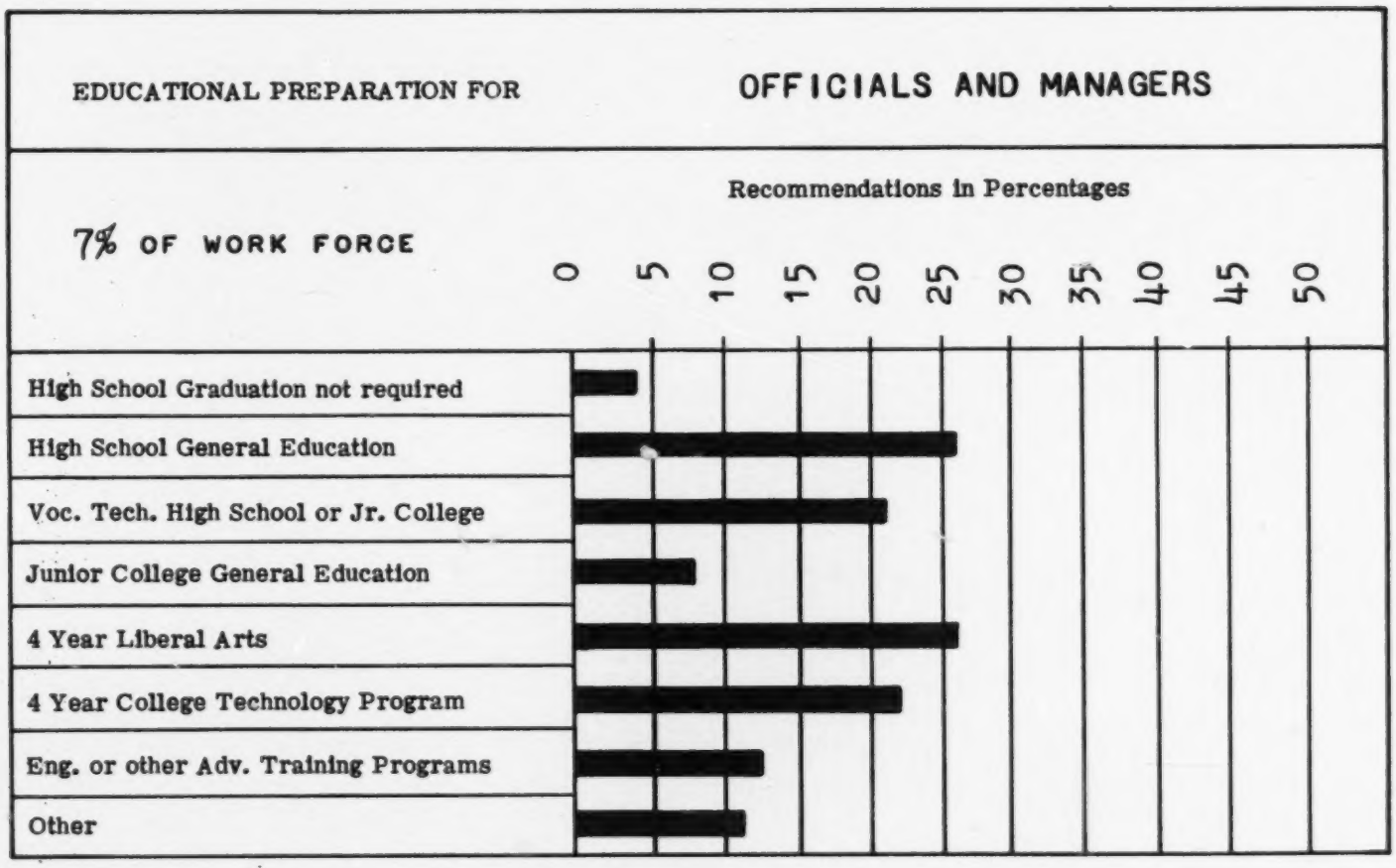
Additional analysis of the employment summary data raises the question "What will be the future work world employment requirements in the various classifications?" The following is an exposition of the responses provided by business and industry regarding each of the nine employment classifications. The accompanying charts show the percentage of the current work force employed in each category. Educational level needed for satisfactory job performance within individual categories is shown on the accompanying bar graphs as a percentage. Selected categories of educational achievement are:

1. High school graduation not required
2. High school general education
3. Vocational-Technical high school or jr. college
4. Jr. college general education
5. 4 Year liberal arts college
6. 4 Year college technology program
7. Engineering or other advanced training programs
8. Other, such as private trade school or on the job training, etc.

Officials and Managers

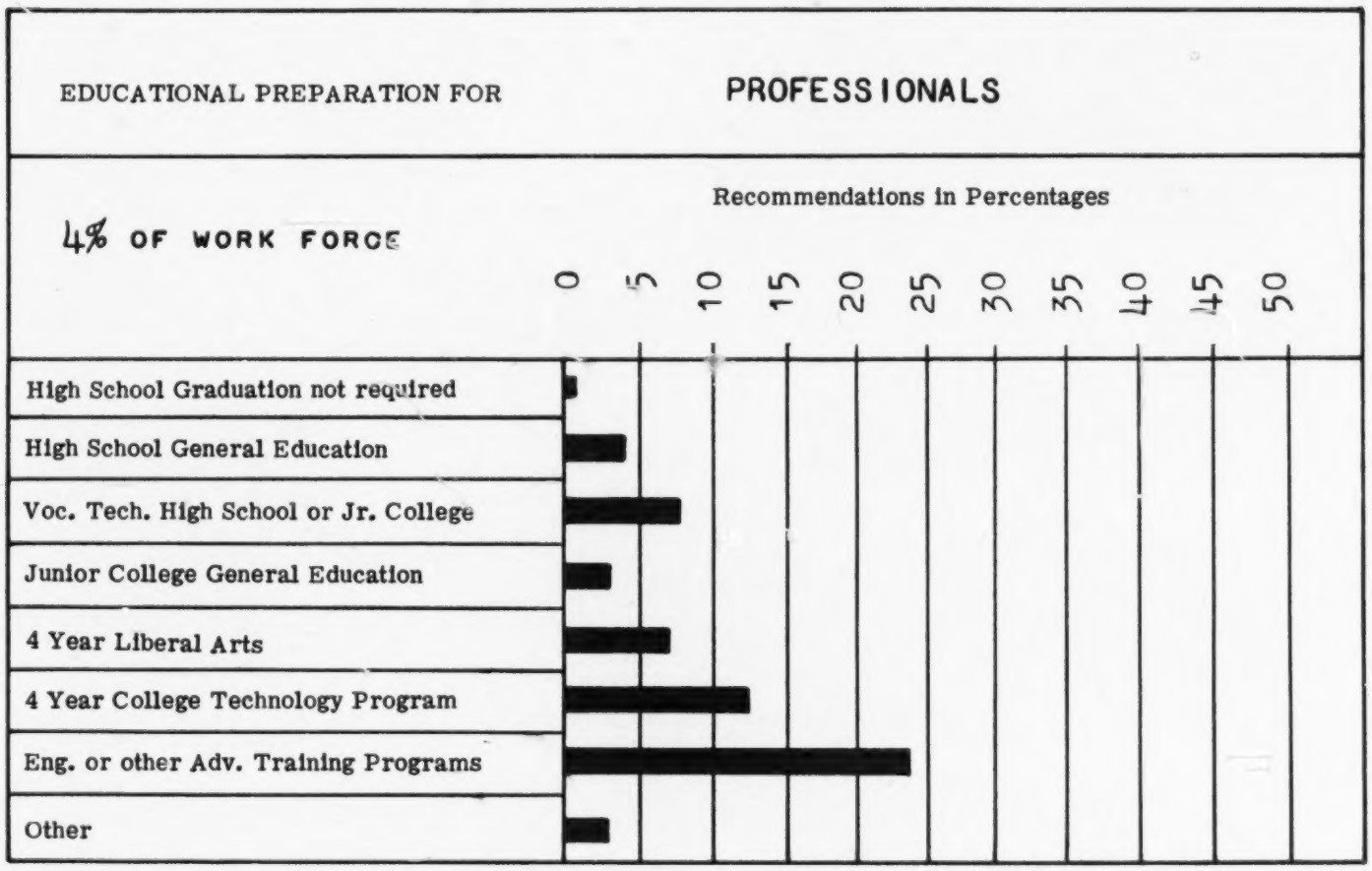
The recommendations for educational preparation of Officials and Managers by those surveyed indicated that four kinds of educational preparation appear to be more significant than others for purposes of employment, and further might indicate a strong association with successful achievement or advancement of workers in the Officials and Managers category. These four kinds of preparation are:

1. High school general education
2. Vocational-Technical high school or jr. college
3. 4 Year liberal arts
4. 4 Year college technology program



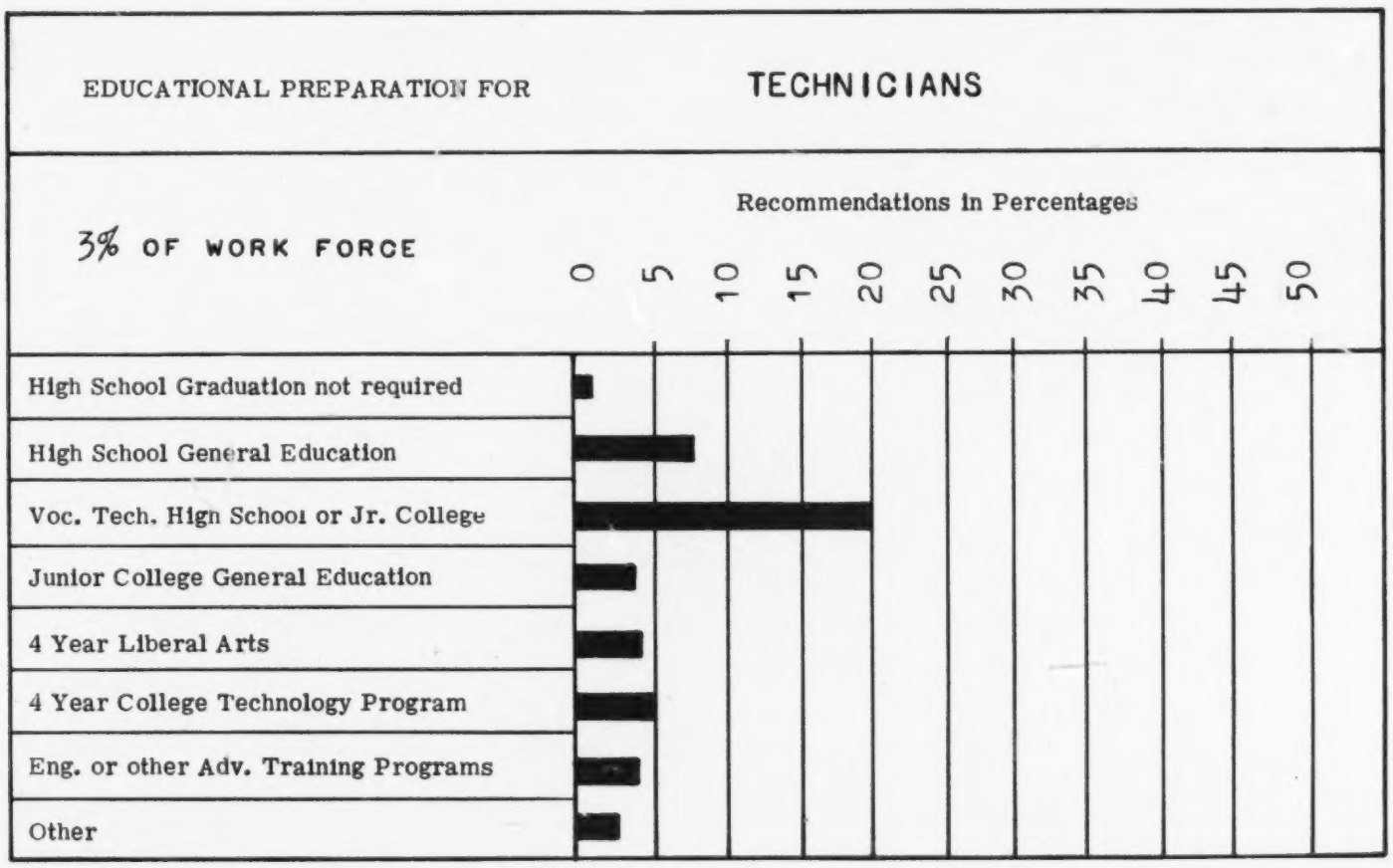
Professionals

The educational preparation by those survey for Professionals recommended strongly only one level of education--that of the highest--and that it be either engineering or other advanced training programs. There were others recommended, however, at a lesser level of importance.



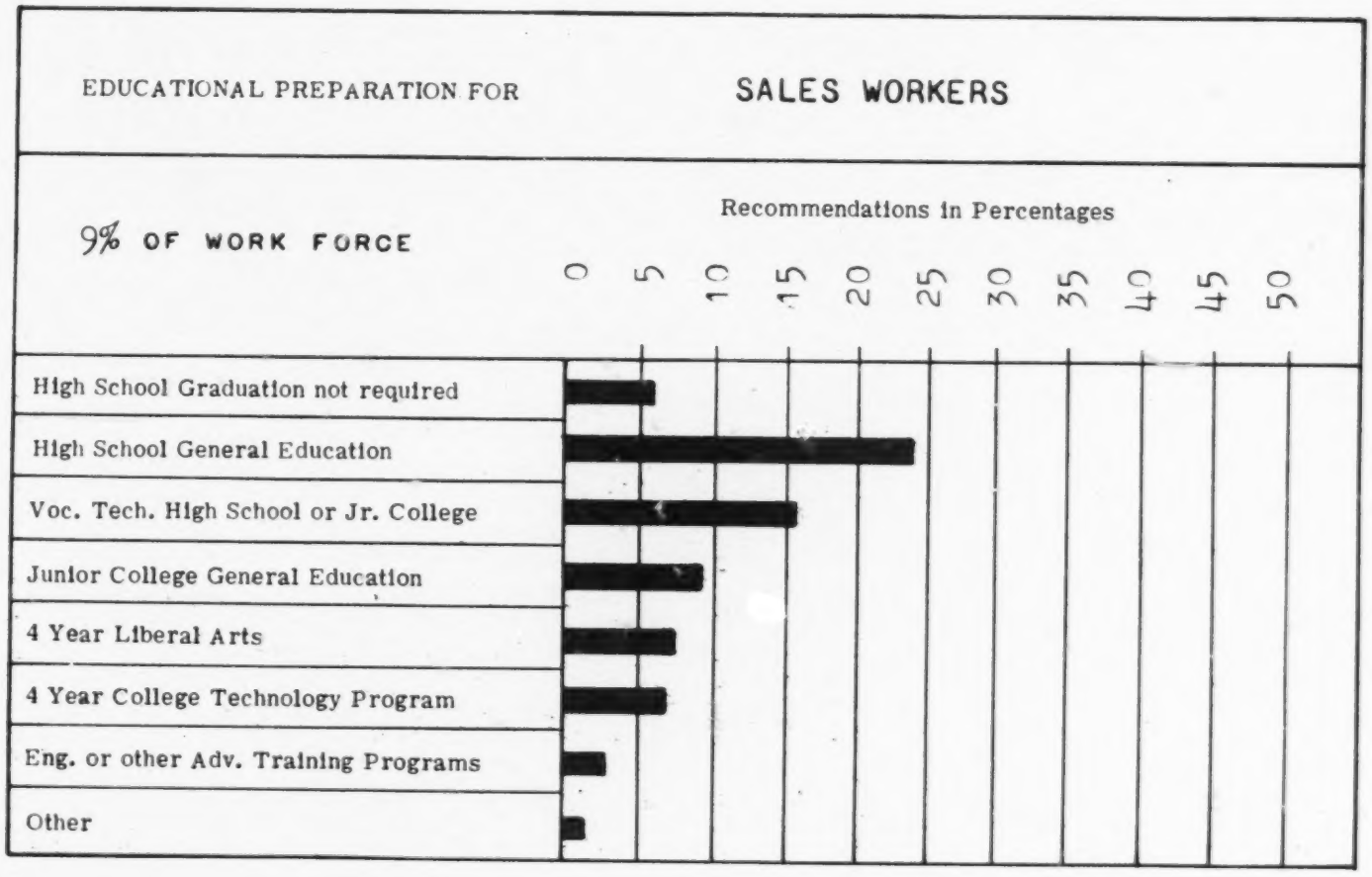
Technicians

Educational preparation recommended by the respondents of the survey for Technicians centered primarily about vocational technical high school or junior community colleges. It should be noted here that the respondents viewed technicians as comprising approximately 3% of the work force. The survey suggests that this percentage may be a rather low estimate of the number of technicians needed in a future work force, especially as one makes projections with reference to the function of technology as part of the industrial complex in the years ahead.



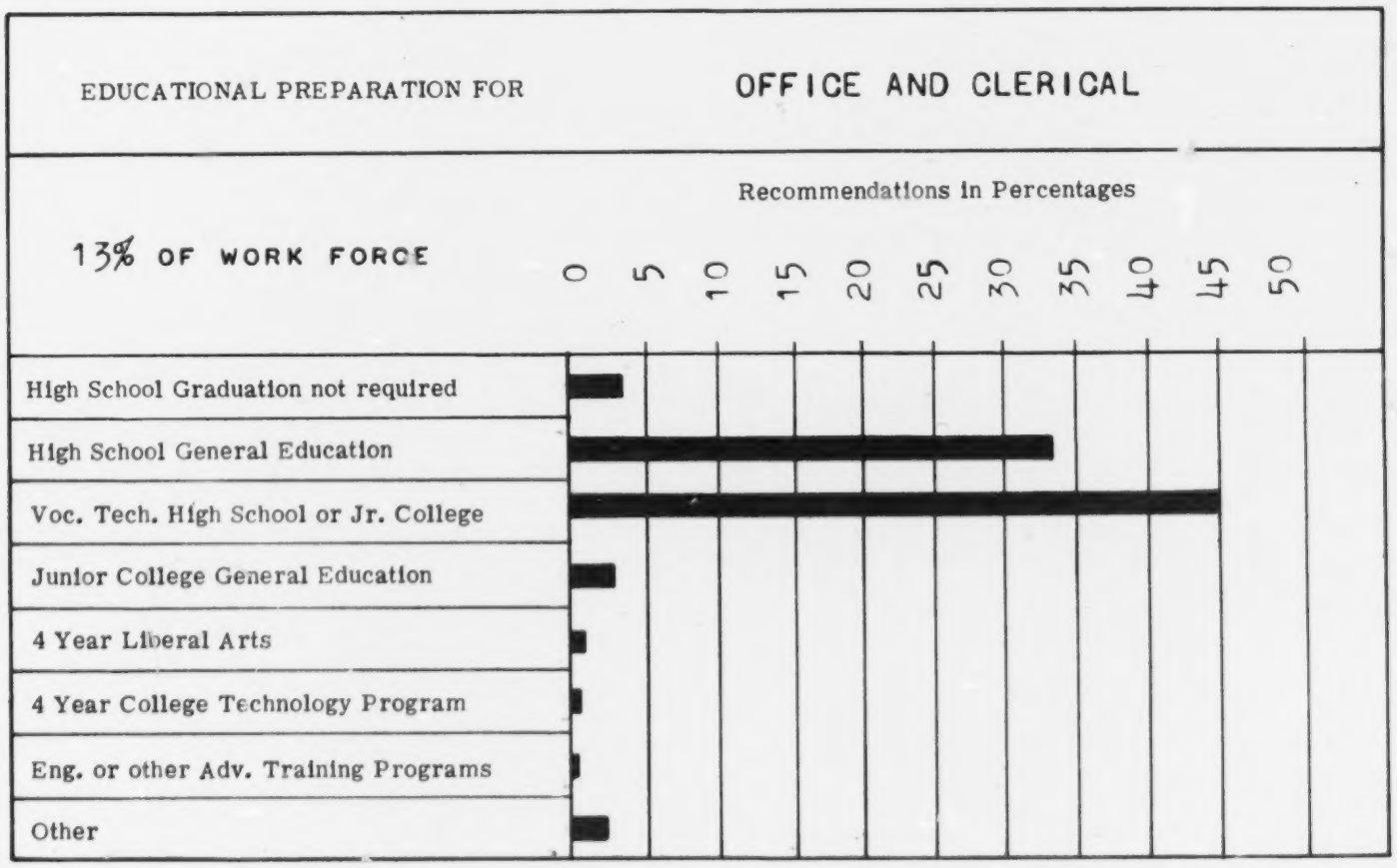
Sales Workers

The educational preparation for Sales Workers was viewed by the respondents of the survey as recommending primarily high school general education first and vocational technical high school or junior college education second. The relatively high recommendation made here of technical preparation for sales workers suggests the need for these workers to become more knowledgeable than heretofore of product-performance specifications and details of customer service in regard to the increasingly sophisticated consumer products of the modern technology.



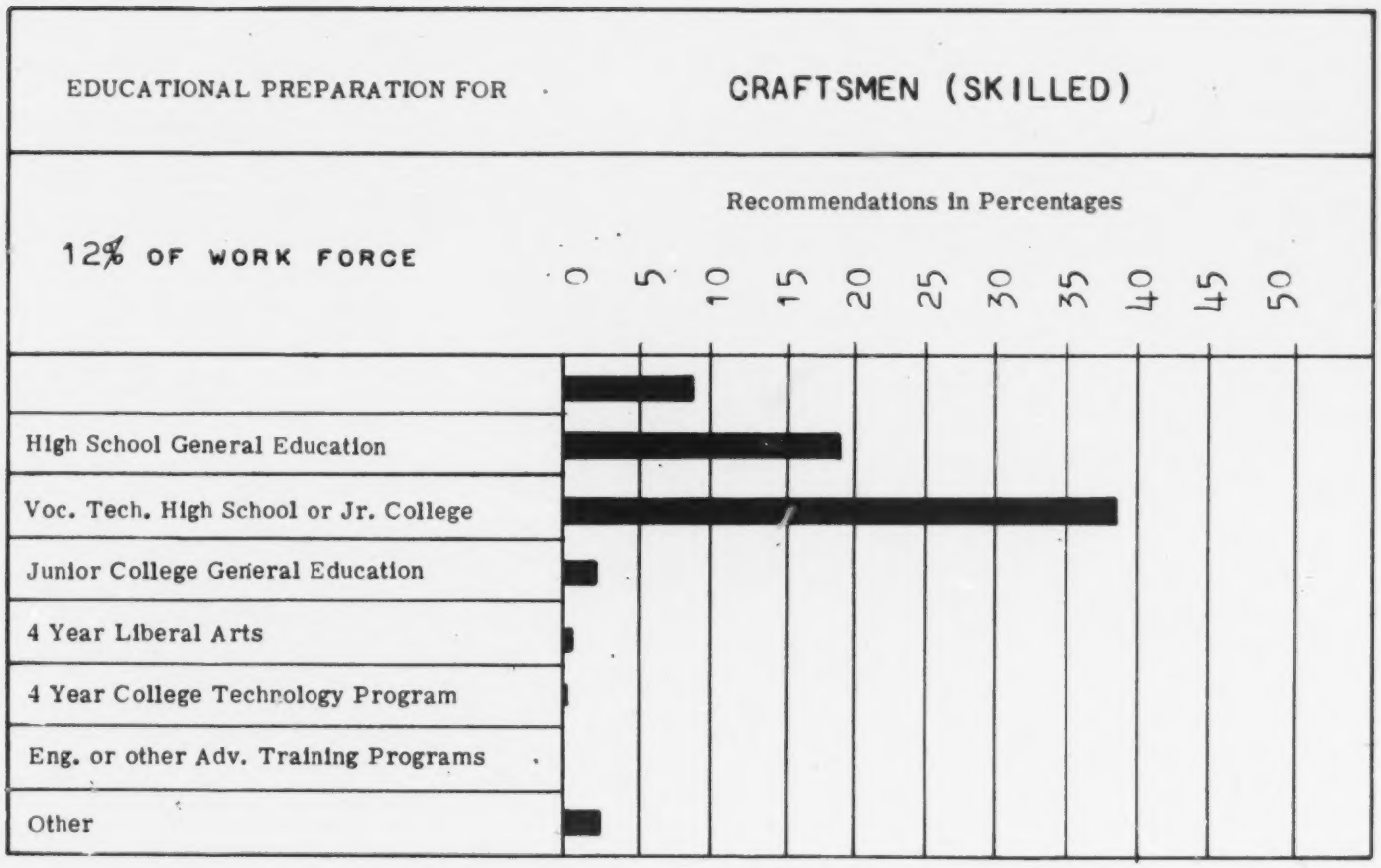
Office and Clerical

The educational preparation for Office and Clerical workers recommended by the respondents to the survey suggested strongly the need for a high school general education program tied very closely with a vocational or technical high school or junior college program. It should be noted here that it is extremely likely that the 13% representing the office and clerical sector of the total work force will in all likelihood increase, hence, the importance of a contemporary practical arts career program that provides for a modern approach to the rapidly developing practical arts area of office and clerical work.



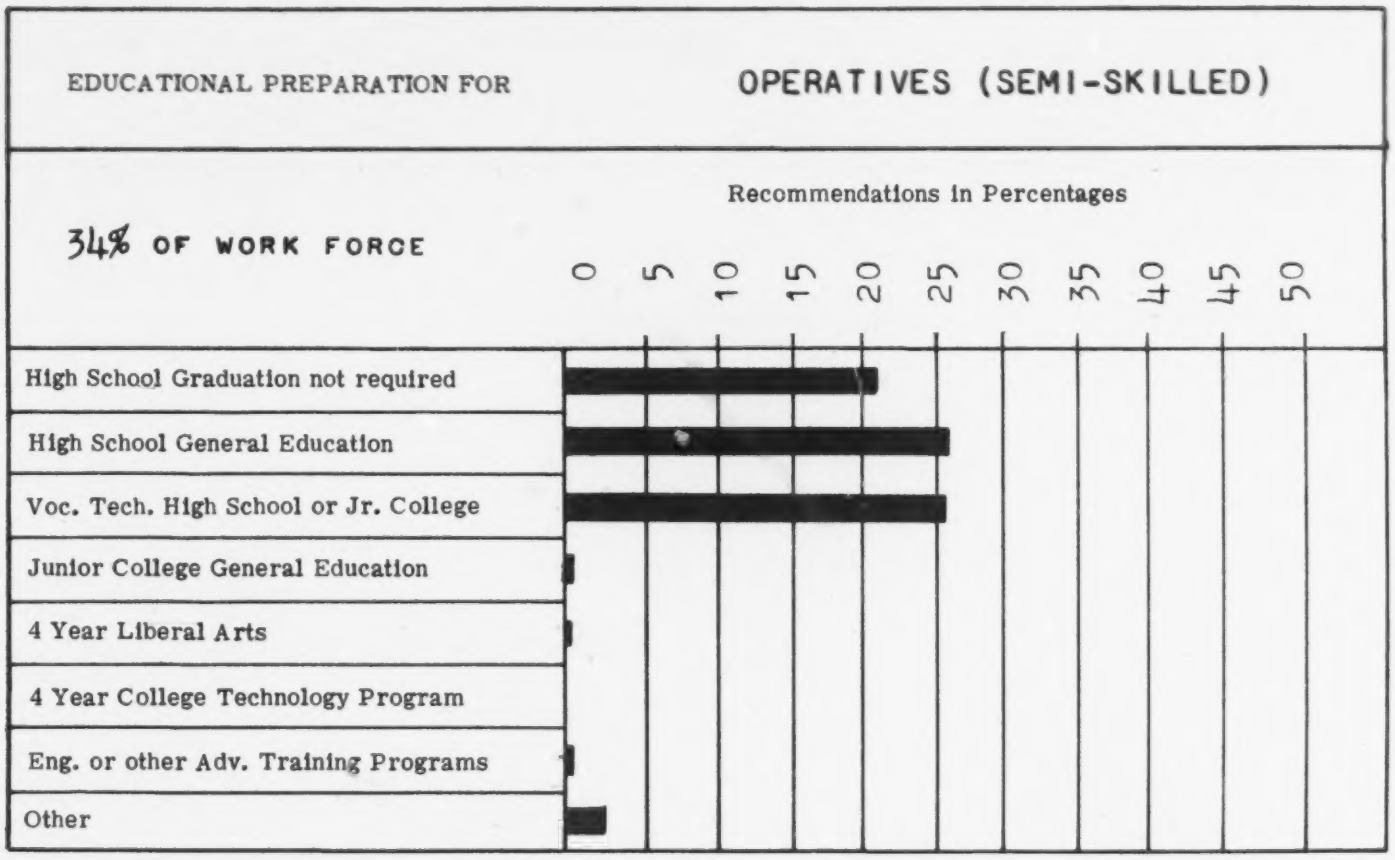
Craftsmen

The respondents viewed necessary educational preparation for Craftsmen in the skilled area as needing high school general education as well as a strong program in a vocational-technical high school, or a strong program at the community junior college level. Note is made here that the kind of training needed by the craftsmen of the future will necessarily include not only the contemporary technologies, but the additional related math and science tools necessary for implementing the technologies in a modern industrial setting. Whether the 12% of the work force representing craftsmen, skilled craftsmen will increase or decrease in the future is difficult to say. What is a certainty is that craftsmen of the future must be adequately prepared in technologies.



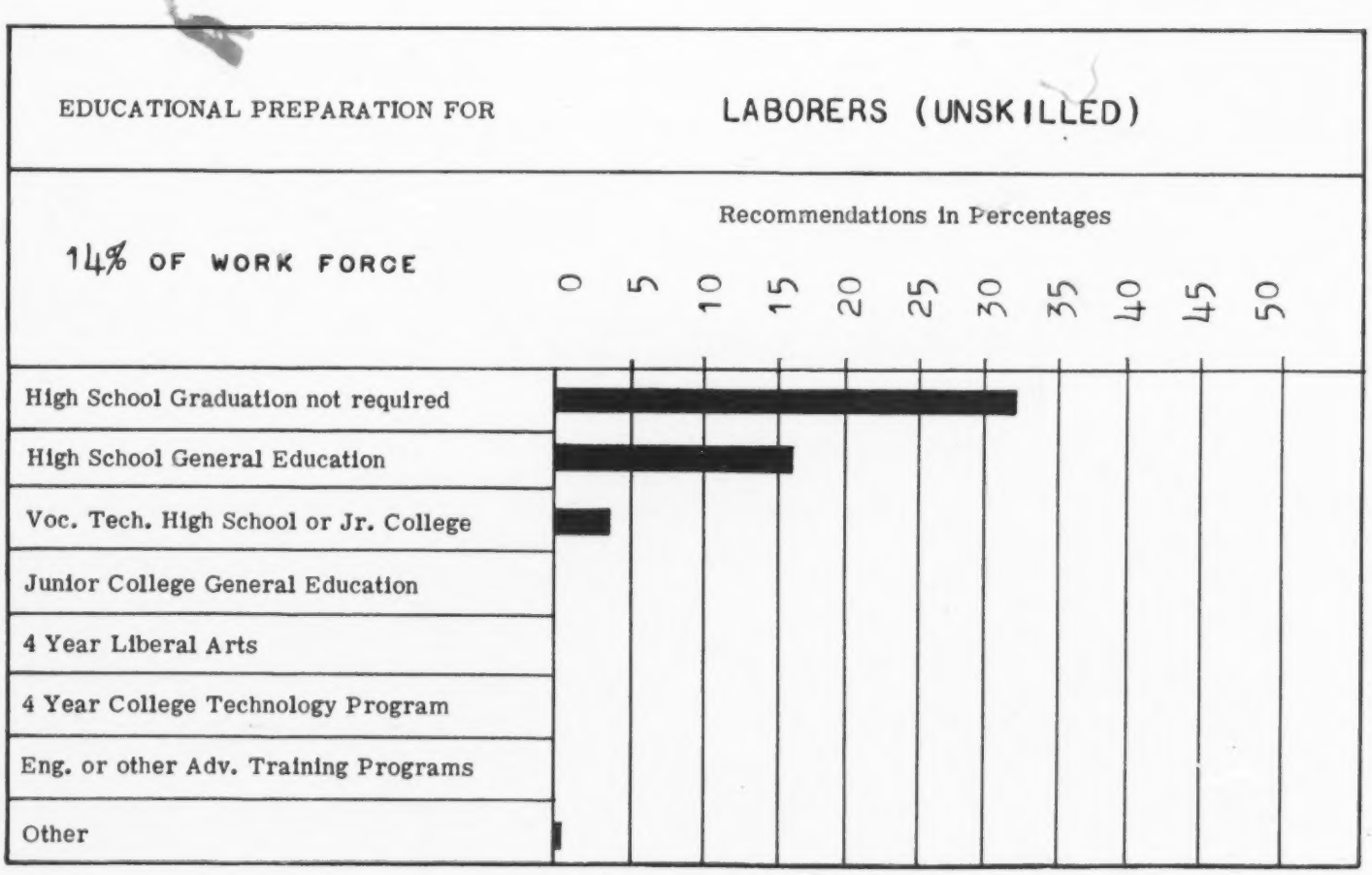
Operatives (Semi-skilled)

Respondents to the survey viewed the educational preparation of Operatives of a semi-skilled nature as representing and continuing to represent a rather large percentage of the work force, that of 34%. Also, the respondents felt very strongly that there are three levels of education which are peculiarly suited to the educational needs of the operatives. All three appear to share nearly equally high value of recommendation. However, the importance given each is closely related to the peculiar needs of the industries surveyed. Because the areas of operatives' functions and industries' processes are rather wide in scope, innumerable levels of skill preparation are needed. Further, even though operatives are here classified as semi-skilled, the levels of skills which might be necessary for the operation of various types of equipment, such as specialized numerical control equipment, may be rather high. It is likely that the general skill level of the operative must increase rather than decrease. Hence, the need for rather sophisticated offerings in a vocational technical high school program or community junior college program with a view toward the future seems apparent.



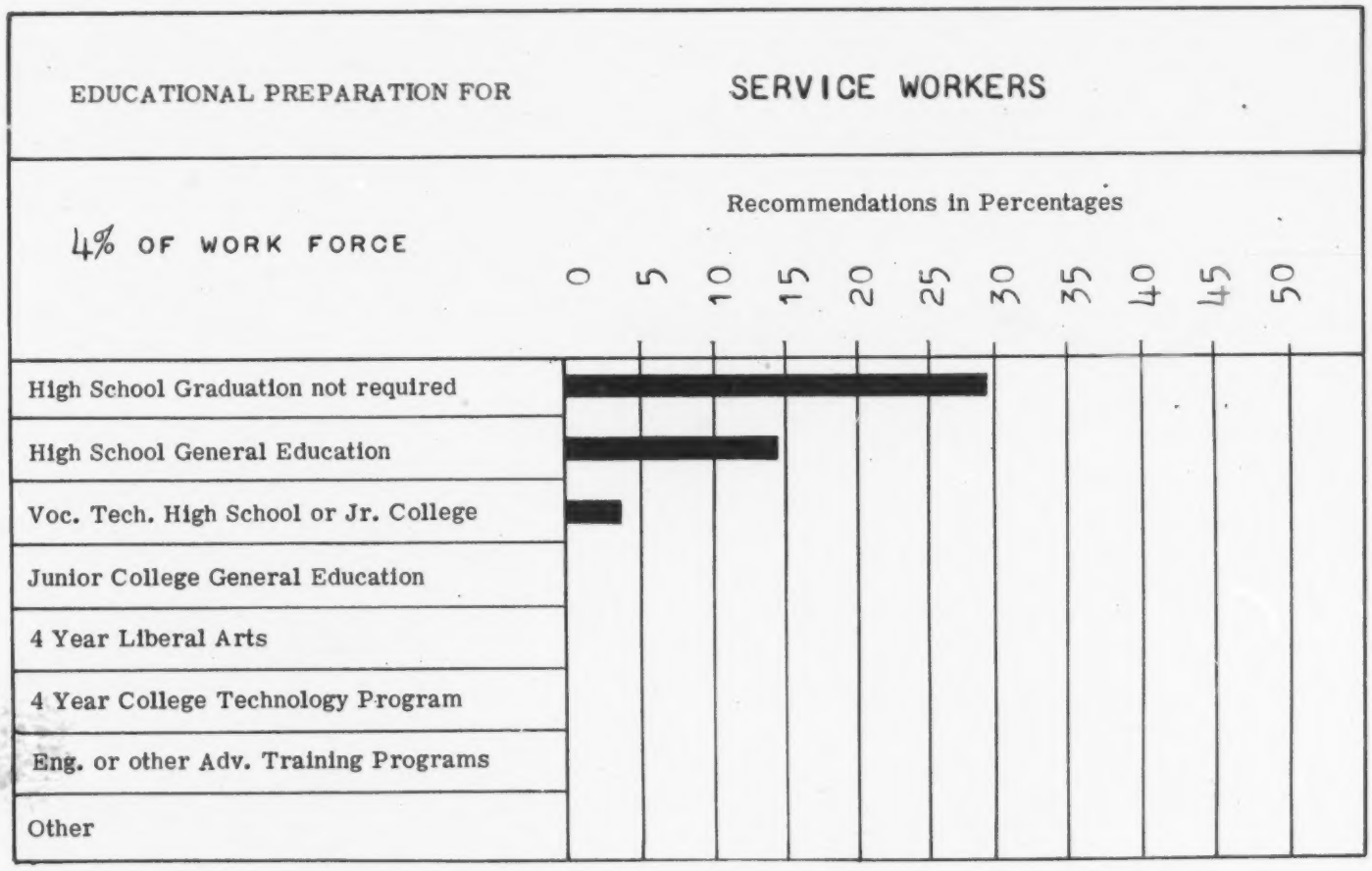
Laborers

The educational preparations for laborers of an unskilled nature fell primarily in the high school level, where graduation was not required. However, there was a substantial feeling on the part of the respondents that even though high school graduation was not required, that high school general education was important. This has special significance for the educators whose concerns are not only with the regular programs but with the realistic issues related to the drop out. Also, for the curriculum specialist who may be called upon to design special programs, it would seem that it is important to provide the type of "entrance-exit" programs wherein the student of limited ability may enter a program when his interests and aptitudes are peculiarly oriented toward the world of work and then be permitted to exit to a wage earning position, even though high school graduation has not taken place. Also, programs of continuing education should serve these people, thus enabling them to hold wage earning positions and, at the same time, resume their studies on a continuing educational basis. The results of the survey indicated that laborers of an unskilled nature comprise approximately 14% of the work force. It is entirely possible that as the sophistication of industrial production increases, as a result of technological advances, these people who are classified as laborers will be less and less needed, suggesting that every effort should be made to provide programs that will upgrade these individuals to a level of educational preparation similar to that of the semi-skilled operative that has been discussed in the previous section. Our concepts of what constitutes skilled and semi-skilled personnel will also be upgraded in the foreseeable future.



Service Workers

The classification of service worker is a rather broad one and encompasses a number of activities as well as levels of skill and preparation. While the respondents viewed service workers as representing only 4% of the work force, national trends indicate that in terms of technology this area also will increase rather rapidly. Here we find that type of preparation where the individual must be generally knowledgeable and have the necessary skills not only to deal in a technical fashion with the work situation but also to be able to skillfully relate to people as well. Hence, the importance of views held by the respondents to the importance of high school general education in the preparation of service workers. The response did not view high school graduation as necessary, but it is likely that as the service concept evolves within a rapidly developing technical society, that the element of service and the necessary technological know-how that must accompany this kind of service will require a higher level of education in the future.



Employment Projections 1970, 1980

Growth in employment not only is an indices of economic well-being but relates directly to the educational system which often provides a major share of the work force. With reference to employment projections for 1970, the chart that follows indicates a very modest growth pattern. The largest areas of growth are in the areas of management, office and clerical as well as various craftsmen and operatives. As one views the percentage increases for 1980 as projected by the respondents, it is noted that in a large number of cases the increase is double or more the projection for 1970. This is true of management, professional staffing, sales workers, office and clerical, craftsmen, operators and even laborers. It should be noted here that even though there is not the same magnitude of growth identified with technicians, it should be pointed out that much of what the other areas are responsible for are in a large measure planned and developed by a technical staff. Also, it is entirely possible that the judgment of the respondents may relate to the historical past and also be somewhat modest with reference to the employment classification of technicians.

EMPLOYMENT DATA PROJECTED TO 1980

EMPLOYMENT CLASSIFICATIONS	EMPLOYMENT 1968	PERCENTAGE INCREASE BY 1970	PROJECTED EMPLOYMENT 1970	PERCENTAGE INCREASE 1970 TO 1980	PROJECTED EMPLOYMENT 1980
Officials and Managers	11,046	6.1 %	11,720	17 %	13,712
Professionals	6,099	3.9 %	6,337	10 %	6,971
Technicians	4,208	2.8 %	4,325	5 %	4,541
Sales Workers	13,413	4.8 %	14,047	15 %	16,154
Office and Clerical	19,462	6.1 %	20,649	18 %	24,366
Craftsmen (skilled)	18,673	5.3 %	19,663	18 %	23,202
Operatives (semi-skilled)	47,377	5.1 %	49,793	15 %	57,262
Laborers	20,251	4.3 %	21,122	12 %	23,657
Service Workers	6,049	3.8 %	6,279	7 %	6,718
Total	146,578	Total	153,935	Total	176,583

Employment Separation

The study committee sought information regarding employment separation. The survey was unable to identify specific inadequacies in training as primary causes of employment separation. Hence, the responses were inconclusive. However, with reference to employment separation because of unsuitable traits, the following table is provided: the traits were not identified specifically, although one may, in reviewing curricular priorities provided later in this study, identify such characteristics as grooming, personal conduct, speech, quality control, safety, and writing as traits that may relate directly or indirectly to the person and the reasons for separation. It is noted here that those items previously mentioned achieved a priority number one rating in terms of recommended content for almost every occupational classification recommended by the respondents.

EMPLOYMENT SEPARATION BECAUSE OF UNSUITABLE PERSONAL TRAITS

		Percent	Rank
1.	Laborers (unskilled)	3.4 %	1
2.	Operatives (semi-skilled)	2.9	2
3.	Office & Clerical	1.9	3
4.	Craftsman (skilled) & service workers	1.8	3
5.	Officials & Managers	1.1	4
6.	Sales workers	1.0	4
7.	Technicians	.7	5
8.	Professionals	.6	5

Sex Preferred by Employment Classification

The work world of the past was characterized by a predominantly male population. The survey indicated, however, that with one exception, that of office and clerical, today's employers are seeking either male or female personnel for all of the occupational classifications identified in the study. If a preference could be identified, it would be that female office and clerical help are preferred and that there is some preference for male officials and managers, sales workers, crafts and skills, operatives, semi-skilled, laborers, un-skilled and service workers. One must hasten to add, however, that in every classification women are now accepted in the work world, an observation that must be clearly communicated to young ladies who should be viewing careers at various levels in the business-industrial community.

F.	SEX PREFERRED	MALE	FEMALE	EITHER
1.	Officials & Managers	X		X
2.	Professionals			X
3.	Technicians			X
4.	Sales workers	X		X
5.	Office & Clerical		X	
6.	Craftsman (skilled)	X		X
7.	Operatives (semi-skilled)	X		X
8.	Laborers (unskilled)	X		X
9.	Service workers	X		X

Value Judgments Held by Respondents (Business and Industry)

The survey instrument was designed to provide opportunity for the respondent to expose his views in areas not covered by statistical response. Here the respondent had an opportunity to deal with open ended ideas and to provide the broad faults that respondents were willing to share with educators. They are reported hereinafter as an analysis of 246 responses. It should be noted that the possibility exists that some of the responses may reflect the respondents' views (usually and perhaps someone in an official or management position rather than an individual having an operational or technological orientation.) With reference to education needed, the following comments were condensed from this rather large set of responses:

1. Objectives - The respondents felt that students should recognize that general knowledge is important and that it not only relates to improved social relations which parenthetically are urgently needed, but also that it relates to the job itself. Respondents felt that with reference to objectives, more precise vocational goal identification is needed by young people. Also noted by a number of respondents was that there may be an over-emphasis on college education and that college education is not necessarily needed or desirable for everyone.

2. Training - Respondents felt that high school graduation is desirable for everyone, whether it be in terms of the formal day school or subsequently after an individual has left school and is holding a wage-earning job and is able to complete graduation as part of continuing education. Also, worthy of note is that on-the-job and cooperative training was highly recommended as part of the educative process. Here industry and business indicate their willingness to become involved in the educative process and as part of the day school program.

3. Values - There was much feeling by the respondents for a need in developing a sense of responsibility - of common sense as well as more positive attitudes toward "work". Also deemed as very important, was personal appearance and good grooming.

4. Courses - It was felt by a number of respondents that the basic academic educational services should intensify their efforts toward improving such skills as grammar, spelling, reading, handwriting, and general mathematics.

5. Curriculum - The respondents to the survey suggested that practical arts programs and facilities be expanded to provide students who are informed as well as experienced in activities and functions of community industry. It was not only felt that local business and industries would provide significant cooperative education, but that it was important that students, as citizens, be better informed abut the community of business and industry that exist in students' lives.

6. Teachers - A number of respondents felt that teachers should have more adequate authority over students. They believe that there should be increased interest in and concern for student motivation by teachers. Apparently, business and industry feel that a closer dialogue between teacher and student is important with reference to the world of work. They also expressed the view that the learning experiences planned by the educational establishment should provide practical aspects of experience to be included with necessary theory.

7. Counselors - There was a substantial belief that more information is needed by counselors in order to be more adequately conversant with the job requirements found in

the work world. This concern is dealt with in a much more detailed fashion with reference to the human resources aspect, one of the recommendations made by the study.

Facts exposed by responses in the open ended section of the questionnaire indicated that companies were relying increasingly upon computer systems and that this area would be developing more rapidly in the future. Also, there were some companies which indicated that tuition reimbursement was available for the student who wished to pursue continuing education. Companies indicated that in large measure they do their own research, thus indicating a need for well qualified personnel. They also indicated that in most instances they do their own equipment repair. Many businesses indicated that they provided their own training programs. It is viewed here that with a more sophisticated continuing education program, cooperatively sponsored by the community and business and industry such training programs might be better provided and supported by the entire community when there is unanimity of effort between business and industry and the educational establishment. A number of companies indicated that racial unrest in recent years has dealt severely with the business establishment.

With reference to personnel of companies, the respondents felt that office training and on-the-job experience is needed and preferred. Also, companies prefer to hire people from their own community. This would suggest that the educational establishment could relate to this preference. Attitudes played an important part in the concerns of the respondents. They felt that it was important how employees relate to the world of work as well as preparation needed in order to function effectively. It was indicated that personality, rather than experience (if a choice had to be made) was more important on some jobs. How we relate to one another is playing an increasingly important role in the world of work. Of interest were similar comments made by many that girls work better than boys - an observation that should help to encourage young women to plan vocational and technical careers.

Value Judgments Held by Students and Parents

Of concern to the study are the attitudes or value judgments held by students and parents. What follows are some summations of an Information Student Survey (a copy of which is found in the appendix.) Under fields of interest and choice of courses, students indicated a remarkable consistency of educational and vocational objectives. By far the largest group of students indicated that their parents preferred that the student make his own educational choices. There was a very large response indicating that the parent insisted or wanted the student to go to school. Surprisingly, in these days of the need for education, there was a sizable number of parents who exposed an indifferent attitude (don't care) with reference to the students' schooling. There was a very small number of responses that indicated that parents do not want students to go to school or would not even allow students to further their schooling. Inquiry was made in the student survey to determine which school staff members provided the most assistance with reference to plans for the future. As might be expected, the guidance counselor was by far the largest group, followed in order of descending numbers by the grade teacher, home room advisor, practical arts teacher, grade shop teacher, vocational counselor, and the deans.

The survey asked students whether they had been refused registration to classes for reasons other than grades or failure. It was interesting to note that a rather sizable number of students were not able to register for such courses as industrial arts, business, vocational industrial and home economics courses. The major reason given was that classes were already full, indicating a need for an increased number of offerings in all four areas.

7. Which field of interest best describes the one you are now pursuing? (Check one)

812	A.	Business	218	D.	Home Economics
1,679	B.	College Preparatory	629	E.	Vocational-Technical
716	C.	General	665	F.	Other_____ (Write in)

8. If you could choose again on the basis of what you now know about these courses, which would you choose? (Check one)

957	A.	Business	318	D.	Home Economics
1,679	B.	College Preparatory	690	E.	Vocational-Technical
602	C.	General	559	F.	Other_____ (Write in)

9. What do you want to do after graduation from high school? (Check one)

843	A.	Go to work at a job	333	E.	Attend Business College
379	B.	Enter military service	339	F.	Attend trade or beautician school
195	C.	Become a housewife	105	G.	Attend nursing school
2,618	D.	Attend college	239	H.	Other_____ (Write in)

10. In your opinion, how do your parents feel about whether you go to college, attend a trade school, or go directly to work after high school graduation? (Check one)

494	A.	Insist I go	225	D.	Don't care
1,979	B.	Want me to go	38	E.	Don't want me to go
2,078	C.	Want me to make the choice	11	F.	Won't allow me to go

11. Which school staff members helped you most with your plans for the future? (Check as many as apply)

749	A.	Grade school teacher	39	E.	Deans
126	B.	Grade school shop teacher	113	F.	Vocational counselor
1,848	C.	Guidance counselor	170	G.	Practical Arts teacher
462	D.	Homeroom adviser	913	H.	Other_____ (Write in)

12. FOR HIGH SCHOOL STUDENTS ONLY. Have you ever been refused registration into any of the following types of classes for reasons other than grades or failure? (Check)

170	1.	Business
109	2.	Home Economics
202	3.	Industrial Arts
132	4.	Vocational-Industrial

13. If you checked any item in 12, above, indicate the reason here. (Check)

229	A.	Classes were full
38	B.	Previous teacher could not recommend me
76	C.	Subject not offered that semester
153	D.	Other (Write in)_____

A REPORT

CONCERNING

THE BUSINESS EDUCATION DEPARTMENTS

of

J. STERLING MORTON HIGH SCHOOLS

EDUCATIONAL CONSULTANT

DR. E. EDWARD HARRIS

PROFESSOR of OFFICE and
DISTRIBUTIVE EDUCATION

NORTHERN ILLINOIS UNIVERSITY

RECOMMENDATIONS FOR J. STERLING MORTON HIGH SCHOOLS
BUSINESS EDUCATION DEPARTMENT

1. Organize and effectively use both an office education and distributive education advisory committees for the following immediate purposes:

   a. To react to a presentation of the survey data which has been collected.

   b. To further identify competencies (knowledge, skills and attitudes) which are essential for various types of entry, second, and third level jobs which are available for office and distributive occupation high school graduates and drop-outs.

   c. To examine the accounting, clerical, stenographic, and distributive suggested courses sequence plan in terms of teacher stated performance outcomes (behavioral objectives) in light of actual and anticipated job requirements.

   d. To meet with other occupational advisory committees to give advice concerning the development of a viable instructional program to prepare students for the world of work. Actual and projected jobs requiring competencies which should be taught by instructors in various departments should be identified.

   e. To develop an effective dialogue between business and education.

   f. To gain the support and assistance of the business community for the total program.

2. Study the potential for inter-disciplinary cooperation in the occupational preparation of youth who need competencies normally associated with home economics, health, industrial, social science, and other disciplines.

3. Prepare terminal, enabling, and specific behavioral objectives for each of the present courses and examine these in light of actual and projected requirements of business.

4. Work with the guidance department in the development of a comprehensive system for follow-up studies.

5. Follow-up students who have graduated and those who have dropped out (both from school and the business program) to determine the strengths and weaknesses of the program. The actual entry job duties and requirements for all Morton High School students entering an office and distributive occupation should be studied.

6. Develop an effective working relationship with the vocational guidance counselors and assist them in their counseling, career planning, follow-up, and placement functions.

7. Carefully examine and develop the vocational office and distributive education phase of the program so that each student who plans to enter the world of work is provided with individualized realistic laboratory experiences (cooperative or project) to prepare him for entry and advancement in his field of occupational choice.

8. Develop a short and long range physical facilities plan and program budget in cooperation with appropriate advisory committees for submission to the appropriate school officials. The present distributive education and office education facilities and budget are inadequate for an effective implementation of laboratory experience concept.

9. Expand the cooperative office education and distributive education programs to serve the divergent needs of more students. Innovative approaches which are provided for under the Vocational Education Amendments of 1968 should be explored.

10. Study community resources so that increased use of these resources can be made in implementing the total instructional program. This is particularly essential for the development of student attitudes and in the planning and implementing of innovative programs to serve youth with special needs.

11. Study the existing instructional program in light of the responsibilities that education has to serve the divergent needs of all of the students in Morton High Schools District. Special emphasis should be placed in determining the unique characteristics and needs of the students in each school.

12. Increased leadership, staff time, and resources should be devoted to the development of a viable comprehensive short and long range plan for the business education department.

13. Carefully examine the Illinois State Plan for Vocational Education and the Vocational Education Amendments of 1968 to determine what funds and assistance might be available for the following purposes: Curriculum development; exemplary programs; research, demonstration, and pilot programs; cooperative education; programs for disadvantaged and handicapped students; and in-service training.

14. Visit schools where innovative programs are in operation which emphasize the following concepts: Each student should have saleable skills at the completion of level of education, occupational information and counseling are provided from grade five through grade twelve, every student is provided with an instructional program which enables him to gain the maximum amount of learning from his educational experience, performance oriented curricula, differentiated staffing, and flexible scheduling.

A REPORT

CONCERNING

THE HOME ECONOMICS DEPARTMENTS

of

J. STERLING MORTON HIGH SCHOOLS

EDUCATIONAL CONSULTANT

DR. BEATRICE PETRICH

HOME ECONOMICS DEPARTMENT

NORTHERN ILLINOIS UNIVERSITY

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3124

HOME ECONOMICS AT J. STERLING MORTON HIGH SCHOOLS

The American woman in today's changing world performs not only her basic role within the family unit, but often assumes another role: that of wage earner for the family. This dual role which is so prevalent today has many implications for home economics. The central focus of home economics continues to be the well-being of the family and the quality, enrichment, and stability of family life. However, among 25 million women workers in the United States in 1964 were 9.5 million mothers with children under 18 years of age. Women comprise approximately one-third of the total labor force. The dramatic changes which have taken place in the pattern of women's lives should be reflected in the educational opportunities which are available to them, and home economics must meet the challenges presented by societal conditions affecting families today. Today's family contributes not only to the nurturing and education of the children, but also to the stability of the adult family members. Home economics can contribute to each individual, male and female, in relation to self-development, effective interpersonal relationships, and particularly management skills which are of value in the home and "on the job." Preparation of individuals for effective homemaking contributes financially to the family in terms of "real income" as well as intangible ways.

The 1963 Vocational Act has brought a significant new dimension to home economics in vocational education: home economics was challenged to contribute to stable and progressive economic growth of the nation through occupational preparation. The Vocational Education Amendments of 1968 are aimed at making job preparation a major goal of the public schools. These amendments have identified home economics as being a contributing factor to the economy by educating for homemaking and consumer abilities, as well as for home economics related occupations. Part F of the Amendments (PL90-576) deals specifically with consumer and homemaking education. Funds are authorized for educational programs which encourage the development of home economics to promote improvements in economically depressed areas. Other directions programs will take include: encouragement of preparation for professional leadership, preparation of youths and adults for the role of homemaker or contribution to the employability of such youths and adults in the dual role of homemaker and wage earner, consumer education, and education for those who have entered or are preparing to enter the work of the home. This new legislation charges home economics with important responsibilities in the total educational picture of young people. The Morton High Schools have an excellent opportunity to exert leadership in the development of new programs which reflect societal and pupil needs in light of the new directions given by the government.

The Present Situation

Nine faculty members and the department head make up the staff of the home economics department at Morton East High School. Most of the teachers have Master's degrees or are presently working toward the degree. The course offerings are titled according to the traditional subject matter divisions in home economics, and there is little evidence of course work which is centered around the family or around occupations.

The facilities are fully utilized at present. There is need for remodeling in the foods areas, and need for classroom space for lectures, discussion, etc. The teachers have expressed a need for a room in which audio-visuals could be utilized in a multi-media approach.

Data collected in the survey which was conducted in preparation for the evaluation of the total vocational program must be interpreted in light of the inherent bias in the sample. The number of home economics related employers contacted and interviewed was very small. Floral industries, ready to wear retailers and wholesalers, bakeries, and fabric businesses were not included in the survey. The employment area adjacent to the school, includes five large hospitals, nursing homes, large household equipment industries, and many restaurants. There also seems to be a need for workers in the service and repair of small applicances.

Two areas of knowledge which are closely related to home economics subject matter received high priority rating for each of the occupational levels. Table 1 shows that grooming and personal conduct are perceived by future employers as being essential requirements for employment.

Table 2 shows the priority rating for the areas of home economics related occupations. Responses to these occupations necessarily reflect the interviewees concept of the field of home economics and may not be accurate. The titles of the occupations also must be carefully interpreted. For example, the questionnaire did not provide for employers to respond to the need for food supervisors at the officials and managers level because of particular job titles. With the number of hospitals and schools in the area, it would be feasible to expect that there is a need for workers at levels between the professional level of the dietician and the entry level of the counter worker or salad girl. Careful examination of this table should provide some basis for curriculum decisions.

TABLE 1: PRIORITY OF HOME ECONOMICS RELATED CONTENT

Occupation Level	Priority Rating	
	Grooming	Personal Conduct
Officials and Managers	1	1
Professionals	1	Below Average
Technicians	1	1
Sales Workers	1	1
Office and Clerical	1	1
Craftsmen (Skilled)	2	2
Operatives (Semi-skilled)	1	1

TABLE 2: PRIORITY OF HOME ECONOMICS RELATED OCCUPATIONS

	.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers
Cafeteria workers:				3	6		11		4
Child care, private or public:		10							
Clothing or accessory design:				3					
Commercial food preparation:	6	10					11		
Comparative shopping:	6				6				4
Cosmetology:		10							
Dietician or aides:		10							4
Financing & money management:	6			3	6				4
Food publicist or taste panels:		10							
Home improvements:		10		3					
Housekeeping, home, motels, hospitals, etc.	6			3	6		11		4
Interior designers:	6								
Journalism or technical writing:	6	10			6				
Kitchen & bathroom plans:				3					

TABLE 2: (Continued)

	.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers
Label & package design and direction:	6	10							
Laundry & dry cleaning:				3					
Lighting:	6	10							
Modeling:					6				
Nurses aides:							11		4
Product or consumer research and development:	6	10			6				
Public relations:	6	10		3					
Recipe development:		10							
Restaurant management:	6								
Restaurant & snack bar workers:				3					4
Radio & TV as Co. Rep.:	6				6				
Textile care & testing:				3					
Test kitchens:		10							
Window & Store display:	6								

Ideas for Consideration

The good enrollment and well qualified faculty at Morton lend themselves to a highly innovative program which should meet all the needs of the school population. The thrust of this program should be three fold: 1) The family and consumers 2) Occupations 3) Service courses to the total vocational education program.

Program Because of the breadth of such a program, it is essential that sound pupil assessment be a forerunner to registration. General testing which reveals affective, cognitive, and physical aptitudes and abilities should be a basis for placement in courses. Additional information about pupils should be obtained through pre-testing in the various areas of home economics.

The first focus of the program deals with the family and consumers. Educating students to become responsible consumers should be given additional emphasis. Present course offerings include numerous learning experiences related to consumer education, however, it is evident that these must be increased and expanded. Because of the ethnic background of the pupils and of the proximity to cultures of vast differences, it is important that family life education as offered in the home economics department stress generalizations such as: Family patterns differ in respect to formal education, in child rearing practices, sex or domination roles, control of behavior, and the relationship to ancestors and kinfolk. These young people will be living in a society which will not allow cultural isolation. They need to be helped to understand that cultural groups tend to be loyal to the culture, resist superimposed change, are hypersensitive to criticism by persons outside the culture, and are supportive of a group code of conduct. The home economics department must give them alternatives and tools for coping with family oriented problems which our society is facing as population grows, and technology makes cultural isolation impossible.

The second focus deals with occupational preparation. This should be a highly individualized program with planning done on a three and four year basis for each pupil, rather than semester by semester. The girls and boys who might be considered occupational majors in home economics could conceivably progress from entry level work experience to technical or supervisory level work experience. Other young people will not be able to progress beyond the entry level but can move horizontally through a cluster of jobs at their ability level. The general education courses, which will supplement their job skills, should be carefully planned. For example, girls interested in housing, food management, or clothing jobs should be encouraged to take art courses. For most girls who wish to progress to a technical level, typing is a desirable skill. Recognizing the dual role of women, these girls should also be guided into family and consumer oriented courses and into child development courses. The important facet of the program revolves around a thorough understanding of the individual coupled with broad approaches to a cluster of skills which can be applied to certain types of occupations. Examples of individual programs are given for two job clusters:

FOOD SERVICES

9th grade	10th grade	11th grade	12th grade
Low ability pupil:			
Pre-vocational course	Cooperative work training (salad girl)	CWT (bakery)	CWT (desserts)
Family centered consumer course			

(Continued)

(Cont.)

FOOD SERVICES

9th grade	10th grade	11th grade	12th grade
Average pupil			
Pre-vocational course	CWT (salad girl, bakery, desserts) Typing	CWT (hostess or cook) Art	CWT (food supervisor) Family living

CHILD DEVELOPMENT

9th grade	10th grade	11th grade	12th grade
Low ability pupil:			
Pre-vocational course Family centered consumer course	Child development CWT as helper in school nursery school	CWT in community nursery school	CWT in nursery school with several levels of employees
Average pupil:			
Family centered consumer course	Child Development CWT (aide in school nursery school) Typing	Family Life CWT (aide in community nursery school) Business Math	Clothing, Foods, Housing, or Home Mgt. CWT (assistant to Director of nursery school)

The third responsibility of the program relates to the total program. Because of the unique background in human development which home economists have, this department should take the leadership in team efforts to develop good citizens, and well developed personalities who will be able to succeed in the world of work. A pre-vocational course with a title such as "The World of Work" could be offered for all vocational pupils through the home economics department. Faculty members from all other departments should be utilized on a team basis to make the curriculum realistic to the wide variety of pupils. Grooming and personal conduct should be stressed and self-understanding should be fostered through wide use of knowledge of individual pupils. Home visitation of pupils has proved to be helpful in programs such as this. Another aspect of this phase of the program should put emphasis on needs of college-bound, potential professional home economists.

This three-pronged approach to the program will allow for the continuation of the presently successful course offerings and for the beginning of course offerings in which the faculty have expressed interest. It will necessitate careful evaluation of the facilities and some obvious additions will have to be provided.

Facilities Several basic principles of planning for facilities are particularly appropriate for this situation. The following principles have been taken from A Guide for Planning Facilities for Home Economics Occupational Preparation Programs (1):

1. The educational program is the basis for planning space and facilities.
2. Cooperation among teachers in developing inter-disciplinary units or courses is encouraged by the proximity, flexibility, and convenience of classrooms and work areas where teachers can plan together and produce materials.
3. The effective use of mechanical teaching aids, such as projectors, screens, recorders, and other devices, will depend upon the accessibility and convenience of storage.

4. Movable partitions, screens, folding doors, room dividers, and portable furnishings and equipment can help in adjusting space requirements to meet specific needs.
5. Accessible convenient outdoor space adds to the flexibility of the department and can be used in units in dealing with child care and family recreation.

It is important that some ground floor space be provided to develop a nursery school area for both the family-centered program and the occupational program. The service or pre-vocational courses can also utilize the study of small children for self-understanding and as preparation for parenthood. Careful consideration should be given to the danger of over emphasis of simulated situations, such as restaurants or large quantity kitchens when facilities for cooperative work study are available in the community. Facilities and equipment should be purchased and planned with a view to conceptual development as well as to psychomotor skills. The planning should be for a sufficiently adaptable and flexible structure which permits needed modifications and programmatic changes over the lifetime of the building. Some thought should be given to facilities which will lend themselves to team teaching, multi-media presentations, open laboratories, and flexible scheduling. If instruction is to be highly individualized, it is desirable that each staff member have an office or some place where private conferences are possible.

Staff If the highly individualized and innovative program which has been suggested is to be successful, it will be necessary to provide supportive services for the teachers. A well-organized staff of para-professionals, teacher aides, and perhaps interns will make possible many innovations which are extremely difficult for the lone teacher to accomplish. Dwight Allen (2) states that, "Particularly in the area of vocational-technical education, the old normal school model makes little sense. The teacher ... does not need a cadre of professional educators above him to resolve his classroom problems. Rather, the master teachers ... should have a large staff of practitioners, supervisors, evaluators, and clerical and technical aides as resources in providing the best possible vocational education they can conceive."

In addition to supportive staff, the home economics faculty would benefit from the use of an advisory committee. A well-chosen advisory committee should act in a consultant capacity, and thus its members must be able to communicate with one another and with the faculty as well as with the community. The committee should be especially helpful in determining needs of the community and in assisting in clarifying and strengthening the relationships with business, welfare, and health. It should be called upon for suggestions for work stations for the occupation program.

It appears that the faculty of Morton High Schools have an excellent attitude toward change and is participating in further education to keep abreast of new developments. The best possible use should be made of these faculty members when planning for new and continuing programs and for remodeling and new facilities.

REFERENCES

1. Meckley, Richard F., Ivan E. Valentine, and M. J. Conrad. A Guide For Planning Facilities for Home Economics Occupational Preparation Programs. The Center for Vocational and Technical Education, The Ohio State University. 980 Kinnear Road, Columbus, Ohio. 43212 1968.

2. Allen, Dwight and Peter Wagschal. Differentiated Staffing for Vocational-Technical Education. Mimeo. 1968.

A REPORT

CONCERNING

THE INDUSTRIAL-VOCATIONAL DEPARTMENTS

of

J. STERLING MORTON HIGH SCHOOLS

EDUCATIONAL CONSULTANT

DR. JACOB STERN

DEPARTMENT of VOCATIONAL
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UNIVERSITY of ILLINOIS

Even a brief visit to the J. Sterling Morton High Schools is sufficient to impress an observer on a number of important points related to the vocational and practical arts programs. The entire staff and program is businesslike and efficient. One must be impressed with the magnitude of the research survey that has been undertaken, and with the thoroughness and dedication that characterize the entire effort. Those responsible for the curriculum and those actively engaged in the data collection and analysis should be genuinely commended for their outstanding work. Any effort carried out with such responsibility and sincerity is certain to result in substantial improvements in the educational offerings of the institution.

Among the most impressive aspects of the situation is the competency of the instructional staff. I had an opportunity to visit with almost all of the instructors, and I found them to be well trained professionally, and well prepared technically. They seek to attain high standards of performance by their students, and they are working very diligently to improve their courses, facilities, and equipment.

The facilities and in some cases the laboratory equipment represent serious obstacles to further improvement of the program. In my judgment, all laboratory areas are really woefully overcrowded; in fact in some cases, one may conclude that there are definite safety hazards due to congestion and insufficient space for instruction and storage. A very large percentage of the laboratory equipment is quite old and detracts from the effectiveness of the instructional effort. Although I did not obtain figures on maintenance costs, I would expect that considerable instructional time is taken up in maintaining and repairing equipment, besides the fact that down-time on machines denies students an opportunity to progress normally with their laboratory assignments.

It is my opinion that the exceedingly high quality of work being performed by students should be receiving considerably more visibility both within the school and in the larger community. A greater effort could be made to display student work (architectural, machine shop, graphics, etc.) throughout the school, in cafeterias, major corridors, etc. Publicity in local newspapers or through other media is definitely justified when such fine student performance is in evidence. In my opinion, a public relations effort of this kind would pay substantial dividends in terms of student recruitment, community support, and faculty morale.

A number of observations might be made relevant to the curriculum patterns. I feel that there is an unjustified emphasis on the unit shop approach and in particular in traditional materials and processes oriented courses. Modern technology requires a much broader representation of subject matter areas in vocational education and practical arts. For example, the plastics industry group is not represented in the program, nor is the rapidly growing goods-servicing occupational group. In many cases, opportunities to cluster occupational categories through integrative curricular patterns are being overlooked. In the graphic arts field, the students seem to scarcely come into contact with their counterparts in Journalism or English composition, except to render the limited service of printing their yearbooks or other anthologies. I would strongly urge that students of graphic arts interact much more extensively and meaningfully with the journalism and English students. Such an expanded approach will broaden their mutual horizons and respect for one another's contribution, reducing the status differential that separatism can cause. In addition, a freer interchange among these students could conceivably bring about an upgrading of career aspirations and an improved level of self assessment on the part of the students involved. This example could be applied to several of the other curricular areas in the program.

J. S. Morton High Schools could be characterized as highly stable educational institutions. As such, it has avoided many of the problems that plague schools where instability is the dominant characteristic. On the other hand, a condition of extreme stability can also have severe deleterious affects. While an exalted tradition may, in some instances, serve as a spur to even greater attainment by contemporaries, there is the ever present danger of the past intimidating the present, and frustrating the emergence of the future. I am very concerned that the latter condition may prevail at the Morton High Schools. Innovative urgings on the part of young staff members may fail to emerge because of the impressive and overpowering influence of past accomplishments. An objective appraisal of this destructive syndrome should be undertaken, and if this observer's concern is justified, administrative measures should immediately be initiated to reduce the overwhelming weight of the evidence of historical successes. It must be pointed out that this may indeed be evidence of genuine craftsmanship performed by prior generations of students, and that these comments are not in the least intended to denigrate them. I am only suggesting that they may, in fact, constitute a mill-stone around the necks of those who would timidly encourage the emergence of innovative practices.

This observer must also comment on the apparent racial homogeneity of the entire school program. In an age when all institutions are seeking to revise racial and ethnic imbalances, it seems to me to be imperative that educational leaders search their conscience and take strong positions in affirmation of the broad general movement toward social justice. No school should consider itself immune from accountability on this question. In my judgment, educational establishments have an obligation to advance the noblest goals of our culture, rather than serve as bastions for conservatism. While I would not make any specific recommendations along these lines, I must assert that enlightened educators must take a vanguard position and seek ways and means of helping to rectify conditions which are in contradiction with fundamental social values.

Finally, I would strongly recommend that machinery be established for the development and execution of a master plan for curriculum change. What should be the pace of educational change? Who are the opinion leaders in the organization? How might they best be appealed to? What are the short range change increments? Which are the long range change increments? What is the overall design for an optimum curriculum condition? What are reasonable transitional stages? These are but a few of the questions to which such a curriculum change steering committee might address itself.

I feel that the entire faculty and administrative staff of the Morton High Schools should be commended for the courage that they are displaying for engaging in so soul searching an activity, and I would like to offer them any assistance that I can possibly render, now or in the future.

A REPORT
CONCERNING
PRACTICAL ARTS EDUCATION
in
MORTON HIGH SCHOOLS DISTRICT 201

MR. ROBERT GREY and MR. EDWARD VASS
STATE BOARD for VOCATIONAL EDUCATION
SPRINGFIELD, ILLINOIS

I will attempt to give you some brief comments that may benefit the program at Morton and may be of some significance in your final report.

Morton must offer a much more comprehensive curriculum offering in vocational education. The interpretation of what is vocational education needs to be expanded greatly including many fields other than traditional trade and industrial.

Future reimbursement from our office will mandate this type of total program in order to receive state and federal support. Our major aim is to make available vocational education for more students and to make these offerings more contemporary and exciting.

The kind of program we envision should provide a type of "Zero Reject Concept" which allows all students to be enrolled in some type of meaningful education. Schools are failing when 25 to 30% of the student body do not finish high school and do not receive any meaningful substitute for a high school diploma.

Morton should be commended for the planning that is taking place in order to better meet the needs of the community. Your survey is a good step and overall planning. The instrument and the data seems quite valid and valuable, however, proper utilization of the data may be somewhat a problem. The process of using the data for program planning is perhaps the most difficult task.

Ed and I were very impressed with the movement toward a separate modern facility which is an integral part of planning and implementing the total program of vocational education that is, in fact, contemporary and meaningful to the students involved.

SURVEY OF RESEARCH FOR VOCATIONAL PROGRAMS

To clarify terms, it might be beneficial to define the term "vocational school". A vocational school is a publicly supported school which offers as its curriculum vocational and technical education, training or retraining available to persons who are completing or have left high school and are preparing to enter the labor market; persons who are attending high school who will benefit from such education and training; persons who have entered the labor market but are in need of upgrading technical competence or performance, or learning skills; and persons who have been prevented from succeeding in regular vocational or technical programs.

On the other hand though, the term "vocational" may have other connotations as: (1) an area occupational training school or program with the primary offerings designed to prepare people for specific employment, or (2) a vocational program and school in direct accord with the first and second main objectives for a comprehensive high school program that Conant stressed in his 1959 edition "The American High School Today," which stated "first, to provide a general education for all the future citizens; and secondly, to provide good elective programs for those who wish to use their acquired skills immediately upon graduation."

Establishing philosophies and general objectives are relatively simple in comparison to how an area vocational program or school should be organized and operated. There are several possibilities among many to choose from. They are: (1) state controlled and financed vocational schools situated in those regions or areas of the state where they are most needed; (2) county schools controlled by the county with financial assistance from the state; (3) a separate school for occupational training built and maintained cooperatively by two or more existing school districts; (4) expansion of the area served by a vocational school of a particular school district to include non-resident students in the area; or (5) a decentralized program which makes provision for exchanging students among schools that provide different kinds of vocational training in the area.

At this time, numbers three, four, and five or variations and combinations of them seem to be the most adaptable or suitable methods of organization.

Regardless of what type organization seems to be the most logical, the success of such a school appears to depend a great deal upon sufficient funds to build and maintain modern laboratories and classrooms, as well as to purchase and keep up-to-date on equipment and supplies. A staff of well trained, qualified, and compensated personnel must be maintained.

The funds for most schools such as the type that is being proposed are usually derived from: (1) local tax levy, (2) federal funds made available and administered by the state board, (3) other federal funds for such purposes as may be provided by federal law, subject to the approval of the state board, (4) tuition for instruction received by persons twenty-one years of age or over or who are high school graduates residing within the area, (5) state aid to be paid in accordance with the statutes which provide such aid, (6) state funds for sites and facilities made available and administered by the state board, and (7) acceptable donations and gifts.

The numerous methods of fund raising for an area vocational school or program always conclude with the question or problem of "how should the monies accrued be

properly spent?" Theoretically, a vocational education program could be housed in many types of training centers; however, the most favored type, according to the University of Michigan, is an extensive vocational education school with the buildings, facilities and offerings specifically designed to meet the particular training needs of the area. They felt that comprehensive programs housed in an identifiable department within a community college, or regional high school, may serve an areas purposes and functions if qualified leadership was provided for such departments.

Program scope, flexibility and adaptability in institutions of this type demand high quality leadership personnel.

Where should the facilities be located and should industry be consulted or informed as to a proposed area school? A 1967 study entitled "Implications of Vocational Education for Plant Site Location" conducted by Mr. Earnest H. Dean from the Utah Technical College drafted many conclusions from his 175 page survey paper that are worthwhile to consider in any proposed program and site location. Here are several related and meaningful conclusions: (1) vocational education is a factor considered by the manufacturing industry as they investigate their new plant sites, (2) plants who employ more than 100 employees place greater significance upon vocational education, (3) some manufacturers consider vocational education as a significant factor prior to expansion, (4) the closer a vocational school is located to plant site, the more significant it is as a plant site selection factor, (5) some vocational school training programs lend themselves to more kinds of manufacturing industry than do others such as machine shop, metal fabrication, electronics, electrical, business and secretarial, (6) approximately 25% of the respondents visited vocational schools in consideration of selecting their plant sites, (7) brochures indicating vocational education available in the community are helpful to manufacturers in their plant site selection process, (8) an insufficient number of brochures indicating available vocational education are prepared and placed in the hands of plant site selectors.

Besides working cooperatively with business and industry on site location, equipment selection, and curricula offerings, the administration of such a school or program, (if they are going to fulfill the primary objectives of assisting students in developing those skills and attitudes needed to meet the demands of today's working world), would have to consider the following services essential or desirable: (1) recruitment - disseminating information to local or area junior high schools, high schools, business and industrial plants, (2) admission service - requiring students to be interviewed, completing application forms and aptitude tests, (3) personnel records service - maintaining student records, selection of programs of study, and records reports to potential employers, (4) orientation service - in-school course explanations and industrial or business field trips, (5) information service - maintaining files for employment information, letter writing, job interviews, etc., (6) counselling service - should be of a professional level, (7) placement service - includes the handling of job requests, continuous survey of local employers, arranging for employers to visit the school for interviewing students, and the preparation of students for job interviews, (8) follow-up - periodic surveys, record keeping and projections for future trends.

Respectfully submitted

by

R. E. Hughes

FOOTNOTES FOR RESEARCH

1. "Guidelines for the Development of Merged Area Vocational Schools and Area Community Colleges by the Merged Area Boards." State of Iowa Department of Public Instruction, Des Moines, 1966. pp. 6.

2. The Need for Area Vocational Schools in Michigan. A part of the Michigan Vocational Education Evaluation Project, East Lansing, 1963. pp. 3.

3. James B. Conant. The American High School Today. New York: McGraw-Hill Book Company, Inc., 1959. pp. 17.

4. The Need for Area Vocational Schools, op. cit., pp. 2.

5. Ibid., pp. 1.

6. Guidelines for the Development of Merged Area Vocational Schools, op. cit., pp. 7.

7. Ibid., pp. 16.

8. Implications of Vocational Education for Plant Site Location. Dean, Ernest H., Utah Technical College, Provost, 1967. pp. 176.

9. Developing a Program of Student Personnel Services for Area Vocational Technical Schools. Phase I Report. Bottoms, James E., Georgia State Department of Education, Atlanta, 1966. pp. 175.

GENERAL OBSERVATIONS

1. The concept of "community" reflected by the survey suggests a reinforcement of the comprehensive community concept which extends well beyond Cicero.

2. The survey tells us as much about the views of Cicero business and industry as the educational program needed.

   Important here is the interpretation (by Jacobsen) that Cicero business and industry may have limited knowledge of the Practical Arts Educational Program of Morton H.S. and Jr. College. A need likely exists to relate more closely by education and business/industry toward increased dialogue and understanding.

   Business and industrial responses (in general) suggests an orientation of the historical past (50 years) rather than an advanced view of technology and related management.

3. Anticipated employment growth up to 6.1% for the foreseeable future (1970) suggest a modest and realistic future, however optimistic, from 7% to 18% by 1980.

4. Any curricular projections should relate to the following guidelines:

   a. The contemporary character of the technology in its present state of the art as well as the expected foreseeable and anticipated future.

   b. New program designs should be considered that will capture the character and direction that technology and management will be taking.

   c. Detailed delineation of the drop out problem and means by which educational separation can be resolved in the light of an evolving industrial and managerial technology (both scientific and behavioral). Up to 40% (nationally) of the drop outs do not find their way into the labor force.

5. Much new equipment is needed to replace that which is obsolete and worn-out. Current space does not meet today's needs. It is recommended that there be one central storage facility for items not used on a daily basis. This would relieve much congestion and save space for educational purposes in classrooms and laboratories.

Other findings urge making greater use of modern communications media, increased teacher competency dedicated to technological change, a closer relationship between guidance and the total evaluation of the human resources aspect of the students, improved vocational educational guidance, and provisions for a community resources file for both the teacher and the student that have special knowledges concerning various occupations. A community resource system should permit the student to have private conferences with individual persons in various specified occupations. This resource file system also should include industrial, business and educational listings to which students can be referred. Since the immediate future indicates that the area of service occupations represents one of the greatest needs of our time, an expanded work-study program is needed. Also urgent are a consolidated and functional job placement center, a greater use of flexible modular schedules, a multi-track program for different learning abilities and programs, assignments geared to student ability where not all students would have the same assignments. Every student should be able to progress to his maximum level of achievement or until he

has reached his desired goals. A greater use of multi-media presentations is needed, development of concept presentation techniques, use of data bank and retrieval systems, exploration and use of limited purpose individualized computer learning supported techniques, and the consolidatiion of Industrial Arts and vocational education under continuous offerings as industrial education. These would be operated as an educational continuum rather than as separate entities. Possibly a new name may have to be chosen to adequately represent these consolidated divisions.

With some exceptions, the business community has a high regard for both the Morton High Schools and Morton graduates. All of the schools shortcomings are not in Practical Arts Division. The greatest weakness of the schools is in the area of developing values, attitudes and concepts. For example, personal conduct, job safety, good grooming, pride in work well-done, and the ability to get along with others are most frequently mentioned. Our community feels that general education is very important. Some of our greatest weaknesses are spelling, general math and English relevant to today's needs.

CHAPTER THREE

IMPLEMENTING FINDINGS

The following objectives are offered as a synopsis of contemporary thought and requirements of career oriented education. The recommendations were formulated from the empirical and statistical data acquired through this practical arts investigation and are intended to serve as guidelines for implementation into the educational structure of the Morton High Schools, District 201, in the State of Illinois.

OBJECTIVES FOR CURRICULUM DESIGN

1. To provide a broad based education and training indicative of the inherent compatibility of general academic and specific career-oriented education to permit a greater latitude of job entry opportunities. Skill development based upon current job requirements will be enhanced by learning situations that are designed to promote proper work habits, social attitudes, technical knowledge, safety attitudes and practices, job judgement and understandings which contribute to the success of a worker during employment.

2. To provide a flexible program enabling students to qualify for entrance into technical jobs, technical institutes, institutions of higher learning, and supplementary education and training for the acquisition of additional skills and knowledges from job experiences. Educational and future employment opportunities should be available to the broad spectrum of intellectual abilities that are present in any young group of students as well as opportunities for counselled self-appraisal of interest.

3. To provide for employment mobility within an occupational cluster of an industry or company or on a geographical basis. Provisions must be furnished for enabling the student to work and progress successfully in a changing industrial work world.

It is recommended that emphasis be placed upon a comprehensive occupational concept rather than a specialized craft orientation as has been true in the past. This comprehensive concept should include both specialized and general education integrated into a total program conception. It is also strongly urged that a center for occupational, educational, and human resources be included as part of this over-all concept.

HUMAN RESOURCES CENTER

Among the strongly recommended aspects of this study is that the Morton High School system establish an educational human resources center which will enable the school system and particularly the Practical Arts Education Departments to involve as many of the community resources in the educative process as possible. This effort is directed toward the psycho-sociological needs, interests, talents and aptitudes of students with the purpose of seeking to achieve as closely as possible a zero failure attitude by students and school personnel. The intent here is that each student achieve essential educational success and a high school diploma under acceptable standards.

Services rendered by the center should include the following:

1. Provide Community Resources. The staff of the center will have a working understanding of and provide liaison between the educational establishment, its students, and the innumerable resources within the community. Resource personnel will include individuals from junior and senior colleges, business, industry, labor, the scientific community, governmental agencies, and others who can contribute to the educative process. Naturally, the center will operate within and be responsible to the administrative structure and policies of the school district. These resource services will provide four educational functions:

   A. Vocational consultants are to provide specific occupational orientation or information relating to employment or job requirements.

   B. Strengthening and implementation of expanding in-school student systems such as employment placement, sponsorship of educational or social activities, personal counseling, etc., are needed.

   C. A collegiate consultation service should provide general and personalized information and specific data relating to college requirements and curricula. Such consultation may be provided by former graduates or college personnel.

   D. A current resource file indicating qualified available personnel and their specialties is a necessity.

2. Establish a Human Resources Laboratory. It is within the framework of the function of this laboratory that the professional educators will be able to design "learning strategies" peculiar to the identified learning needs of students. This laboratory will assist in evaluating the educational-training potential of all incoming students. Such an assessment may begin in the elementary school or in the junior high school and will provide a detailed psychological, and educational sociological profile as well as interest profiles of the incoming student.

3. Provide a Quality Control and Assurance Program. One of the current needs in education is identification of and evaluation by quality control and assurance personnel of the present educational system. Measurement of educational successes or failures in terms of established educational philosophies as well as objectives is rare. Provided by this quality control and assurance program will be a continuing evaluation function of the learning process used in relation to the identified learning human resources profile provided by the student. Involved in this evaluation will be psychologists, sociologists as well as professional educators. Evaluation then is also possible within the subject matter areas as well as of incidental and vicarious learning experiences of the student. Implicit in this quality assurance program is the concern for effectively achieving, as closely as possible, the zero failure concept mentioned earlier. Within the scope of this planned and carefully controlled program, the student is then able to participate in an educational program designed peculiarly to the individual's needs and abilities and yet be evaluated within prescribed standards of the school system. Educational quality control and assurance will then enable the professional educator in this recommended program to evaluate achievement with reference to basic skills for their vocational and social needs, as well as knowledges and experiences in the humanities and natural sciences. Within this framework, a continuing flexible program can then be provided for the individual as long as he wishes it, through high school and beyond.

4. Program Evaluation and Development. A human resources center as previously described will promote program evaluation on a continuous basis. It will also alert faculty and other school personnel to educational change and the need for innovation. It will enable the educational establishment to pursue new trends in education to better meet individual needs and potentials. This human resources approach has met with success in other educational settings and its implementation here would be an asset to both our school and our community. It is emphasized here that such a human resources approach is to be considerably more than the traditional guidance program of course scheduling.

PROGRAM RE-ORGANIZATION

It is strongly urged that there be a conceptual re-organization of the Practical Arts curriculum in the Morton High Schools. Subject matter areas are currently oriented toward specific content, such as metal working, typing, clothing, etc. It is recommended that programs be re-organized on the basis of processes or functions rather than the narrow single purpose concept.

Within this new program re-organization there should be included, as mentioned earlier, the zero failure concept. Providing and supporting the vehicle for this concept of zero failure is the suggestion that the program provide for what might be termed "a multi ability - entrance/exit program concept for students. This concept suggests that students enter and leave programs based upon interest, ability and success rather than upon preconceived notions of what constitutes success in terms of graduating or grade levels. Entrance into these programs is possible then at various levels and is the result of an in-depth evaluation and analysis of the student's human resources such as talents within the field, interests, attitudes and current capabilities. Exiting from such a program is based upon success factors rather than failures, "drop-outs" or "cop-outs", as has been somewhat the case in the past. Exit would then be into a dignified and productive work situation at one of various levels. This could be possible before what is normally considered traditional graduation or it might even continue on into post high school, technical junior college or senior college and university work.

Each of the existing departments within the Practical Arts Division (business education, home economics, and industrial education) would be re-structured to follow the new conceptual arrangement. Naturally, much of the curriculum materials recently developed to meet changing student needs will be applicable and incorporated into this new framework. An example of how the curriculum may be revised is illustrated in the following industrial education conceptual approach.

1. Design (technical and aesthetic)
2. Materials (structure/characteristics of materials, analysis and application)
3. Graphic Communication (technical drawing, illustration, printing and graphic arts, photography, etc.)
4. Processes and Fabrication (material removal in all areas and in all forms - forming, shaping, assembly, etc.)
5. Structures and Mechanisms (devices, machines, technical structures, architecture, etc.)
6. Energy, Control and Propulsion (electrical, thermal, pneumatic, hydraulic, etc.)

(Only in industrial education in the public school program is this body of content responsibility dealt with in a contextual/operational sense.)

Curriculum and Course Approaches

It is suggested that serious thought be given to re-orienting the Practical Arts Education approach to a societal based approach to curriculum organization rather than the more historical industrial approach. The essential reason is that industry changes as the societal base of the culture changes and that further, education is a social process. Hence, the wisom of an approach that provides for a more flexible approach to program development is desirable. Within this societal based approach to curriculum development, one would have unlimited multi-track career possibilities and opportunities. Area characterizations would fall under such titles* as:

(1) Managerial and Professional

(2) Technicians and Craftsmen

(3) Sales and Service

(4) Office and Clerical

(5) Operatives, semi-skilled and unskilled

(6) Special Education and Work Study Programs

* Office of Economic Opportunity, Washington, D.C.

Under these titles, all forms of Practical Arts education could take place. The reader is referred to the Multi-Track Career Curricula chart that follows, providing further detailing of the content of each of these programs. This revised approach is the result of the survey made and the responses provided by the industrial and business community. The program content listed in each of the columns of the Multi-Track Career Curricula chart is the summation of the Program Analysis By Occupational Classifications found elsewhere in this chapter.

Therefore, as an example (under managerial and professional), it can be assumed that the industry-business communities surveyed recommend that on a priority basis general education, which includes such items as grooming, personal conduct, English, spelling, public speaking, quality control and safety, are of the highest priority and represent content (or courses) of average or above average importance in a first priority. In the right-hand column theme writing, specifications and speed writing, are in the number one priority although, in terms of responses, they fall within the 20% below the mean or average responses as noted above. Second priority for those interested in programs related to managerial or official positions in business or industry are mathematics and data processing. Third in priority is office occupations, fourth is chemistry and fifth is the technologies, which in this case, are electricity and electronics and metals manufacturing. Sixth priority represents the area of home economics as well as visual communications, physics, building technology and metallurgy. This, in addition to required physical education and enrichment content, could provide the student interested in the managerial aspects of business and industry a vocational program reflecting needs as interpreted by industry and business. It is, therefore, suggested that the reader relate the remainder of the program analysis by occupational classification to the multi-track career curricular table to provide a detailed analysis of content which may be assumed to be either in the form of courses or as being content and parts of courses.

SOCIAL BASED
- MULTI TRACK CAREER CURRICULA -
9 - 12

MANAGERIAL & PROFESSIONAL		TECHNICIANS & CRAFTSMAN		SALES & SERVICE		OFFICE & CLERICAL	OPERATIVES SEMI & UNSKILLED	SPECIAL EDUCATION & WORK STUDY
Managerial	Professional	Tech.	Crafts	Sales	Service			
Gen. Educ.	Gen. Educ.	Gen. Educ.	Gen. Educ.	Gen. Educ.	Gen. Educ.	Gen. Educ.	Gen. Educ.	EMH
Math & Data Processing	Science	Technology	Technology	Business	Technology	Business	Technology	Blind
Business	Math & Data Processing	Math & Data Processing	Sciences	Home Ec.	Math	Math & Data Processing	Science	Deaf
Science	Technology	Sciences	Visual Comm.	Math & Data Processing	Home Ec.	Technology	Service	Orthopedic
Technology	Business	Visual Comm.	Math	Technology		Service	Math	Disadvantaged
Home Ec.	Visual Comm.	Business	Service	Science		Home Ec.	Visual Comm.	
Visual Comm.	Home Ec.	Service	Business	Service		Visual Comm.	Home Ec.	
Internship	Internship	Internship	Internship	Internship	Internship	Internship	Business	
Enrichment	Enrichment	Enrichment	Enrichment	Enrichment	Enrichment	Enrichment	CWT	CWT
P.E.	P.E.	P.E.	P.E.	P.E.	P.E.	P.E.	Enrichment	Enrichment
							P.E.	

Broad Vocational Areas: Marketing, Health Occupations, Home Economics, Office Occupations, Technical Occupations, Trade and Industrial

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

The previously referred to multi-track career program was an outgrowth of a computerized analysis of responses provided by industry and business. The tables on the following pages provide a program analysis by occupational classification. The classifications are numbered as .01 for officials and managers, .02 for professionals, etc. The programmed computer analysis of the survey provided a priority of intellectual concerns for each of the occupational classifications and are so listed on the following table. In addition, the left-hand column represents the mean responses and the responses above the mean for recommended content in each of the subject matter areas listed, and the right-hand column represents the mean responses and responses below the mean to a limit of 20% below the mean for recommended content in each of the subject matter areas listed. The reader will find that the major headings in each of the columns are preceded by priority numbers in parentheses. These priority numbers were established by computer analysis, and represent the priorities given to the higher percentages of responses in the study.

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PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OFFICIALS AND MANAGERS

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (1) GENERAL EDUCATION

Grooming	Theme Writing
Personal Conduct	Specifications Writing
College English	Speed Writing
Spelling	
Public Speaking	
Quality Control	
Safety	

(2) MATHEMATICS
- General Math.(arithmetic)
- Algebra
- Geometry
- Advanced Algebra
- Calculus
- Logarithms & Slide rule

(2) DATA PROCESSING
- Programming
- Operators
- Systems Analyst
- Equipment

(3) BUSINESS

Basic Business	Machine Calculation
Accounting & Bookkeeping	Real Estate
Office Management	
Factory Management	
Consumer Economics	
Distribution	
Legal Practices	
Insurance	
Business Psychology	
Human Relations	
Public Relations	
Transportation	
Research & Development	

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PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OFFICIALS AND MANAGERS

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (4) CHEMISTRY
General Inorganic Chemistry

(5) ELECTRICITY & ELECTRONICS
Basic Electricity
Basic Electronics
Communications Circuits & Systems
Solid State Electronics

(5) METALS MANUFACTURING
General Machine Shop
Principles of Manufacturing
Numerical Machine Tool Programming
Research & Development

(6) HOME ECONOMICS
Journalism or Technical Writing
Label & Package Design & Directions
Product or Consumer Research & Development
Public Relations
Housekeeping (Homes, Motels, Hospitals, etc.)
Commercial Food Preparation
Restaurant Management
Interior Design
Window & Store Display
Lighting
Financing & Money Management
Radio & Television as Company Representative
Comparative Shopping

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PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OFFICIALS AND MANAGERS

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (6) VISUAL COMMUNICATION
- General Drafting
- Machine Drafting
- Architectural Drafting
- Technical Drafting
- Technical Illustration
- Technical Rendering
- Reproduction Methods
- Packaging & Label Design

(6) PHYSICS
- Noise & Vibration
- Mechanics
- Heat
- Light
- Statics & Dynamics
- Mechanics of Material

(6) BUILDING TECHNOLOGY
- Construction Technology
- Structural Design
- Painting & Finishing
- Interior Design
- Principles of Estimating
- Research & Development

(6) METALLURGY
- Physical Metallurgy
- Principles of Metallography
- Powdered Metallurgy
- Spectrology
- Strength of Materials
- Non-destructive Testing
- Destructive Testing
- Heat Treatment of Metals

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

PROFESSIONALS

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (1)	GENERAL EDUCATION	
	Grooming	Personal Conduct
	Spelling	College English
	Technical Writing	Speed Writing
	Specifications Writing	
	Public Speaking	
	Quality Control	
	Safety	
(2)	CHEMISTRY	
	General Inorganic Chemistry	Chemistry of Metals
	Quantitative Analysis	Organic Chemistry
	Physical Chemistry	
(3)	MATHEMATICS	
	General Math (arithmetic)	Analytic Geometry
	Algebra	Calculus
	Geometry	Differential Equations
	Advanced Algebra	Quadratic Equations
	Trigonometry	
	Logarithms & Slide Rule	
(4)	PHYSICS	
	Noise & Vibration	Kinematics
	Mechanics	
	Heat	
	Light	
	Statics & Dynamics	
	Kinetics	
	Mechanics of Materials	
(5)	DATA PROCESSING	
	Programming	Data Processing Equipment
	Systems Analyst	

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PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

PROFESSIONALS

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (6)	ELECTRICITY & ELECTRONICS	
	Basic Electricity	Electric & Electronic Instrumentation
	Basic Electronics	Electrical Transmission
	A.C. Circuits	Sound
	D.C. Circuits	Industrial Instrumentation
	Circuit Tracing	
	Circuit Design & Analysis	
	Communication Circuits & Systems	
	Solid State Electronics	
	Electronic Computers	
	Research & Development	
(6)	METALLURGY	
	Physical Metallurgy	Principals of Metallography
	Strength of Material	Powder Metallurgy
	Non-destructive Testing	Spectrology
	Destructive Testing	
	Heat Treatment of Metals	
(7)	METALS MANUFACTURING	
	General Machine Shop	Advanced Machine Shop
	Applied Power Mechanics	Principles of Manufacturing
	Tool & Die Design	Numberical Control Machine Tool Programming
	Machine Design	Surface Development
	Introduction to Tool & Die Making	Flat Materials Fabrication
	Hydraulics	
	Fluidics	
	Pneumatics	
(8)	BUSINESS	
	Basic Business	Key Punch Operator
	Accounting & Bookkeeping (Cont.)	Research & Development

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PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

PROFESSIONALS

(CONTENT BY PRIORITY)

	Mean and above Responses	Mean and 20% below Mean Responses
Each Item or Sub-Item Can Be Considered a Course or a Part of a Course		
PRIORITY (8)	BUSINESS (Cont.)	
	Office Management	
	Factory Management	
	Consumer Economics	
	Distribution	
	Legal Practices	
	Business Psychology	
	Human Relations	
	Public Relations	
(9)	VISUAL COMMUNICATION	
	General Drafting	Architectural Drafting
	Machine Drafting	Technical Illustration
	Electrical Drafting	Technical Rendering
	Structural Drafting	Packaging & Label Design
	Technical Drafting	Research & Development
(10)	MEDICAL TECHNOLOGY	
	Medical Technician	Electromedical Service Technician
	Pharmacy	
	Practical Nursing	
	Nursing	
	X-Ray Technician	
	Laboratory Technician	
(10)	HOME ECONOMICS	
	Journalism or Technical Writing	Restaurant Management
	Label & Package Design & Direction	Interior Designers
	Product or Consumer Research & Development	Kitchen & Bathroom Planning
	Public Relations	Financing & Money Management
	Cosmetology	Comparative Shopping
	Child Care, Private or Public	
	Recipe Development	
	Food Publicist or Taste Panels	
	Test Kitchen (Cont.)	

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

PROFESSIONALS

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (10) HOME ECONOMICS (Cont.)
- Commercial Food Preparation
- Dietician or Aides
- Home Improvements
- Lighting

(10) PLASTICS
- Chemistry of Plastics
- Plastic Casting
- Plastic Extrusion
- Plastic Coating
- Assembly of Plastic Materials
- Research & Development

Fibreglass Construction

(11) WELDING
- Gas Welding
- Arc Welding
- Heliarc Welding
- Exotic Metals Welding
- Laser Welding
- Research & Development

(12) BUILDING TECHNOLOGY
- Construction Technology
- Structural Design
- Concrete Materials
- Surveying
- Painting & Finishing
- Interior Design
- Principles of Estimating
- Research & Development

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PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

TECHNICIANS

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses
Each Item or Sub-Item Can Be Considered a Course or a Part of a Course	
PRIORITY (1) GENERAL EDUCATION	
Grooming	Spelling
Personal Conduct	Theme Writing
Technical Writing	Speed Writing
Specifications Writing	
Quality Control	
Safety	
(2) ELECTRICITY & ELECTRONICS	
Basic Electricity	
Basic Electronics	
A.C. Circuits	
D.C. Circuits	
Circuit Tracing	
Circuit Design & Analysis	
Communication Circuits & Systems	
Electric and Electronic Instrumentation	
Electrical Transmission	
Solid State	
Electronic Computers	
Industrial Instrumentation	
(2) METALS MANUFACTURING	
General Machine Shop	
Advanced Machine Shop	
Principles of Manufacturing	
Applied Numerical Control	
Tool & Die Design	
Machine Design	
Introduction to Tool & Die Making	
Surface Development	
Flat Materials Fabrication	
Hydraulics	
Fludics	
Pneumatics	

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

TECHNICIANS

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (2) DATA PROCESSING
- Programming
- Operation
- Systems Analyst
- Data Processing Equipment

(3) VISUAL COMMUNICATIONS
- General Drafting
- Machine Drafting
- Electrical Drafting
- Technical Drafting
- Technical Illustration
- Technical Rendering
- Reproduction Methods
- Commercial Photography
- Industrial Photography

Lofting

(3) MATHEMATICS
- General Math (arithmetic)
- Algebra
- Geometry
- Advanced Algebra
- Solid Geometry
- Trigonometry
- Longarithms & Slide Rule Usage

(3) PHYSICS
- Noise & Vibration
- Mechanics
- Heat
- Light
- Statics & Dynamics
- Kinematics
- Kinetics
- Mechanics of Materials

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

TECHNICIANS

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses
Each Item or Sub-Item Can Be Considered a Course or a Part of a Course	
PRIORITY (3) METALLURGY	
Strength of Materials	Physical Metallurgy
Non-Destructive Testing	Principles of Metallogrophy
Destructive Testing	Heat Treatment of Metals
(3) CHEMISTRY	
General Inorganic Chemistry	Chemistry of Metals
	Physical Chemistry
	Organic Chemistry
(4) BUSINESS	
Basic Business	General Typing Ability
Accounting & Bookkeeping	Clerical Skills
Machine Calculation	Factory Management
Consumer Economics	
Sales	
Distribution	
Business Psychology	
Human Relations	
Public Relations	
Transportation	
Research & Development	
(4) WELDING	
Gas Welding	Exotic Metals Welding
Arc Welding	
Heliarc Welding	
Laser	
(4) SERVICE	
Auto Mechanics	
Auto Electric & Electronic Systems	
Auto Body Work	
Air Conditioning & Refrigeration	

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

TECHNICIANS

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (5) MEDICAL TECHNOLOGY
- Pharmacy
- Nursing
- X-Ray Technician
- Laboratory Technician

(5) PRINTING
- Composition & Layout
- Art Principles
- Photo Composition
- Camera Techniques
- Color Separation
- Estimator

(5) PLASTICS
- Chemistry of Plastics
- Plastics Casting
- Plastics Extrusion
- Plastic Coatings
- Fibreglass Construction
- Assembly of Plastic Materials

(5) BUILDING TECHNOLOGY
- Construction Technology
- Structural Design
- Painting & Finishing
- Interior Design
- Principles of Estimating

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

SALES WORKERS

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (1) GENERAL EDUCATION
- Grooming
- Personal Conduct
- College English
- Spelling
- Public Speaking
- Quality Control
- Safety

(2) BUSINESS
- Basic Business
- Clerical Skills
- Filing
- Consumer Economics
- Retail Practices
- Sales
- Distribution
- Business Psychology
- Human Relations
- Public Relations

(3) HOME ECONOMICS
- Clothing & Accessory Design
- Textile Care & Testing
- Public Relations
- Housekeeping, (Homes, Motels, Hospitals, etc.)
- Laundry & Dry Cleaning
- Restaurant & Snack Bar Workers
- Cafeteria Workers
- Home Improvements
- Kitchen & Bathroom Planning
- Financing & Money Management

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

SALES WORKERS

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (3) MATHEMATICS
- General Math. (Arithmetic)
- Algebra
- Geometry
- Advanced Algebra
- Longarithms & Slide Rule Usage

(4) DATA PROCESSING
- Programming
- Operators
- Systems Analyst
- Data Processing Equipment

(5) ELECTRICITY & ELECTRONICS
- A.C. Circuits
- D.C. Circuits
- Circuit Design & Analysis
- Electrical Transmission
- Solid State
- Industrial Instrumentation
- Motor Repair

(6) BUILDING TECHNOLOGY
- Painting & Finishing
- Interior Design

(6) CHEMISTRY
- General Inorganic Chemistry

(6) SERVICE
- Air Conditioning & Refrigeration

(6) METALLURGY
- Strength of Materials
- Non-destructive Testing

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OFFICE AND CLERICAL

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses
Each Item or Sub-Item Can Be Considered a Course or a Part of a Course	
PRIORITY (1) GENERAL EDUCATION	
Grooming	College English
Personal Conduct	
Spelling	
Quality Control	
Safety	
(2) BUSINESS	
Basic Business	
High Speed Typing Ability	
General Typing Ability	
Clerical Skills	
Dictation	
Shorthand	
Filing	
Accounting & Bookkeeping	
Machine Calculation	
Office Machines Operation	
Key Punch Operator	
Secretarial Skills	
Human Relations	
(3) DATA PROCESSING	
Programming	
Operators	
Systems Analyst	
Data Processing Equipment	
(4) MATHEMATICS	
General Math (arithmetic)	
Algebra	
Geometry	

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OFFICE AND CLERICAL

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (5) BUILDING TECHNOLOGY
- Construction Technology
- Structural Design
- Concrete Materials
- Surveying
- Interior Design

(5) SERVICE
- Auto Mechanics
- Auto Body Work
- Office Equipment Service

(6) HOME ECONOMICS
- Journalism or Technical Writing
- Label & Package Design & Directions
- Public Relations
- Housekeeping (Homes, Motels, Hospitals, etc.)
- Cafeteria Workers
- Financing & Money Management
- Radio and Television as Co. Representative
- Comparative Shopping

(6) VISUAL COMMUNICATIONS
- General Drafting
- Architectural Drafting
- Electrical Drafting
- Structural Drafting
- Reproduction Methods
- Commercial Photography

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

CRAFTSMEN (SKILLED)

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (1) METALS MANUFACTURING

General Machine Shop	Allied Power Mechanics
Advanced Machine Shop	Applied Numerical Control
Tool & Die Design	Extruded Materials Fabrication
Machine Design	Fluidics
Introduction to Tool & Die Making	
Flat Materials Fabrication	
Hydraulics	
Pneumatics	

(2) GENERAL EDUCATION
- Grooming
- Personal Conduct
- Spelling
- Speed Writing
- Quality Control
- Safety

(3) ELECTRICITY & ELECTRONICS

Basic Electricity	Circuit Design & Analysis
Basic Electronics	Communication Circuits & Systems
A.C. Circuits	
D.C. Circuits	
Circuit Tracing	
Electrical & Electronic Instrumentation	
Electrical Transmission	
Industrial Instrumentation	
Motor Repair	

(4) PHYSICS
- Noise & Vibration
- Mechanics
- Heat
- Light
- Statics & Dynamics
- Kinematics
- Kinetics
- Mechanics of Materials

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

CRAFTSMEN (SKILLED)

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (5) VISUAL COMMUNICATIONS

General Drafting	Lofting
Machine Drafting	Technical Illustration
Electrical Drafting	Technical Rendering
Structural Drafting	Commercial Photography
Technical Drafting	Industrial Photography
Reproduction Methods	Packaging & Label Design

(5) WELDING

Gas Welding	Pattern Making
Arc Welding	Exotic Metals Welding
Heliarc Welding	

(6) MATHEMATICS

General Math. (Arithmetic)	Solid Geometry
Algebra	Analytic Geometry
Geometry	
Advanced Algebra	
Trigonometry	
Calculus	

(7) METALLURGY
Strength of Materials
Non-Destructive Texting
Destructive Testing
Heat Treatment of Metals

(8) SERVICE
Auto Mechanics
Auto Electric & Electronic Systems
Auto Body Work
Air Conditioning & Refrigeration

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

CRAFTSMEN (SKILLED)

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (9) BUILDING TECHNOLOGY
- Cabinet Making
- Woods & Wood Working Technology
- Painting & Finishing
- Interior Design
- General Machine Wood Working

(10) PRINTING
- Hand Type Setting
- Composition & Layout
- Art Principles
- Cold Type Operator
- Offset Pressman
- Camera Techniques
- Color Separation
- Stripper & Plate Maker
- Linotype Operator
- Letter Press Imposition
- Letter Press Pressman
- Press Maintenance
- Webb Pressman
- Silk Screen Printing Methods

(11) PLASTICS
- Chemistry of Plastics
- Plastic Casting
- Plastic Extrusion
- Plastic Coatings
- Fibreglass Construction
- Assembly of Plastic Materials
- Vacuum Forming
- Research & Development

(12) BUSINESS
- Basic Business
- Clerical Skills
- Machine Calculation
- Faculty Management
- Sales
- Distribution
- Human Relations
- Public Relations
- Transportation
- Research & Development

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OPERATIVES (SEMI-SKILLED)

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses
Each Item or Sub-Item Can Be Considered a Course or a Part of a Course	
PRIORITY (1) GENERAL EDUCATION	
Grooming	Spelling
Personal Conduct	
Quality Control	
Safety	
(2) ELECTRICITY & ELECTRONICS	
Basic Electricity	
Basic Electronics	
A.C. Circuits	
D.C. Circuits	
Circuit Tracing	
Communications Circuits & Systems	
Electric & Electronic Instrumentation	
Electrical Transmission	
(3) METALS MANUFACTURING	
General Machine Shop	Tool & Die Design
Advanced Machine Shop	Machine Design
Applied Power Mechanics	Introduction to Tool & Die Making
Applied Numerical Control	Flat Materials Fabrication
	Extruding Materials Fabrication
	Hydraulics
	Fluidics
	Pheumatics
(4) PHYSICS	
Noise & Vibration	
Mechanics	
Heat	
Light	
Statics & Dynamics	
Kinematics	
Kinetics	
Mechanics of Materials	

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OPERATIVES (SEMI-SKILLED)

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (5) WELDING
- Foundry Practices
- Gas Welding
- Arc Welding
- Heliarc Welding

(6) SERVICE
- Auto Mechanics
- Auto Electrical & Electronic Systems
- Auto Body Work
- Air Conditioning & Refrigeration

(7) MATHEMATICS
- General Math. (Arithmetic)
- Solid Geometry

Geometry

(8) BUILDING TECHNOLOGY
- Cabinet Making
- Wood & Woodworking Technology
- Painting & Finishing

(9) PLASTICS
- Vacuum Forming
- Plastic Casting
- Plastic Extrusion
- Assembly of Plastic Materials

(10) VISUAL COMMUNICATION
- General Drafting
- Electrical Drafting

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

OPERATIVES (SEMI-SKILLED)

(CONTENT BY PRIORITY)

Mean and above Responses	Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (11) HOME ECONOMICS
- Public Relations
- Nurses Aides
- Housekeeping (Home, Motels, Hospitals, etc.)
- Commercial Food Preparation
- Cafeteria Workers

(11) BUSINESS
- Basic Business
- Sales
- Distribution
- Human Relations
- Public Relations

(11) PRINTING
- Bindery Operations

(12) METALLURGY
- Physical Metallurgy
- Strength of Materials
- Non-destructive Testing
- Destructive Testing
- Heat Treatment of Metals

Mean and 20% below Mean Responses:
- Principles of Metallography
- Spectrology

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

LABORERS (UNSKILLED)

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (1) GENERAL EDUCATION
- Personal Conduct
- Spelling
- Speed Writing
- Quality Control
- Safety

(2) MATHEMATICS
- General Math. (Arithmetic)

(3) WELDING
- Foundry Practices

J. STERLING MORTON HIGH SCHOOLS
PRACTICAL ARTS SURVEY ANALYSIS

PROGRAM ANALYSIS BY OCCUPATIONAL CLASSIFICATION

SERVICE WORKERS

(CONTENT BY PRIORITY)

Mean and above Responses — Mean and 20% below Mean Responses

Each Item or Sub-Item Can Be Considered a Course or a Part of a Course

PRIORITY (1) GENERAL EDUCATION
- Grooming
- Personal Conduct
- Quality Control
- Safety

(2) ELECTRICITY & ELECTRONICS
- Circuit Tracing
- Electrical Transmission
- Solid State
- Industrial Instrumentation
- Motor Repair

(3) MATHEMATICS
- General Math. (Arithmetic)

(4) HOME ECONOMICS
- Product for Consumer Research & Development
- Nurses Aides
- Housekeeping (Homes, Motels, Hospitals, etc.)
- Commercial Food Preparation
- Restaurant & Snack Bar Workers
- Cafeteria Workers
- Dietician or Aides
- Financing & Money Management
- Comparative Shopping

CHAPTER FOUR

SUMMARY OF MAJOR RECOMMENDATIONS

The following listing is to summarize the major recommendations included in the extensive detailed report. The reader is urged to study the entire report to extract broader understandings of the substance and rationale for the recommendations which follow. For even greater in-depth study the statistical data to substantiate findings and recommendations is on file and will be made available as requested for additional anaylsis and examination.

The report contains many suggestions and recommendations. Therefore, the summary is essentially a brief skeleton of the details that have preceded this chapter.

1. The present report should be viewed as an immediate opportunity to extend the concern for Practical Arts as it relates to the total educational situation to as wide an audience in the community as possible. Every effort should be made to get the educational message across to the general public.

2. Special attention should be given to activating the interest of groups in the industrial and business community of District 201, with a view to developing educational liaison and the innumerable resources that are available as part of the world of reality to which high school learnings should be related.

3. School authorities should be given the highest priority to take steps in implementing a curriculum study for the purpose of detailing not only curricular needs as has been so widely provided in this study but also to provide new programs for the Morton High Schools.

4. A new building and expanded Practical Arts facility is an essential ingredient to the needs identified in this study. Attention should be given immediately to questions of location, as well as accessibility for schools which will be using this facility.

5. In any decision with reference to building and facility to house the recommended program for practical arts, constant attention should be provided to maintain quality of opportunity for faculty vision and services that these programs can provide.

6. School authorities should make every effort toward working with, and providing opportunities for the development of a social conciousness which must be total in its character as the educational establishment matures.

7. There are opportunities for special federal programs for the secondary schools. These are opportunities that District 201 should investigate at an early date. Every effort should be made, however, to recognize that these federal programs are supplementary in nature and do not provide, or should not be considered as substitutes for, basic community financial support.

8. One of the basic challenges for District 201 is to create a far-sighted Practical Arts educational program orientated toward ALL students in the high school, whether they are or are not college bound.

9. Care should be exercised that what has been a very successful and modest fiscal policy does not limit the vision of District 201 in rising to the occasion with reference to opportunities and responsibilities for the future.

10. Immediate priority should be given to up-dating and improving the subject matter areas as recommended in the study.

11. Vertical practical arts articulation should begin in the elementary school and work through to the 12th grade level in high school, and beyond.

12. Continued encouragement should be given the faculty in lateral curricular planning and operation, thus providing desired correlations between the various areas of the high school curriculum. This will ultimately provide for a comprehensive high school program; included in this comprehensiveness will be the practical arts offerings.

13. A curriculum materials center should be established. One does not exist at the present time. When there is an organizational set-up for continuing curriculum improvement, specific individuals should be responsible for disseminating information and ideas relevant to curriculum content and organization. It will be important that those charged with responsibility for developing and disseminating curriculum materials have access to many professional journals and the publications of the Educational Research Information Center (ERIC), of the U.S. Office of Education, Washington, D.C.

14. Within the scheduled priorities, there should be included not only adequate physical facilities but much new equipment to either replace obsolete and worn out items or provide new equipment that at the present time does not exist in the program.

15. Consideration should be given to assignment of additional staff to help with the coordination and supervision of these programs that are recommended. This will be true for not only the recommended human resources center, but also for the needed coordination and supervision of new curricular areas and courses to be taught.

16. A written document should be established and known as the Curriculum for Practical Arts and its various divisions. Also, it should be the policy that this document be the primary point of departure for teaching that takes place in this program. Historically true in the field of practical arts is programming and "teaching by personality", that is, the personality and resources of the teacher. Needed at this point is prescribed content to which all faculty may relate.

17. It should be kept in mind that schools will never attain an absolutely perfect curriculum; hence, the importance of continually working toward one with a spirit of innovation and frontier thinking. Such an effort may then be viewed as a point of departure for an exciting experience in teaching for the faculty and an exciting learning experience for the students.

APPENDIX

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OCCUPATIONAL CLASSIFICATIONS OF U. S. OFFICE OF ECONOMIC OPPORTUNITY

CODE:

1 - Officials and Managers
2 - Professionals
3 - Technicians
4 - Sales Workers
5 - Office and Clerical
6 - Craftsmen (skilled workers)
7 - Operatives (semi-skilled)
8 - Laborers (unskilled)
9 - Service Workers

SUB-OCCUPATIONAL TITLES RELATED TO OCCUPATIONAL CLASSIFICATIONS

5 - Accountant
7 - Automatic screw machine operator
6 - Automobile repair man
6 - Baker
9 - Bartender
6 - Body and funder man
5 - Bookkeeper
2 - Business consultant
1 - Business owner
6 - Butcher
9 - Cab driver
6 - Carpenter
3 - Chemist (no degree)
2 - Chemist (degree)
9 - City employee
2 - Civil engineer (degree)
4 - Clerk
2 - CPS (degree)
9 - Custodian
3 - Detailer
6 - Die maker
6 - Die setter
5 - Dispatcher
8 - Dock hand
3 - Draftsman
2 - Electrical engineer (degree)
6 - Electrician
2 - Engineer (degree)
1 - Executive
7 - Factory worker
9 - Fireman
6 - Foreman
6 - Grinder
9 - Guard
7 - Inspector
4 - Insurance
5 - IBM (key punch)
3 - IBM (operator, programmer)
3 - IBM (service)
1 - Manager
6 - Mechanic
3 - Mechanical technician
6 - Modelmaker
9 - Night watchman
5 - Office worker
7 - Operator, machine
3 - Operator, telephone
1 - Owner of business
7 - Packer
6 - Painter/decorator
6 - Pipe fitter
9 - Policeman
6 - Pressman (printing)
6 - Printer
9 - Railroad engineer
9 - Railroad guard
9 - Railroad switchman
4 - Retail clerk
9 - Receptionist
4 - Roadman (sales/"service")
4 - Salesman/saleslady
4 - Sales worker
2 - School teacher
6 - Seamstress
5 - Secretary
6 - Set up man
6 - Sheet metal worker
7 - Shipping clerk
3 - Steel testing
6 - Steel worker
9 - Stock clerk
1 - Superintendent
6 - Tailor
2 - Teacher (degree)
3 - Technician
3 - Telegrapher
6 - Tool and die maker
9 - Truck driver

SUB-OCCUPATIONAL TITLES RELATED TO OCCUPATIONAL CLASSIFICATIONS
(Continued)

9 - Janitor
8 - Laborer
2 - Lawyer
6 - Leather cutter/worker
7 - Machine operator
6 - Machinist
9 - Mailman
9 - Maintenance
3 - TV Repairman
3 - TV Technician
5 - Typist
9 - Union organizer
8 - Warehouseman
9 - Watchman
6 - Welder
8 - Worker

ROSTER OF SURVEY INTERVIEWS

Company Name	Type of Business	Survey Number
Stineway - Ford - Hopkins	Retail Drug Store	1
Spector Freight Systems	Common Carrier	2
Allied Van Lines	Long Distance Moving	3
Fannie Mae Kitchen Candies	Candy Mfg.	4
Convenient Food Mart Inc.	Franchise Food	5
Jewel Food Stores	Diversified Retailing	6
Golden Rexall Drugs	Retail	8
Whopper Commissary Co.	Restaurant Supplier	9
West Suburban Hospital	Non Profit Hospital	10
Karen's Swedish Restaurant	Restaurant	11
Zenith Radio Corp.	Electronics	12
Illinois Bell Telephone	Communications	13
DeMars Fashion Center	Ladies Apparel	14
Wieboldt Stores Inc.	Retail Dept. Store	15
Lien Chemical Co. & Bldg.	Restroom Sanitation	16
Richard's	Restaurant	17
Kinney's Shoes	Shoe Retail	18
Mangams Chateau	Restaurant	19
Robert Hall	Retail Clothing	20
Rosen Optical Co. Inc.	Optometrists	21
Mac Neal Memorial Hospital	Hospital - Gen. NFP	22
R. H. Donnelly	Direct Mail Service	23
Morton Cab. Co.	Taxi Co.	24
Jack's Mens Shop	Men's Clothing Store	25
Subka Pharmacy	Retail Pharmacy	26
Lincoln Federal Saving	Savings & Loan Assn.	27
Henrici	Restaurant	30
Ruzicka Furniture	Furniture Store	31
Alfred Beauty Salon	Beauty Salon	32
Tandy Crafts	Crafts	33
Richman Brothers	Retail Clothing	34
Berwyn Post Office	Postal Service	35
Marcelles	Kitchen Remodeling	36
Jack Lord	Men's Wear	37
Schiff Shoes	Shoe Store	38
Canteen Corp.	Food Vending	39
Marshall Fields	Retail Dept. Store	40
Armour & Co.	Consumer Products	41
Ramada Inn	Motel	42
Stouffer's Oakbrook Inn	Hotel & Restaurant	43
Mid-America Federal	Savings & Loan	44
Eastman Kodak Dist. Div.	Dist. Photographic Mtls.	45
Burney Bros. Bakeries	Wholesale & Retail Bakery	46
Holiday Inn - West	Hotel & Restaurant	47
Gottlieb Memorial Hospital	Hospital	48
Oak Park Hospital	Hospital	49
McCrory, McClellan & Green	Variety Stores	50

ROSTER OF SURVEY INTERVIEWS

Company Name	Type of Business	Survey Number
Troy Stores	Department Store	51
Mr. Simon's School of Beauty	Beauty School	52
Loretto Hospital	Hospital	54
Impact Graphics Inc.	Diemaking & Engraving	55
Electromotive	Diesiel Locomotives	101
Acme Tool Company	Tool & Die Job Shop	102
Fisher Body	Auto Parts	103
Abart Gear Company	Gear Manufacture	104
Advertising Metal Display Co.	Metals Signs & Display	105
Atlas Forging	Die Casting	106
Borden Chemical Div. Inc.	Ind. Adhesvies	107
Erie Industrial Products	Metal Fabricating	108
Brad Foote Gear Wks.	Gears	109
Ajax Consolidated Co.	Railway Brake Equipment	110
Barrett Varnish Co.	Panit & Varnish Products	111
Hill & Griffith	Foundry Materials	112
Altman Mfg. Co.	Tool & Die Job Shop	113
B & B Specialty Co.	Production Machinery	114
Goss Company	Printing Presses	115
Greenlee Foundry	Castings	116
Oster Tool & Die	Tool & Die Job Shop	117
Chicago Zoological Soc.	Zoo	118
Chicago Manufacturing Co.	Tool & Die Work	119
Hydrosol Inc.	Paint & Varnish	120
John Bremman & Co.	Lumber	121
Northern Illinois Gas Co.	Natural Gas	122
Becker Bros. Carbon Co.	Carbon/Graphite Products	123
G. S. Blakeslee Co.	Food Machinery	124
John Gillen Co.	Fastener & Power Transmission	125
National Castings	Castings	126
Blaw-Knox Co.	Ford Machinery Div.	127
E. H. O'Neill Floors Co.	Industrial Flooring	128
Harris Preble Fire Door Co.	Fire Doors	129
Prestile Inc.	Plastics	130
Resistors Inc.	Resistor Mfg.	131
Roth Rubber Co.	Custom Molded Rubber	132
Ramco	Die Casting	133
Prater Pulverizer Comp.	Heavy Equip. & Grinding Mill	134
C. E. & I. Industries	Wire Rope Products	135
Victor Gasket Co.	Gaskets	136
Mobile Oil Co.	Petroleum Products	137
Borden Products Inc.	Dairy Products	138
Harold M. Pitman Co.	Printing Supplies	139
Sommer & Maca	Glass Processing Equip.	140
Alkydol Lab. Inc.	Mfg. Synthetic Resins	141
Slate Printing Co.	Printing	142
Sprinkler Contractors	Ind. Sprinkler Systems	143

ROSTER OF SURVEY INTERVIEWS

Company Name	Type of Business	Survey Number
Commonwealth Edison Co.	Public Utilities	144
Bekins Van Lines	Moving & Storing	145
Hobart Mfg.	Food Machinery Sales & Ser.	146
Harvey Hubbell Inc.	Elec. Components	147
LaSalle Messenger Paper Co.	Paper Products	148
Kalmus & Assoc.	Printed Circuit Boards	149
Sound Projects Co.	Electronic Devices	150
Standard Castings	Non Ferrous Foundry	151
Chas. F. L'Hommedieu Co.	Platers Supplies	152
Robert Bosch Corp.	Electrical Tools	153
Gray Co.	Valves & Couplings	154
Durborn Rubber Co.	Rubber Products	156
Zenith Steel Corp.	Steel Products	158
The Snank Mfg. Co.	Screw Products	159
Three Staf Mfg. Co.	Tool & Die	160
Refrigerating Specialties	Refrigeration Equipment	161
Lavaty Engineering	Mfg. Heating & Air Con.	162
Mott Company	Industrial Lawn Mowers	163
Templeton Kency Co.	Mfg. Jacks	164
Jessop Steel Service	Steel Fabrication	165
Boyer - Schultzi Co.	Machine Tools Mfg.	166
NVF Corp.	Fiber Production	167
Chicago Rivet & Machine Co.	Rivets & Rivet Machines	168
Cadillac Printing & Litho.	Printing & Litho.	169
Cicero Photo	Photo Service	201
Cicero Police Dept.	Police	202
Cicero Fire Dept.	Fire Dept.	203
Laddie Popek Florists	Florist	204
Howard Shoes	Shoe Store	205
Dr. L. T. Shimandle	Dentist	206
Berwyn Animal Hospital	Animal Hospital	207
Frank Louis Velat	Architect	208
Geo. Dolezal & Assoc.	Law Firm	209
Reichardt Cleaners	Cleaners	210
Universal Oil	Process Devel.	211
Hicks Hardware	Hardware Store	212
Woolworth	Dime Store (Variety)	213
Best Ever Cleaners	Cleaners	214
Berwyn Stickney Tree Service	Tree Service	215
Cicero Glass Co.	Glass - for const.	216
Walgreens	Drug Store/Dept.	217
Robin Hood Mufflers	Muffler & Assoc. Replacement	218
Taylor Standard Street	Gas Station	219
G. C. Murphy	Variety	220
Austin Realty	Real Estate Office	221
E. J. Korvette	Dept. (Discount) Store	222
National Lead	Paints Mfg. of metals metal	223

ROSTER OF SURVEY INTERVIEWS

Company Name	Type of Business	Survey Number
Allied Radio	Outlet for Elec. Inst.	224
Berwyn Theatre	Theatre	225
Thom McAnn Shoes	Shoe Store (Retail)	226
Modernage-Subn Inc.	Applicance Store	227
Allegra Ford	Car Dealer (New Used)	228
Air Express Div. of KEH	Parcel Delivery	229
Crib Diaper Service	Diaper Service	230
Community Discount Center	Variety Store	231
C. Groot	Rubbish Removal	232
Alan Radio & Appliance	Appliance Store	233
The Form House	Bindery Work	234
Ace New Photo Service	Film Processing	235
Berwyn Texaco	Gas Station	236
Presidential Inn	Motel & Apartment Mgnt.	237
Svec. & Sons	Funeral Home	238
Ogden Top & Trim	Car Interiors	239
Amphenol	Elec. Component Mfg.	240
Brisca Brick	Brick Yard	241
West End Boat Sales	Boat Motor Repairs & Sales	242
Kanak & Sons	Office Mach. Sales & Repair	243
Lawndale Auto Body	Auto Body Repair	244
Budd Company	Polychemicals	245
Caldwell	Storm Door & Window Sales	246
Ketone Automotive Inc.	Auto Paint, Boats Supplies	247
Illinois Brick Company	Brick Mfg/yard	248
King Optical	Optical Service	249
Berwyn Dairy	Milk Sales/Products	250
Vulcan Materials	Cement Materials	251
Life Newspaper	Newspaper Production	252
Heger Travel Agency	Travel Agent	253
Olympic Theatre	Mnip. Theatre	254
Burlington Truck Lines Inc.	Trucking	255
Norge Village Cleaning	Cleaning & Washing	256
Allstate Insurance Co.	Insurance	257
Viren - Dumroese	Architects	258
Crowley Sheppard Asphalt Co.	Asphalt	259
Tabor Paints	Paint Store	260
Harlem Cermak Cinema	Theatre	261
Frejlach's	Ice Cream & Foods Rest.	262
Star Chemical Co.	Chemical	263
Larry Goodmans Dept. Store	Variety Store	264
Cermak Dodge	Auto Sales	265
Riverside Savings & Loan	Savings & Loan	266
International Register Co.	Electrical/Mechanical Timers	267
Demert & Dougherty	Chemical Co.	268
Ralph Stoetzel Inc.	Architectual office	269
Hendrickson Mfg. Co.	Truck Mfg. & Service	270

ROSTER OF SURVEY INTERVIEWS

Company Name	Type of Business	Survey Number
Turf Motel	Motel	271
Clark Equipment	Heavy Equipment	272
Cicero - Berwyn Press	Printing - offset/letter press	273
Imperial Camera	Photo Store	299
James Basta	Lawyer	300
Daral Inc.	Radio Speaker Parts	301
Edward & Duetsch	Lithographers	302
Emblem Tool	Tool & Die	303
Pheoll Mfg. Co.	Mfg. Metal Fasteners	304
Koppers Co. Inc.	Refining Coal tar	305
Hotpoint	Appliance Mfg.	306
Lockformer	Sheet Metal Machinery	307
Crown Stove Works	Manf. Domestic gas range	308
Industrial Filter	Industrial Filters	309
McMahon Bros.	Screws, bolts, nuts	310
Centerless Grinding	Grinding	311
Chicago Pattern Works	Patterns	312
Cicero Plastics	Plastic Fabrication	313
Cicero Cut Stone	Cut Stone	314
Corey Steel Company	Steel Fabricators	315
B. F. Molds & Models Inc.	*Molds & Models*	316
Closure Tool & Die	Tool & Die Works	317
Danley Machines	Machines	318
Ideal Molds	Molds	319
DuCall Miller Plastics	Plastics Custome forming	320
Electrocast	Steel Foundry	321
Kropp Forge	Forging	322
Mohawk Metal Products	Sheet Metal Fabrication	323
Hines Building Materials	Lumber Sales	324
Taylor Forge	Pipe & Custome Forgings	325
Dirzins Machine Shops	Screw Products	326
Sunbeam Inc.	Appliance Mfg.	327
City Ice	Ice	328
Stu - Arts	Ceramic Studio	329*
Unique Printer	Printers	330
Cicero Wine Products	Electroplating	331
Twilight Bedding	Upholstered furniture Mfg.	332
Dorbin Metal Strip Mfg. Co.	Roll forming	333
Oakwyn Florists	Florist	334
Segreti Pharmacy	Drugs	335
Midland Pipe & Supply	Pipe Fabrication & Dist.	336
Prudential	Insurance	337
Austin Brothers Cement	Concrete Contractors	338
Leader Dept. Store	Department Store	339
Electron Enterprises	Electronic Components	340
Valentine Savings	Savings & Loan	341
Chalet Motel	Motel	342

ROSTER OF SURVEY INTERVIEWS

Company Name	Type of Business	Survey Number
Lyons Policy Dept.	Policy Dept.	343
Superior Pipe	Steel Fabrication (Pipe)	344
George Schubert	Funeral Director	345*
Chateau Bowl	Bowling Lanes	347
Pivonka Clothiers	Clothing Store	348
Imperial Metal & Chemical Co.	Type Metal	349
Jacks Disc. Shoe Center	Shoe Store	350
Williams - Bowman Rubber Co.	Office Manager	351
Long-Smith Mfg.	Woodwork Fabrication	352
Cities Service Oil Co.	Petroleum Refining	353
Vogue Woodworking	Wood Mfg.	354
Framar	Tool Rental	355
Reis & Wolta Florists	Florist	356
Frederick Hardware	Paint & Hardware	357
The Ceco Corp. Factory	Metal Fabrication	358
Industrial Pipe & Supply	Mfg. Pipe Fittings & Sales	359
Color Wrap Inc.	Plastic Printing & Packaging	360
West End Cinema & Camera Serv.	Camera Store	361
Sekera Furniture Co.	Furniture Store	362
Stephens Men's Store	Men's Clothing	363
Western Electric Company	Mfg. Bell Telephone Equip.	364
Raikes	Variety Store	365
Richman Brothers	Men's Clothing	366
Al's Auto Graveyard	Auto Salvage & Repair Parts	367
Community Chevrolet	Auto Sales & Services	368
Ace Hardware	Hardware Sales	369
Wonder Trussless Building Inc.	Bldg. Mfg. Sales & Erection	370
Goodyear Retail Store	Tire Store	371
Campus Center	Camping Equipment	372*
Mrs. Sittler's Candies	Candy Mfg. & Sales	373
Chemtoy	Chemical Mfg. Toys	374
DeVille Tire Company	Tire Sales & Services	375
Two Sisters	Women's Clothing	376
Green Mill Gardens	Wholesale Pot Plant	562
Old Prague	Restaurant	563
Bates Printing	Printing	564
Atlas Plating Works Inc.	Plating Mfg.	565
Berwyn Western	Plumbing & Heating	566
Dr. James L. Hora	Doctor	567
Prosch Drugs	Drugs	568
Willard's Appliances Inc.	TV - Air Cond. & Appl.	569
J. C. Penny	Retail Sales	570
Benac	Truck Transport	571
Smith Marine	Marine Sales	572
Chicago Extroded Metals	Brass Mill	573
L & M Restaurant	Restaurant	574
Motive Equipment	Mfg.	575

ROSTER OF SURVEY INTERVIEWS

Company Name	Type of Business	Survey Number
Bates Printing	Printing	576
Jewel Tea Co.	Grocery Employment	578
Chicago Vitreous Corp.	Enamel Mfg.	579
Burroughs Corp.	Sales, Serv. & Bus. Machines	580
Nepils Grocery	Retail Self Service Fro.	581
Frenz-Hayes & Assoc.Inc.	Apt. Building Const.	582
Cicero Bowling Lanes	Amusement	583
Jewel Builders	Builder	584
Great West Elect.	Elect.	585
Aldora Printings Inc.	Printing	586
West Town Electric	Electrical Contractor	587
Schneider Metal Mfg. Co.	Metal Mfg.	588
Clyde Savings & Loan	Savings & Loan	589
Western National Bank of Chicago	Bank	590
Baar Realty Co.	Real Estate	591
Sears, Roebuck & Co.	Retail Hardline Mdse.	592
Vydra Movers	Moving & Storage	593
Physicians' Record Co.	Printing & Publishing	594
Westgate Lincoln Mercury	Auto Sales & Service	595
Prexler	Auto Service & Repair	596
Beranek Pontiac, Inc.	Automobile Dealership	598
Berwyn Lumber Co.	Lumber Yard	599
Ogden Tile - Paint	Floor & Wall Coverings	600

INFORMATIONAL SURVEY

Directions: An attempt is being made to gather information for improving the educational opportunities in Morton High School. You can help by answering each question below. This is not a test, and the answers you give will not affect your grades. Please do not sign your name. Be sure to answer all questions as accurately and completely as possible. Thank you.

1. Sex (check one) Boy _____ Girl _____

2. Year in school (check one) 6 _____ 7 _____ 8 _____ 9_____
   10 _____ 11 _____ 12 _____

3. Father's occupation_____If not living, check_____

4. Mother's occupation_____If not living, check_____

5. How many years have your parents lived in the Morton High School District?
   Lyons_____ Cicero_____ Berwyn_____ Stickney_____
   Forest View_____.

6. What is the highest level of school attained by each of your parents?
   Father_____ Mother_____

7. Which field of interest best describes the one you are now pursuing? (Check one)

   _____A. Business
   _____B. College Preparatory
   _____C. General
   _____D. Home Economics
   _____E. Vocational-Technical
   _____F. Other_____ (Write in)

8. If you could choose again on the basis of what you now know about these courses, which would you choose? (Check one)

   _____ A. Business
   _____ B. College Preparatory
   _____ C. General
   _____ D. Home Economics
   _____ E. Vocational-Technical
   _____ F. Other_____ (Write in)

9. What do you want to do after graduation from high school? (Check one)
   _____ A. Go to work at a job
   _____ B. Enter military service
   _____ C. Become a housewife
   _____ D. Attend college
   _____ E. Attend Business College
   _____ F. Attend trade or beautician school
   _____ G. Attend nursing school
   _____ H. Other_____ (Write in)

(CONTINUE ON REVERSE SIDE)

10. In your opinion, how do your parents feel about whether you go to college, attend a trade school, or go directly to work after high school graduation? (Check one)

_____ A. Insist I go
_____ B. Want me to go
_____ C. Want me to make the choice
_____ D. Don't care
_____ E. Don't want me to go
_____ F. Won't allow me to go

11. Which school staff members helped you <u>most</u> with your plans for the future? (Check as many as apply)

_____ A. Grade school teacher
_____ B. Grade school shop teacher
_____ C. Guidance counselor
_____ D. Homeroom adviser
_____ E. Deans
_____ F. Vocational counselor
_____ G. Practical Arts teacher
_____ H. Other_____
(Write in)

12. FOR HIGH SCHOOL STUDENTS ONLY. Have you ever been refused registration into any of the following types of classes for reasons other than grades or failure? (Check)

_____ 1. Business
_____ 2. Home Economics
_____ 3. Industrial Arts
_____ 4. Vocational-Industrial

13. If you checked any item in 12, above, indicate the reason here. (Check)

_____ A. Classes were full
_____ B. Previous teacher could not recommend me
_____ C. Subject not offered that semester
_____ D. Other (Write in)_____

14. GRADE SCHOOL STUDENTS ONLY. If you had only one choice upon entrance to high school which of the following would you choose? (Check and write in)

_____ A. Business (What subject area) _____
_____ B. College preparatory (What subject area)_____
_____ C. General Education _____
_____ D. Home Economics (What subject area)_____
_____ E. Industrial Arts (What subject area)_____
_____ F. Vocational (What subject area)_____

J. STERLING MORTON HIGH SCHOOLS
2423 SOUTH AUSTIN BOULEVARD, CICERO, ILLINOIS 60650 / OLympic 2-1100

JAMES V. MOON
Superintendent
JOSEPH ONDRUS
Assistant Superintendent

PRACTICAL ARTS SURVEY

1968 - 1969

SUMMARY OF RESPONSES

Name of Firm _____
Address _____
Type of Business _____
Survey prepared by _____
Position _____
Phone No. _____

Survey Number 457 Page Number 1

			.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
.11	Average Number Employed in each Category		42	23	16	51	74	71	179	77	23	
.12	Percentage of Employment Increase by 1970		6.1	3.9	2.8	4.8	6.1	5.3	5.1	4.3	3.8	
.13	Percentage of Employment Increase by 1980		1.7	1.0	.5	1.5	1.8	1.8	1.5	1.2	.7	
.14	Percentage of Employment Separation caused by Inadequate Training		1.4	.8	.3	.9	1.4	1.7	2.5	2.5	1.6	
.15	Percentage of Employment Separation caused by Unsuitable Personal Traits		1.1	.6	.7	1.0	2.0	1.8	2.5	3.4	1.8	
.16	Sex Preferred	% Male	67	28	21	36	5	48	38	36	27	
		Female	2	5	1	5	39	1	4	2	1	
		Either	28	19	16	21	35	14	24	17	16	

EDUCATIONAL TRAINING DESIRED

.17	High School Graduation not required	.042	.006	.009	.055	.039	.082	.207	.314	.296	
.18	High School General Education	.253	.046	.069	.240	.338	.180	.256	.154	.144	
.19	Voc. Tech. High School or Jr. College	.217	.075	.200	.157	.450	.381	.253	.032	.032	
.20	Junior College General Education	.078	.029	.029	.092	.023	.016	.003			
.21	4 Year Liberal Arts	.253	.065	.036	.069	.009	.009	.003			
.22	4 Year College Technology Program	.226	.128	.049	.062	.006	.003				
.23	Eng. or other Adv. Training Programs	.125	.246	.032	.029	.003		.003			
.24	Other	.115	.023	.026	.016	.019	.015	.019	.003		

COMMENTS AND NOTES:

* Blank cells indicate zero percent

3186 Interview by _____

EMPLOYERS' RESPONSE TO ITEMS ON THE BUSINESS AND INDUSTRY QUESTIONNAIRE

FIGURES IN INDIVIDUAL CELLS REPRESENT FIRMS INDICATING A NEED FOR THE ITEM; BLANK CELLS REPRESENT NO RESPONSE

Page Number 2

			.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
General	1	Good Grooming:	74	39	28	50	65	33	32	24	24	
	2	Personal Conduct:	72	38	30	49	62	44	45	37	33	
	3	College English:	44	27	13	23	14	2	1		1	
	4	Spelling:	62	32	22	37	60	20	13	6	4	
	5	Theme Writing:	40	20	13	21	23	3	3	1		
	6	Technical Writing:	31	28	20	13	7	3	2			
	7	Specifications Writing:	29	25	18	13	7	5	2			
	8	Speed Reading:	39	20	13	18	18	4	4			
	9	Public Speaking:	67	24	10	34	13	5	5	2	2	
	10	Quality Control:	61	30	25	31	42	44	38	26	23	
	11	Safety:	56	29	23	34	39	47	48	40	31	
Mathematics	12	General Math (arithmetic):	73	33	22	47	63	43	40	23	19	
	13	Algebra:	27	19	12	7	9	12	2			
	14	Geometry:	23	17	9	8	5	11	3			
	15	Advanced Algebra:	14	16	7	5	2	5	2			
	16	Solid Geometry:	9	13	5	2	1	4	2			
	17	Trigonometry:	15	16	11	4	1	13	4			
	18	Analytic Geometry:	5	11	3	1		1				
	19	Descriptive Geometry:	5	10	2	1		1				
	20	Calculus:	9	15	6	1		1				
	21	Differential Equations:	4	10	2	1						
	22	Logarithms & Slide Rule Use:	9	13	6	2		2				
	23	Quadratic Equations:	5	16	2							
Chemistry	24	General Inorganic Chemistry:	13	17	10	5	1	3	2			
	25	Chemistry of Metals:	8	15	7	2		2	1			
	26	Quantitative Analysis:	7	14	6	1						
	27	Physical Chemistry:	5	13	5	2						
	28	Organic Chemistry:	5	12	5	1		1				
		Qualatative Analysis:	5	12	5	1						

EMPLOYERS' RESPONSE TO ITEMS ON THE BUSINESS AND INDUSTRY QUESTIONNAIRE

FIGURES IN INDIVIDUAL CELLS REPRESENT FIRMS INDICATING A NEED FOR THE ITEM; BLANK CELLS REPRESENT NO RESPONSE

Page Number 3

		.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
Business											
29	Basic Business:	81	34	14	39	55	8	7	1	4	
30	High speed typing ability:	2	1		1	36					
31	General typing ability:	21	13	3	10	70	1	1		1	
32	Clerical Skills:	20	10	5	14	67	2	2		1	
33	Dictation:	6	2		2	49					
34	Shorthand:	1	1			50					
35	Filing:	17	10	2	9	74	2	2	1		
36	Accounting and Bookkeeping:	58	22	3	8	59	1	1			
37	Machine Calculation:	36	20	8	16	60	3	3	1		
38	Office Machines Operation:	19	10	3	9	50	1	2			
39	Key Punch Operator:	1	2	1		18					
40	Office Management:	60	12	3	6	17	1				
41	Store Management:	27	4	1	7	4		1		1	
42	Small Business Management:	58	9	3	8	8	1	1		1	
43	Factory Management:	34	9	5	3	3	6	1			
44	Consumer Economics:	35	8	3	15	4	2	1	1	1	
45	Secretarial Skills:	3	2		2	60		1			
46	Retail Practices:	35	7	3	23	12	4	4	1	2	
47	Sales:	5	12	50	49	12	6	5	2	3	
48	Distribution:	30	6	2	14	6	3	4	3	1	
49	Legal Practices:	48	15	2	6	6	1				
50	Legal Services:	26	9	1	2	1	1				
51	Real Estate:	29	5	1	2	1					
52	Insurance:	59	9	2	4	8		1			
53	Business Psychology:	71	20	6	24	43	3	2	1	1	
54	Human Relations:	81	31	15	34	31					
55	Public Relations:	79	25	9	41	28	10	9	5	4	
56	Transportation:	28	7	3	11	11	4	4	1	2	
57	Research & Development:	22	1	6	4	1	2	1	1		
Data Processing											
58	Data Processing Programming:	12	9	6	2	5					
59	Data Processing Operators:	7	4	5	2,	12					
60	Data Processing Systems Analyst:	7	6	3	1	3					
61	Data Processing Equipment:	7	4	3	1	4					
62	Research & Development:	5	4	1	1	1					

EMPLOYERS' RESPONSE TO ITEMS ON THE BUSINESS AND INDUSTRY QUESTIONNAIRE

FIGURES IN INDIVIDUAL CELLS REPRESENT FIRMS INDICATING A NEED FOR THE ITEM; BLANK CELLS REPRESENT NO RESPONSE

Page Number 4

			.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
Visual Communication	63	General Drafting:	20	15	15	6	4	20	6	1		
	64	Machine Drafting:	6	11	11	1	1	10	2			
	65	Architectural Drafting:	7	5	4	2	1	3	2	1		
	66	Electrical Drafting:	4	8	8		1	3	1			
	67	Structural Drafting:	3	7	5		1	2				
	68	Technical Drafting:	8	13	13	1	1	8	1			
	69	Lofting:										
	70	Map Drafting:	1	1	1		1	1				
	71	Technical Illustration:	5	4	5	2	1	2				
	72	Technical Rendering:	3	4	5	1	1	1				
	73	Reproduction Methods:	5	4	8	1	6	3				
	74	Commercial Photography:	5	1	2	1	1	1				
	75	Industrial Photography:	4	2	4	2	1	2	1			
	76	Packaging & Label Design:	5	4	3	2	1	2				
	77	Research & Development:	1	4	2	1		1				
Printing	78	Hand Typesetting:	2			2	1	5	1	1		
	79	Composition & Layout:	6	1	1	3	3	5	1	1		
	80	Art Principles:	4		1	3	1	3	1			
	81	Photo Composition:	3		1	2	1	3	1			
	82	Cold Type Operator:	2			1		2				
	83	Offset Press Pressman:	2		1	1	1	5	1			
	84	Camera Techniques:	2		1	2		3	1			
	85	Color Separation:	3		1	2		3	1			
	86	Stripper & Platemaker:	2			2		5	2			
	87	Linotype Operator:	2			1		2	1			
	88	Ludlow & other:	2			1		2	1			
	89	Electrotyper Stenotyper:	1			1		1				
	90	Letterpress Imposition:	1			1		3	1	1		
	91	Letterpress Pressman:	2			1		3	1	1		
	92	Press Maintenance:	1			1		3	2			
	93	Electronic composition machine maint.:				1		3				
	94	Gravure Printing Methods:	1			1		1				
	95	Web Pressman:	1			1		3	2	1		
	96	Silk Screen Printing Methods:	1		1	1		2				
	97	Bindery Operations:	2			1		2	2	1		
	98	Estimator:	4	1		2	2	1				
	99	Printing Sales:	4	1		3	1	2				
	100	Research & Development:	2			1	1	1				

EMPLOYERS' RESPONSE TO ITEMS ON THE BUSINESS AND INDUSTRY QUESTIONNAIRE

FIGURES IN INDIVIDUAL CELLS REPRESENT FIRMS INDICATING A NEED FOR THE ITEM; BLANK CELLS REPRESENT NO RESPONSE

Page Number 5

			.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
Physics	101	Noise & Vibration:	6	10	4	1		3	1			
	102	Nuclear:	1	2								
	103	Mechanics:	12	15	8	2		7	1			
	104	Heat:	9	12	5	2	1	6	1		1	
	105	Light:	7	8	4	1		5	1			
	106	Statics & Dynamics:	4	9	3	1		1	1			
	107	Kinematics:	1	4	1							
	108	Kinetics:	2	6	1			1				
	109	Mechanics of Materials:	10	13	6	2	1	6	1			
	110	Atomic:		1								
Electricity and Electronics	111	Basic Electricity:	26	16	13	6	1	34	12	3	2	
	112	Basic Electronics:	9	9	8	2		13	4		1	
	113	A.C. Circuits:	13	11	9	3	1	21	5	1	1	
	114	D.C. Circuits:	10	10	9	2	1	17	3		1	
	115	Circuit Tracing:	9	7	8	2		16	5	1	2	
	116	Circuit Design & Analysis:	4	9	7	1		4	2			
	117	Communications Circuits & Systems:	3	4	4	1		5	1	1		
	118	Electrical & Electronic Inst.:	4	6	4			8	2			
	119	Electrical Transmission:	2	5	3	1		5	2			
	120	Microwaves:	1	2	2	1		2				
	121	Sound:	2	3	3	1		2				
	122	Solid State:	2	5	5	1		3	1			
	123	Electronic Computers:	2	4	2			2				
	124	Industrial Instrumentation:	3	5	3	1		6	1			
	125	Motor Repair:	7	4	6	2		19	4		2	
	126	Research & Development:	3	6	3			3				
Welding	127	Pattern Making:	4	2	2			5	1			
	128	Foundry Practices:	4	2	3	1		5	3	1		
	129	Gas Welding:	6	4	5			24	10	1		
	130	Arc Welding:	6	4	5	1		25	11	1		
	131	Heliarc Welding:	4	2	3			11	5			
	132	Exotic Metals Welding:	1	2	2			4	2			
	133	Laser:		1	1							
	134	Research & Development:	1	2	1			1				

EMPLOYERS' RESPONSE TO ITEMS ON THE BUSINESS AND INDUSTRY QUESTIONNAIRE

FIGURES IN INDIVIDUAL CELLS REPRESENT FIRMS INDICATING A NEED FOR THE ITEM; BLANK CELLS REPRESENT NO RESPONSE

Page Number 6

			.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
Metals Manufacturing	135	General Machine Shop:	17	9	9	3		34	19	2	1	
	136	Advanced Machine Shop:	10	7	8	1		24	10	1		
	137	Principles of Manufacturing:	15	10	8	3		9	4			
	138	Applied Power Mechanics:	6	7	7	1		5	2			
	139	Applied Numerical Control:	4	2	3			4	2			
	140	Tool & Die Design:	5	10	7			14	2			
	141	Machine Design:	3	10	8			8	2			
	142	Intro. to Tool & Die Making:	3	4	5			14	4			
	143	Surface Development:	2	4	4	1		8	2			
	144	Flat Materials Fabrication:	5	6	6	1		13	5			
	145	Extruded Materials Fabrication:	3	5	3	1		6	3			
	146	Hydraulics:	6	6	6	1		9	3			
	147	Fluidics:	3	4	3	1		4	2			
	148	Pneumatics:	3	6	5	1		6	2			
	149	Research & Development:	4	7	3			2				
Metallurgy	150	Physical Metallurgy:	7	9	5	1		4	1			
	151	Principles of Metallography:	3	6	4	1		1	1			
	152	Powder Metallurgy:	1	2	2			1				
	153	Spectrology:	1	3	2							
	154	Strength of Materials:	6	10	5	2		5	1			
	155	Non-Destructive Testing:	4	6	3	1		4	1			
	156	Destructive Testing:	3	6	3			3	1			
	157	Heat Treatment of Metals:	6	9	6	1		7	2			
Building Technology	158	Construction Technology:	13	7	3	3	1	6	2	1		
	159	Structural Design:	7	7	2	2	1	3				
	160	Concrete Materials:	4	4	1	2	1	3	1	1		
	161	Bituminous Materials:	2	1	1	1		1				
	162	Surveying:	4	4				1				
	163	General Machine Woodworking:	2	1				7	1			
	164	Cabinetmaking:	3	1	1			7	2			
	165	Woodworking Technology:	4	2	1			7	2		1	
	166	Painting & Finishing:	9	3	3	3		11	4	1		
	167	Interior Design:	8	4	1	4	1	3	1			
	168	Principles of Estimating:	13	6	2	4		5	2	1		
	169	Research & Development:	2	1				1				

EMPLOYERS' RESPONSE TO ITEMS ON THE BUSINESS AND INDUSTRY QUESTIONNAIRE

FIGURES IN INDIVIDUAL CELLS REPRESENT FIRMS INDICATING A NEED FOR THE ITEM; BLANK CELLS REPRESENT NO RESPONSE

Page Number 7

			.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
Service	170	Auto Mechanics:	7	1	1	1	1	13	8		1	
	171	Auto Electrical & Electronic Systems:	6		1	1		12	5		1	
	172	Auto Body Work:	3		1	1		8	3		1	
	173	Radio and Television Service:	2	1	1	1		2	1			
	174	Office Equipment Service:	3			1	1	1	1			
	175	Small Appliance Service:	1		1	1		4	1			
	176	Air Conditioning and Refrigeration:	5	2	2	3		12	5		1	
Plastics	177	Chemistry of Plastics:	5	5	4	2		1				
	178	Vacuum Forming:	2	2	1	1		2	1			
	179	Plastic Casting:	4	2	1	1		2	1			
	180	Plastic Extrusion:	2	3	2	1		2	1			
	181	Plastic Coatings:	5	3	4	3		2	1			
	182	Fiberglass Construction:	3	3	2	1		3				
	183	Assembly of Plastic Materials:	5	4	3	2		4	1	1		
	184	Research & Development:	2	3	1	1		1				
Medical Technology	185	Medical Engineering:										
	186	Electromedical Service Technician:		1	1							
	187	Medical Illustration:		1								
	188	Dental Technician:		1								
	189	Dental Hygienist:		1								
	190	Medical Technician:		2	2							
	191	Pharmacy:	1	5	1							
	192	Practical Nursing:	1	3	1							
	193	Nursing:		7	1							
	194	Optical Technician:	1	1	1							
	195	X-Ray Technician:	1	3	3							
	196	Laboratory Technician:		3	3							

EMPLOYERS' RESPONSE TO ITEMS ON THE BUSINESS AND INDUSTRY QUESTIONNAIRE

FIGURES IN INDIVIDUAL CELLS REPRESENT FIRMS INDICATING A NEED FOR THE ITEM; BLANK CELLS REPRESENT NO RESPONSE

Page Number 8

Home Economics

		.01 Officials and managers	.02 Professionals	.03 Technicians	.04 Sales workers	.05 Office and clerical	.06 Craftsmen (Skilled)	.07 Operatives (Semi-skilled)	.08 Laborers (Unskilled)	.09 Service workers	.10 Other
170	Fiber development or fabric design:	4	1	1	3						
171	Clothing or accessory design:	4			4		1				
172	Textile care & testing:	6	1	1	4		1		1		
173	Sewing or garment trades:	2		1	2		3	1	1		
174	Clothing & accessory sales:	4			5		1				
175	Fittings & alterations:	2		1	2		3				
176	Modeling:	2	1		1						
177	Journalism or technical writing:	6	3	2	2	1			1		
178	Label & package design & directions:	4	3	1	2	1	1				
179	Product or consumer research & development:	4	2	1	2						
180	Public relations:	9	5	2	6	4	2	1		1	
181	Cosmetology:	2	2		2						
182	Child care, private or public:	1	2	1							
183	Nurses aides:		1	1				1		1	
184	Housekeeping, homes, motels, hosp., etc.:	9	2	1	5	5	4	4	4	8	
185	Laundry & dry cleaning:	5	1		3	1	1	1	1	1	
186	Recipe development:	3	3	1			1	1			
187	Food publicist or taste panels:	1	2	1							
188	Food photography:	2	1	1							
189	Test kitchens:	1	2	1							
190	Food equipment demonstrator:				1						
191	Commercial food preparation:	4	5	1	1	1	2	2	1	2	
192	Restaurant management:	8	2		1		1	1			
193	Restaurant & snack bar workers:	3			2	1	1	1	1	2	
194	Cafeteria workers:	1	1		1	1	1	1		1	
195	Catering:	3	1			1	1	1		1	
196	Dietician or aides:	1	3	2						1	
197	Home improvements:	4	3	1	1						
198	Interior designers:	7	3	1	2	1					
199	Window & Store display:	14	4	1	7	1	1			1	
200	Lighting:	8	4	2	2	1	1	1			
201	Kitchen & bathroom planning:	4	1		1		1				
202	Financing & money management:	13	4	1	3	5	2	1	1	1	
203	Radio & TV as Co. Rep.:	3	1		1	1					
204	Television occupations:										
205	Comparative shopping:	11	2	1	4	2	1				

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A Study of Certain Characteristics of Business Teachers in Community (Junior) Colleges and in Four-Year Colleges and Universities in Illinois with Emphasis on Their Occupational Backgrounds.

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ABSTRACT - The purpose of this study was to determine certain characteristics of business teachers in Illinois community colleges and Illinois 4-year colleges and universities with emphasis on their occupational backgrounds. Using a statistical formula, a sample of 97 teachers was selected from the total population of 1,572 teachers of business subjects. Findings based on questionnaire data completed by 68 teachers (70 percent) in the sample revealed that 77.9 percent had business experience. Approximately 90 percent of all teachers were of the opinion that business experience was of benefit to them in: (1) doing a more effective job of teaching; (2) becoming more acquainted with business practices and techniques, and (3) presenting to the students more facts about business. The predominant characteristics of the business teachers are as follows: most are married, are male, hold the doctorate, teach full-time at a 4-year college or university, have had 3 years of management business experience, have taught accounting, and feel positively about the value of business experience as a teaching aid. This M.S. thesis was presented to Northern Illinois University. (AUTHOR)

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A STUDY OF CERTAIN CHARACTERISTICS OF BUSINESS TEACHERS IN COMMUNITY (JUNIOR) COLLEGES AND IN FOUR-YEAR COLLEGES AND UNIVERSITIES IN ILLINOIS WITH EMPHASIS ON THEIR OCCUPATIONAL BACKGROUNDS

LEONARD S. HOLSTAD

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NORTHERN ILLINOIS UNIVERSITY

A STUDY OF CERTAIN CHARACTERISTICS OF BUSINESS TEACHERS IN COMMUNITY (JUNIOR) COLLEGES AND IN FOUR-YEAR COLLEGES AND UNIVERSITIES IN ILLINOIS WITH EMPHASIS ON THEIR OCCUPATIONAL BACKGROUNDS

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE MASTER OF SCIENCE IN EDUCATION

DEPARTMENT OF BUSINESS EDUCATION

BY

LEONARD S. HOLSTAD

DEKALB, ILLINOIS

JUNE, 1970

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ABSTRACT

The purpose of the study was to determine certain characteristics of business teachers in Illinois community (junior) colleges and Illinois four-year colleges and universities, with emphasis on their occupational backgrounds.

The procedure used in the study involved the following sequence of activities.

1. A statistical formula was used to determine an acceptable sample from the 1,572 teachers of business subjects whose names were furnished by the chairmen of the business departments of the schools. It was determined that a sample of either forty-eight or forty-nine teachers was necessary to represent the population. In order to insure additional confidence in the findings, the sample size was doubled and ninety-seven business teachers were then selected by means of a table of random numbers.

2. Questionnaires were sent to the ninety-seven teachers in the sample. Ultimately sixty-eight, or 70.1 per cent, of those teachers completed and returned questionnaires.

The following findings evolved from the analysis of the sixty-eight completed questionnaires:

1. Of the sixty-eight completed questionnaires, twenty-six, or 38.3 per cent, represented junior college teachers and forty-two, or 61.7 per cent, represented four-year college and university teachers. In the population of 1,572 business teachers, 38.1 per cent represented junior college teachers and 61.9 per cent represented four-year colleges and universities.

2. Of the sixty-eight teachers, fifty-three, or 77.9 per cent, had some business experience. Twenty-one, or 80.7 per cent of the junior college teachers and thirty-two, or 76.2 per cent, of the teachers at four-year colleges and universities had business experience.

3. Among part-time teachers, 86.6 per cent had business experience while 75.5 per cent of full-time teachers, had such experience.

4. Seventy per cent of all business teachers expressed the opinion that business experience was of great value in teaching thirty-one listed business subjects. Seventy-three per cent of junior college teachers and 68.0 per cent of the teachers in four-year colleges and universities were of the opinion that business experience was of great value in teaching business subjects.

5. Approximately ninety per cent of all teachers were of the opinion that business experience was of benefit to them in (1) doing a more effective job of teaching, (2) becoming more acquainted with business practices and techniques, and (3) presenting to the students more facts about business.

6. Only 4.4 per cent of all reporting teachers stated that their school required business experience to teach business subjects. Teachers were divided almost evenly in answering whether or not their schools recommended business experience for teaching business subjects.

7. Slightly more than one-half of all responding teachers indicated that business experience should be required to teach

business subjects in junior colleges while slightly less than one-half said that business experience should be required to teach in four-year colleges and universities.

8. Of the sixty-eight teachers, thirty-two, or 47.0 per cent, held doctorate degrees while twenty-eight, or 41.1 per cent, held master's degrees. Five had bachelor's degrees.

9. There is a definite relationship between the amount of business experience possessed by business teachers and their opinions of its value as an aid to teaching.

10. The predominant characteristics of the business teachers in the sample are as follows: most are married, are male, hold the doctorate, teach full-time at a four-year college or university, have had three years of management business experience prior to teaching, have taught accounting about four and one-half years and feel positively about the benefits and value of business experience as an aid to teaching.

		Date
Read and Approved by:	Richard W. Cambridge	April 24, 1970
	Sidney W. Eckert	April 24, 1970

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CHAPTER I

INTRODUCTION

It has been stated that practical experience in a field specifically related to an area of teaching cannot do other than aid in the teaching of subjects closely allied to that field of experience. Thus, it follows that practical business occupational experience would be of benefit in the teaching of business subjects. This has been recognized by educational authorities for many years. In a bulletin from the United States Office of Education, Kyker says:

> Successful and consequential business experience is one of the most important qualifications of teachers, department heads, coordinators, and supervisors of business education. The "know what" and the "know how" of business training cannot be obtained from technical and professional training alone. Such training must be supplemented by wage earning business experience in the occupation for which the training is being given.[1]

Earlier, Ellsworth declared that experience is education, and every teacher teaches only from his experience, which may all be taken from textbooks, or it may be made more alive by personal contacts.[2]

---

[1]F. B. Kyker, "Business Experience for Business Teachers," (Washington: Division of Vocational Education, Business Education Service, 1948), 1.

[2]J. D. Ellsworth, "The Value of Business Experience," The Business Educational World, XX (April, 1940), 708.

More recently A. M. Cohen said:

> Knowledge of the subject matter is essential but is not enough in itself. The junior college instructor needs in addition to that capacity, certain attitudes and skills not necessarily assured by his academic study of previous experience. His set of particular competencies must run far beyond those commonly gained in degree programs or in occupational backgrounds.[3]

An increasing number of schools require that business teachers have practical occupational experience in the subjects they plan to teach.

> In the first place a business teacher should have an overall picture of the organization and procedures of a large office or store. In the second place even the best textbooks omit details regarding the functioning of business subjects and the only way that students can become acquainted with these details is to obtain them from their teachers. In the third place the teacher who has had occupational experience speaks with authority when teaching the class. The mere fact that he has had business experience earns for him the respect of his students and results in a more businesslike atmosphere in the classroom. Finally, the teacher who has had practical business experience has contacts with employers for advice, information about business practices, for obtaining samples of business papers - and for securing speakers for his classes.[4]

Thus, if it has been felt in the past by authorities that it is not only desirable but necessary that a business occupational background be either a precedent or an adjunct to teaching business subjects, the next step could be, logically, to inquire into the correlation at this time between background and business teaching.

---

[3]Arthur M. Cohen, "Developing Specialists in Learning," Junior College Journal XXXVII (September, 1966), 21.

[4]C. A. Nolan, C. K. Hayden, D. R. Malsbury, Principles and Problems of Business Education, (Cincinnati: South-Western Publishing Company, 1967), 596.

I. STATEMENT OF THE PROBLEM

The purpose of the study was to determine certain characteristics of the business teachers in Illinois community (junior) colleges and in Illinois four-year colleges and universities, with emphasis on their occupational backgrounds. An attempt was made to determine if, in the opinions of the responding teachers, their occupational experience has enabled them to become better teachers. Specifically, the study sought such information about the teachers as follows:

1. The occupational background covering such areas as the incidence, recency, extent, and types of business experience.

2. The educational background of the teachers, consisting of years of teaching various subjects, whether they were full-time or part-time, and the highest academic degree held.

3. The opinions of the teachers regarding the value of business experience in teaching various subjects, whether such experience should be a requirement for teaching business subjects and whether that experience generally enhanced effective teaching.

II. DELIMITATION OF THE STUDY

This study was limited to a survey of the business teachers in community (junior) colleges and four-year colleges and universities in Illinois.

III. DEFINITION OF TERMS

For the purposes of this study the following definitions apply to the terms used herein:

Business experience is any wage-earning or equivalent experience in a store or office that requires knowledge and/or skill in bookkeeping, finance, merchandising, stenography, data processing, typewriting, operation of office machines, general clerical work, and management.

Business education is "that area of education which develops skills, attitudes and understandings essential for successful direction of business relationships.....an area of study dealing with principles and practices of teaching business subject."[5]

Business subjects are "the subjects that prepare students either directly or indirectly for successful participation in business activities."[6]

Business teacher is a teacher of business subjects, such as shorthand, typewriting, bookkeeping, office machines, data processing, general business, merchandising, stenography, as well as courses in accounting, marketing, finance, business statistics, economics, and management.

Community (junior) college is a two-year institution offering college-parallel, vocational, terminal, general, and adult education curricula. Its title may be junior college, community college

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[5]Carter V. Good, Dictionary of Education, (New York: McGraw-Hill, 1959), 70.

[6]Ibid., 71.

or in some instances, city college.

Four-year college or university is "an institution of higher learning providing facilities for teaching and research and authorized to grant academic degrees."[7]

IV. METHODS AND PROCEDURES

This study sought facts known to the persons being questioned. Also, these same persons hold valid opinions pertinent to the facts sought herein. Further, these opinions are, in themselves, the focus of this research. Thus, it appeared appropriate to use the questionnaire technique.[8]

The Questionnaire

A closed-form questionnaire was devised, covering certain teacher background information, business experience and the value of the teacher's business experience as related to teaching experience.

In October, 1969, the questionnaire was tested on non-business education teachers at two schools - four at Northern Illinois University and three at William Rainey Harper Junior College, of Palatine, Illinois, respectively.

---

[7]Philip Babcock Gove (ed.), Webster's Third New International Dictionary, (Springfield, Massachusetts: G & C Merriam Company, 1961).

[8]J. F. Rummel, W. C. Ballaine, Research Methodology in Business, (New York: Harper & Row, 1963), 107-108.

The Mailing List and Statistical Procedure

The Directory, Illinois Schools, 1968-69, issued by the Superintendent of Public Instruction by the authority of the State of Illinois, contains a list of all operational community colleges and all four-year colleges and universities in Illinois.

Letters (see Appendix A) asking for the names of all business teachers in community (junior) colleges and four-year colleges and universities in Illinois were addressed to the chairman of the business department in the 125 institutions listed in the catalog in September, 1969. Follow-up letters to those chairmen who had not replied were sent in October, 1969. A total of 105 replies, or eighty-four per cent of those sent, was received. Of those schools replying, seventy-six had business departments and twenty-seven did not. Two schools replied that they had business departments but declined to furnish the names of teachers. The seventy-six schools that have business departments furnished 1,572 names of teachers of business subjects.

In order to determine an acceptable sample of the population, a statistical formula[9] used in sampling for proportions was employed (see Appendix K). It was estimated that a favorable response regarding the value of business experience as an aid to teaching would be made by 85 per cent of those queried. Ninety-five per cent confidence in the findings and an error no larger than ten per cent was desired. The resulting statistical calculations indicated that a sample of either forty-eight or forty-nine

[9]William G. Cochran, Sampling Techniques, (New York: John Wiley & Sons, Inc., 1953), 54.

teachers was necessary. In order to have assurance of additional reliability the sample size was doubled.

The 1,572 teacher names in the population were assigned consecutive numbers. Of these, ninety-seven names were selected by means of a table of random numbers, using four columns of digits.

Table I shows that 599 names, or 38.1 per cent of the population, represented junior college teachers while 973 names, or 61.9 per cent, represented four-year college or university teachers. The random sample of ninety-seven names included thirty-nine names, or 40.2 per cent, representing junior college teachers and fifty-eight names, or 59.8 per cent, representing four-year college or university teachers.

On January 15, 1970, questionnaires (see Appendix C) accompanied by a letter (see Appendix B) were mailed to all teachers whose names were selected by random sampling. A total of sixty-eight completed questionnaires, or 70.1 per cent of the sample of ninety-seven, were returned. The sixty-eight completed questionnaires returned included twenty-six, or 38.3 per cent, representing junior college teachers and forty-two, or 61.7 per cent, representing four-year college or university teachers.

TABLE I

COMPOSITION OF TOTAL POPULATION, THE RANDOM SAMPLE AND QUESTIONNAIRES RETURNED

	Total Population		Random Sample		Completed Questionnaires	
	N	Per Cent	N	Per Cent	N	Per Cent
Junior College	599	38.1	39	40.2	26	38.3
Senior College	973	61.9	58	59.8	42	61.7
Total	1,572	100.0	97	100.0	68	100.0

CHAPTER II

REVIEW OF THE LITERATURE

A review of selected literature pertaining to the subject of this study reveals a general consensus of opinions regarding the value of business experience in the teaching of business subjects. As will be seen, however, none of the studies are exactly comparable to the instant study.

The Bigelow Study. The purpose was to determine the effects of business experience on business teachers of Minnesota and on their teaching. Two questionnaires were prepared: one was sent to 250 Minnesota business teachers, the other to ninety-five school administrators in Minnesota. A survey was made of the forty-eight state departments of education to determine the present status of certification. The relationship of sex, graduate training, teaching experience, and business experience to salary was determined by multiple regression.

It was found that only three per cent of the teachers with business experience received college credit for that experience and that school administrators preferred business teachers with business experience. It was also the opinions of the teachers that business experience aided most in teaching subjects directly related: secretarial, office practice, bookkeeping, and general business.[1]

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[1]C. C. Bigelow, "Values of Business Experience for Business Teachers of Minnesota," (Unpublished Doctor's Dissertation, University of Wyoming, 1956).

The Ohline Study. The purpose was to determine the amount of business and industrial experience of a select number of business teachers in Illinois to evaluate the educational value of business experience and to compare the amount of such experience with that suggested in various periodicals. Fifty-four Illinois teachers were interviewed and asked twenty questions from a schedule.

There was substantial agreement that business teachers need actual business training. It was concluded that effective business experience would do more than prove the business teacher to be vocationally competent, that because of his business experience the teacher will create business situations that will be of real help for the students interested in going into the business world.[2]

The Pugh and Morgan Study. The purpose of the study was to determine the needs, requirements and weaknesses of junior college instructors. Questionnaires were sent to 105 junior college administrators asking their opinions concerning the present preparation of junior college instructors and also their considered judgment relative to changes in their preparation.

The administrators reported that the instructors did not have enough college training, did not have enough training in their special fields, had inadequate backgrounds of practical experience and that there were few people both occupationally qualified and trained to teach.[3]

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[2]"Summaries of the Studies and Research in Business Education," National Business Education Quarterly XXIV (October, 1955), p. 70.

[3]David B. Pugh and Roy E. Morgan, "Shortcomings in Preparation of Instructors," Junior College Journal XIV (May, 1944), pp. 405-415.

The Spurr Study. The purpose of the study was to clarify the definition of work experience; to show the need for work experience; to examine the results of work experience and to report the first-hand experience of the writer who spent six weeks in a work experience program. Available books and periodicals were consulted and reference was made to material used in the work experience program at Northwestern University.

The results of the study showed that work experience was of significant importance in business teacher education and that actual classroom teaching could become more realistic if actual experience was substituted for textbook material. Work experience was found to make a better qualified teacher.[4]

The Fenske Study. The purpose of this study was (a) to determine how many business education teachers in secondary schools in Wisconsin had business experience, (b) to determine how much and the type of business experience, (c) to establish when it was performed, and (d) the major reasons for acquiring business experience.

A total of 686 replies was received. The majority of the business education teachers for the school year 1964-65 had business experience. More teachers fell in the "two year" experience category than any other. The two most common values derived from the business experience were that it made the classroom more

[4]"Summaries of the Studies and Research in Business Education," National Business Education Quarterly XXIV (October, 1955), p. 84.

realistic and provided the teachers with ability to pass on to students the office procedures and the flow of work.[5]

The Sheehan Study. The purpose of the study was to elicit ideas and opinions from heads of business departments at selected colleges and universities in respect to the philosophy, objectives, values and attitudes relative to the desirability or undesirability of work-experience programs for future business teachers. Ninety-five questionnaires were sent out to business department heads of various universities. Interviews were then conducted with eleven of the respondents. Eighty-five per cent of the respondents to the questionnaire said they believe in the value of work-experience programs for future business teachers. All of those interviewed said that work experience is important.[6]

The Piland Study. The purpose of the study was to determine the professional and academic backgrounds of business teachers in junior colleges in Illinois and also to determine from the opinions of those teachers if occupational experience had enabled them to become better instructors. The questionnaire technique was used to obtain opinions from 220 business teachers. All but seven teachers had had work experience. Over three-fourths of those

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[5]Irene K. Fenske, "Survey of Business Education Teachers in Wisconsin to Determine the Type of Business Experience, When Performed and Major Reasons for Employment for School Year 1964-65," National Business Education Quarterly XXXVI, (October, 1967), p. 25.

[6]A. D. Sheehan, "The Status of Work-Experience Programs for Future Business Teachers in Selected Colleges and Universities," (Unpublished Master's Thesis, Northern Illinois University, 1963).

teachers rated their practical business experience as having great value when applied to teaching.[7]

The studies cited in the literature are of generally narrower scope than the instant study; several are from seven to twenty-six years old; most involve states other than Illinois. No study was found that showed information relating business background to teaching experience, part-time and full-time, involving all junior colleges and four-year colleges and universities in Illinois.

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[7]W. E. Piland, "A Study to Determine the Educational and Occupational Backgrounds of Business Teachers in the Public Community (Junior) Colleges of Illinois, " (Unpublished Master's Thesis, Northern Illinois University, 1967).

CHAPTER III

PERSONAL, PROFESSIONAL, AND BUSINESS BACKGROUNDS OF BUSINESS TEACHERS

The findings of this study will be examined in relation to the personal, professional, and business backgrounds of business teachers in junior colleges and four-year colleges and universities in Illinois. Chapter III will be concerned with an analysis of the reported data classified according to (1) incidence of business experience, (2) recency of business experience, (3) methods of obtaining business experience, (4) amount of business experience, (5) areas of business experience, (6) years of teaching business subjects, (7) years of teaching non-business subjects, (8) courses being taught, (9) highest educational degree attained, (10) full-time and part-time employment, and (11) sex and marital status.

In both Chapters III and IV substantial portions of the data will be classified according to part-time or full-time employment of the teachers.

I. INCIDENCE OF BUSINESS EXPERIENCE

Table II is a summary of the incidence of business experience among the sixty-eight teachers of business subjects in junior colleges and four-year colleges and universities. Of the sixty-eight teachers, over three-fourths reported some business experience. Among the twenty-six junior college teachers in the sample, 80.7

TABLE II

INCIDENCE OF BUSINESS EXPERIENCE
AMONG BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
PART-TIME TEACHERS						
Had Business Experience	8	100.0	5	71.4	13	86.6
Had No Business Experience	-	-	1	14.3	1	6.7
No Response	-	-	1	14.3	1	6.7
Total	8	100.0	7	100.0	15	100.0
FULL-TIME TEACHERS						
Had Business Experience	13	72.2	27	77.3	40	75.5
Had No Business Experience	4	22.2	6	17.0	10	18.8
No Response	1	5.6	2	5.7	3	5.7
Total	18	100.0	35	100.0	53	100.0
ALL TEACHERS						
Had Business Experience	21	80.7	32	76.2	53	77.9
Had No Business Experience	4	15.5	7	16.7	11	16.2
No Response	1	3.8	3	7.1	4	5.9
Total	26	100.0	42	100.0	68	100.0

per cent reported business experience. Among the forty-two teachers of business at four-year colleges and universities, 76.2 per cent reported business experience.

There is substantial similarity in the per cent of business experience of full-time and of part-time four-year college and university teachers. All of the part-time junior college teachers had business experience.

II. RECENCY OF BUSINESS EXPERIENCE

The inquiry into the recency of the business experience of the sample of sixty-eight teachers of business subjects in junior colleges and four-year colleges and universities reveals as shown in Table III, that the largest group, one-fourth, were employed in business positions at the time of the inquiry. Over one-third of the respondents had business experience no more recently than five years ago. One-sixth reported no business experience.

For junior college teachers, the largest number of teachers shown in any category was nine, or slightly more than one-third, who said that they were employed at the time of the inquiry. Eight, or 30.8 per cent, reported business experience no more recent than five years ago. There were four who had no business experience.

Analysis of the replies of the teachers in four-year colleges and universities shows that eight, or about one-fifth, were employed in business positions at the time of the inquiry. Another eight said that their most recent business experience was

TABLE III

RECENCY OF BUSINESS EXPERIENCE
AMONG BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
No Business Experience	4	15.4	7	16.7	11	16.2
At Present	9	34.7	8	19.1	17	25.0
Within Last Year	1	3.8	4	9.5	5	7.4
1 to 3 years ago	3	11.5	3	7.1	6	8.8
3.1 to 5 years ago	1	3.8	3	7.1	4	5.9
5.1 to 10 years ago	4	15.4	7	16.7	11	16.2
Over 10 years ago	4	15.4	8	19.1	12	17.5
No Response	-	-	2	4.7	2	3.0
Total	26	100.0	42	100.0	68	100.0

TABLE IIIA

RECENCY OF BUSINESS EXPERIENCE AMONG
FULL-TIME BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
No Business Experience	4	22.2	6	17.1	10	18.9
At Present	3	16.7	6	17.1	9	17.0
Within Last Year	1	5.6	3	8.6	4	7.5
1 to 3 years ago	3	16.7	3	8.6	6	11.3
3.1 to 5 years ago	1	5.6	3	8.6	4	7.5
5.1 to 10 years ago	2	11.0	7	20.0	9	17.0
Over 10 years ago	4	22.2	6	17.1	10	18.9
No Response	-	-	1	2.9	1	1.9
Total	18	100.0	35	100.0	53	100.0

TABLE IIIB

RECENCY OF BUSINESS EXPERIENCE AMONG PART-TIME BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
No Business Experience	-	-	1	14.3	1	6.7
At Present	6	75.0	2	28.6	8	53.3
Within Last Year	-	-	1	14.3	1	6.7
1 to 3 years ago	-	-	-	-	-	-
3.1 to 5 years ago	-	-	-	-	-	-
5.1 to 10 years ago	2	25.0	-	-	2	13.3
Over 10 years ago	-	-	2	28.5	2	13.3
No Response	-	-	1	14.3	1	6.7
Total	8	100.0	7	100.0	15	100.0

over ten years ago. About one-sixth had no business experience.

Table IIIA shows that one-fifth of the full-time teachers had their business experience over ten years ago, with no significant difference between junior college and four-year college categories. One-fifth had no business experience.

Table IIIB shows that over one-half of the part-time teachers were employed at the time of the inquiry. Three-fourths of the junior college teachers were employed compared with one-fourth of the four-year college teachers.

III. NATURE AND EXTENT OF BUSINESS EXPERIENCE

Three-fourths of the teachers reported that they had gained their business experience prior to their teaching career. The next most popular method of gaining business experience was by business occupation during summer or vacation periods with almost one-half of the teachers so answering.

Inquiry was made as to the amount of business experience among the sixty-eight teachers of business subjects. The largest group of teachers, one-fourth, had one to three years of business experience. About one-sixth reported having had no business experience.

Over forty per cent of the sixty-eight business teachers in the sample reported experience in management. Sales experience was the next most frequently reported business activity with a little less than one-third of the teachers so reporting. Clerical experience was shown by 29.4 per cent of the teachers.

IV. EXPERIENCE IN TEACHING BUSINESS SUBJECTS

Table IV shows the years of experience in teaching business subjects by business teachers presently teaching. The average number of years of teaching experience for teachers in four-year colleges or universities is 11.6. One-half of those teachers have had nine years or more experience in four-year institutions. Almost ninety per cent have never taught in junior college.

The average number of years of teaching experience for teachers in junior colleges is 3.7. Almost ninety per cent have five years or less junior college teaching experience.

V. EXPERIENCE IN TEACHING NON-BUSINESS SUBJECTS

Table V indicates the years of teaching non-business subjects by business teachers teaching in junior colleges and four-year colleges and universities. Of the sixty-eight respondent teachers, less than ten per cent have taught non-business subjects in high school or in four-year colleges and universities. About six per cent of the teachers have taught non-business subjects in junior colleges. Similarly, about six per cent have taught non-business subjects in institutions other than high schools, junior colleges or four-year colleges or universities.

TABLE IV

YEARS OF TEACHING BUSINESS SUBJECTS BY
BUSINESS TEACHERS PRESENTLY TEACHING

	In Four-Year Colleges and Universities				In Junior Colleges			
	In Junior Colleges		In Four-Year Colleges and Universities		In Junior Colleges		In Four-Year Colleges and Universities	
Number of Years	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent
None	37	88.1	4	9.5	5	19.3	20	77.1
1 year	3	7.1	4	9.5	4	15.4	1	3.8
2 years	-	-	4	9.5	2	7.7	3	11.5
3 years	1	2.4	1	2.4	8	30.8	1	3.8
4 years	-	-	1	2.4	2	7.7	-	-
5 years	-	-	4	9.5	2	7.7	-	-
6 years	-	-	-	-	-	-	-	-
7 years	-	-	2	4.8	-	-	-	-
8 years	-	-	1	2.4	-	-	-	-
9 years	-	-	3	7.1	1	3.8	-	-
10-15 years	1	2.4	6	14.3	1	3.8	-	-
16-20 years	-	-	2	4.8	-	-	1	3.8
Over 20 years	-	-	10	23.8	1	3.8	-	-
Total	42	100.0	42	100.0	26	100.0	26	100.0
Mean	0.4 years		11.6 years		3.7 years		1.1 years	

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TABLE V

YEARS OF TEACHING NON-BUSINESS SUBJECTS BY BUSINESS TEACHERS PRESENTLY TEACHING

	In High School		In Junior Colleges		In Four-Year Colleges and Universities		In Other	
Number of Years	N	Per Cent	N	Per Cent	N	Per Cent	N	Per Cent
None	63	92.5	64	94.1	63	92.5	64	94.1
1 year	-	-	1	1.5	1	1.5	2	2.9
2 years	1	1.5	2	2.9	-	-	1	1.5
3 years	-	-	-	-	-	-	1	1.5
4 years	1	1.5	-	-	1	1.5	-	-
5 years	-	-	-	-	-	-	-	-
6 years	-	-	-	-	1	1.5	-	-
7 years	-	-	-	-	-	-	-	-
8 years	1	1.5	-	-	-	-	-	-
9 years	1	1.5	1	1.5	-	-	-	-
10-15 years	-	-	-	-	1	1.5	-	-
16-20 years	1	1.5	-	-	-	-	-	-
Over 20 years	-	-	-	-	1	1.5	-	-
Total	68	100.0	68	100.0	68	100.0	68	100.0
Mean	0.6 years		0.2 years		0.8 years			

VI. COURSES CURRENTLY TAUGHT

Summarized in Table VI are the replies regarding the courses being taught at the time of inquiry by the sixty-eight teachers of business subjects in junior colleges and in four-year colleges and universities. More teachers taught Accounting than any other subject. Management, taught by one-fifth of the teachers, ranked next, followed by Finance with 14.6 per cent. The Management group of subjects including Management, Business Administration, Introduction to Business, Industrial Relations, Business Law, Insurance, and Other Management was taught by more teachers than any other general group of subjects. The Accounting and Finance group, with a little less than one-half of the teachers involved, was next most frequently reported. The Office group ranked third in teachers reporting, with one-third.

In the junior colleges the twenty-six teachers of business subjects in the sample reported Typing and Accounting as being taught most frequently, with more than one-fourth reported teaching each of those subjects. Shorthand was next in frequency reported with five, or one-fifth of the teachers reporting teaching it.

The forty-two teachers of business subjects in four-year colleges and universities reported teaching Management more often than any other subject, with more than one-fourth so involved. Accounting with one-fifth, and Principles of Economics with one-sixth of the teachers followed closely. The Management group of subjects was taught by more teachers than any other group. The

TABLE VI

COURSES CURRENTLY TAUGHT
BY BUSINESS TEACHERS

Courses	Junior Colleges N = 26		Four-Year Colleges and Universities N = 42		Total N = 68	
	N	Per Cent	N	Per Cent	N	Per Cent
Management						
Management	2	7.7	11	26.1	13	19.2
Business Administration	-	-	5	12.0	5	7.4
Introduction to Business	2	7.7	1	2.3	3	4.4
Industrial Relations	-	-	2	4.8	2	3.0
Business Law	3	11.5	6	14.3	9	13.2
Insurance	1	3.8	1	2.3	2	3.0
Other Management	2	7.7	6	14.3	8	11.6
Total	10	38.4	32	76.1	42	61.8
Accounting & Finance						
Accounting	7	27.0	8	19.0	15	22.1
Business Mathematics	2	7.7	-	-	2	3.0
Finance	2	7.7	8	19.0	10	14.6
Other Accounting and Finance	-	-	6	14.3	6	8.8
Total	11	42.4	22	52.3	33	48.5
Office						
Business Communications	1	3.8	1	2.4	2	3.0
Secretarial Practices	1	3.8	-	-	1	1.5
Shorthand	5	19.2	1	2.4	6	8.8
Office Machines	4	15.4	1	2.4	5	7.4
Typing	7	27.0	1	2.4	8	11.6
Other Office	-	-	1	2.4	1	1.5
Total	18	69.2	5	12.0	23	33.8
Economics						
Principles	2	7.7	7	16.7	9	13.3
Consumer	-	-	3	7.1	3	4.4
Other Economics	-	-	3	7.1	3	4.4
Total	2	7.7	13	30.9	15	22.1

TABLE VI (Continued)

COURSES CURRENTLY TAUGHT
BY BUSINESS TEACHERS

Courses	Junior Colleges N = 26		Four-Year Colleges and Universities N = 42		Total N = 68	
	N	Per Cent	N	Per Cent	N	Per Cent
Marketing						
Marketing	2	7.7	5	12.0	7	10.2
Sales	-	-	1	2.3	1	1.5
Other Marketing	2	7.7	-	-	2	3.0
Total	4	15.4	6	14.3	10	14.7
Data Processing						
Data Processing	2	7.7	2	4.8	4	5.9
Total	2	7.7	2	4.8	4	5.9

Economics group with Principles, Consumer and Other Economics showed about one-third of the teachers.

VII. HIGHEST DEGREE ATTAINED BY BUSINESS TEACHERS

An examination of Table VII shows that of the sample of sixty-eight teachers of business subjects in junior colleges and four-year colleges and universities, the largest group, or almost one-half, are holders of the doctorate degree. The next largest group holds the master's degree. Among junior college teachers of business subjects two-thirds hold master's degrees. Among four-year college and university teachers about three-fourths hold doctorate degrees and 19.0 per cent have master's degrees.

Of the sample of fifty-three full-time teachers, one-half hold the doctorate degree and 45.3 per cent hold master's degrees. Seventeen of eighteen full-time junior college teachers hold master's degrees. In the four-year colleges and universities, three-fourths hold the doctorate degree.

One-third of the fifteen part-time teachers of business subjects hold the doctorate degree. Slightly over one-fourth hold the master's degree while another one-fourth have a bachelor's as their highest degree.

Of the eight part-time teachers of business subjects teaching in junior colleges, 37.5 per cent reported holding master's degrees.

Of the seven part-time teachers of business subjects teaching in four-year colleges and universities, over one-half reported holding a doctor's degree.

TABLE VII

HIGHEST DEGREE ATTAINED BY
BUSINESS TEACHERS

	In Junior Colleges		In Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
PART-TIME TEACHERS						
No Degree	1	12.5	-	-	1	6.7
Bachelor's	2	25.0	2	28.6	4	26.7
Master's	3	37.5	1	14.3	4	26.7
Certificate of Advanced Study	-	-	-	-	-	-
Doctorate	1	12.5	4	57.1	5	33.3
Other	1	12.5	-	-	1	6.6
Total	8	100.0	7	100.0	15	100.0
FULL-TIME TEACHERS						
No Degree	-	-	-	-	-	-
Bachelor's	-	-	1	2.9	1	1.9
Master's	17	94.4	7	20.0	24	45.3
Certificate of Advanced Study	1	5.6	-	-	1	1.9
Doctorate	-	-	27	77.1	27	50.9
Other	-	-	-	-	-	-
Total	18	100.0	35	100.0	53	100.0

TABLE VII (Continued)

HIGHEST DEGREE ATTAINED BY
BUSINESS TEACHERS

	In Junior Colleges		In Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
ALL TEACHERS						
No Degree	1	3.8	-	-	1	1.5
Bachelor's	2	7.8	3	7.1	5	7.4
Master's	20	77.0	8	19.0	28	41.1
Certificate of Advanced Study	1	3.8	-	-	1	1.5
Doctorate	1	3.8	31	73.9	32	47.0
Other	1	3.8	-	-	1	1.5
Total	26	100.0	42	100.0	68	100.0

VIII. FULL-TIME AND PART-TIME TEACHERS

Table VIII shows the classification of the sixty-eight respondent teachers of business subjects in junior colleges and four-year colleges and universities into full-time and part-time categories. Fifty-three, or over three-fourths, are full-time, and fifteen, or 22.1 per cent, are part-time.

Of the fifty-three full-time teachers, thirty-five teach at four-year colleges and universities and eighteen teach at junior colleges. Of the fifteen part-time teachers, seven teach at four-year colleges and universities and eight teach at junior colleges.

TABLE VIII

FULL-TIME AND PART-TIME TEACHING STATUS OF BUSINESS TEACHERS

	In Junior Colleges		In Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
Full-Time	18	69.2	35	83.3	53	77.9
Part-Time	8	30.8	7	16.7	15	22.1
Total	26	100.0	42	100.0	68	100.0

IX. SEX AND MARITAL STATUS

Table IX shows that 82.4 per cent of the sixty-eight business teachers who constitute the sample are male. Of these males, forty were in four-year colleges and universities and sixteen in junior colleges. Of the twelve females, making up 17.6 per cent of the sample, two were in four-year colleges and universities and

ten were in junior colleges.

As also shown in Table IX, two-thirds of the sample reported that they were married, 13.2 per cent stated that they were single, and 22.1 per cent did not respond to the question.

Of the sixty-eight business teachers in the sample, fifty-three were full-time. Almost eighty-five per cent were male. Of these males, thirty-four were in four-year colleges and universities and eleven in junior colleges. Of the eight females comprising 15.1 per cent of the full-time teachers, only one was in four-year colleges.

Of the fifty-three full-time teachers reporting, almost two-thirds stated that they were married. One-fourth did not respond to the marital question.

Fifteen teachers were part-time, three-fourths of whom were male. Eighty per cent of the part-time teachers reported that they were married.

TABLE IX

SEX AND MARITAL STATUS OF BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
PART-TIME TEACHERS						
Male	5	62.5	6	85.7	11	73.3
Female	3	37.5	1	14.3	4	26.7
Total	8	100.0	7	100.0	15	100.0
Married	6	75.0	6	85.7	12	80.0
Single	1	12.5	-	-	1	6.7
No Response	1	12.5	1	14.3	2	13.3
Total	8	100.0	7	100.0	15	100.0
FULL-TIME TEACHERS						
Male	11	61.1	34	97.1	45	84.9
Female	7	38.9	1	2.9	8	15.1
Total	18	100.0	35	100.0	53	100.0
Married	12	66.7	20	57.2	32	60.4
Single	6	33.3	2	5.7	8	15.1
No Response	-	-	13	37.1	13	24.5
Total	18	100.0	35	100.0	53	100.0

TABLE IX (Continued)

SEX AND MARITAL STATUS OF
BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
ALL TEACHERS						
Male	16	61.5	40	95.2	56	82.4
Female	10	38.5	2	4.8	12	17.6
Total	26	100.0	42	100.0	68	100.0
Married	18	69.3	26	61.9	44	64.7
Single	7	26.9	2	4.8	9	13.2
No Response	1	3.8	14	33.3	15	22.1
Total	26	100.0	42	100.0	68	100.0

CHAPTER IV

OPINIONS OF BUSINESS TEACHERS OF THE VALUE OF BUSINESS EXPERIENCE IN TEACHING VARIOUS SUBJECTS

Chapter IV will be concerned with an analysis of opinions of the business teachers of (1) the value of business experience in the teaching of various subjects, (2) the benefits of business experience as applied to teaching, (3) school policies concerning business experience for business teachers, and (4) business experience as a requirement for teaching. Finally, a comparison will be made between the amount of the teachers' business experience and their opinions of the value of such experience as an aid to teaching.

I. VALUE OF BUSINESS EXPERIENCE IN TEACHING

The opinions of the teachers of business subjects of the value of business experience in the teaching of various subjects is set forth in Table X.

There were 276 opinions expressed by the teachers regarding the value of business experience to the teaching of the thirty-one subjects listed. A total of 193 opinions, representing about 70.0 per cent of the teachers, indicated that business experience was of great value in the teaching of the subjects listed. Less than one-third of the replies stated that business experience was of little value in teaching the subjects listed. The majority of

TABLE X

OPINIONS OF BUSINESS TEACHERS OF THE VALUE OF BUSINESS EXPERIENCE IN THE TEACHING OF VARIOUS SUBJECTS

	Junior Colleges					Four-Year Colleges and Universities					Total				
	Little Value		Great Value		Total	Little Value		Great Value		Total	Little Value		Great Value		Total
	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N
Office															
Business Communications	1	50.0	1	50.0	2	1	25.0	3	75.0	4	2	33.3	4	66.7	6
Business English	-	-	5	100.0	5	1	25.0	3	75.0	4	1	11.1	8	88.9	9
Clerical Practice	3	50.0	3	50.0	6	1	20.0	4	80.0	5	4	36.4	7	63.6	11
Secretarial Practice	2	25.0	6	75.0	8	1	20.0	4	80.0	5	3	23.1	10	76.9	13
Shorthand	3	30.0	7	70.0	10	2	33.0	4	66.7	6	5	31.3	11	68.7	16
Office Machines	4	40.0	6	60.0	10	2	66.7	1	33.3	3	6	46.2	7	53.8	13
Typing	3	25.0	9	75.0	12	1	14.3	6	85.7	7	4	21.1	15	78.9	19
Other	-	-	2	100.0	2	-	-	-	-	-	-	-	2	100.0	2
Accounting and Finance															
Accounting	3	33.3	6	66.7	9	6	37.5	10	62.5	16	9	36.0	16	64.0	25
Business Mathematics	5	62.5	3	37.5	8	3	42.8	4	57.2	7	8	53.3	7	46.7	15
Finance	-	-	2	100.0	2	2	20.0	8	80.0	10	2	16.7	10	83.3	12
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marketing															
Advertising	1	50.0	1	50.0	2	2	33.3	4	66.7	6	3	37.5	5	62.5	8
Marketing	1	50.0	1	50.0	2	2	22.2	7	77.8	9	3	27.3	8	72.7	11
Salesmanship	1	25.0	3	75.0	4	1	14.3	6	85.7	7	2	18.2	9	81.8	11
Other	-	-	-	-	-	-	-	2	100.0	2	-	-	2	100.0	2

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TABLE X (Continued)

OPINIONS OF BUSINESS TEACHERS OF THE VALUE OF BUSINESS EXPERIENCE IN THE TEACHING OF VARIOUS SUBJECTS

	Junior Colleges					Four-Year Colleges and Universities					Total				
	Little Value		Great Value		Total	Little Value		Great Value		Total	Little Value		Great Value		Total
	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N
Data Processing															
Data Processing	1	33.3	2	66.7	3	3	75.0	1	25.0	4	4	57.2	3	42.8	7
Computing Science	-	-	1	100.0	1	1	50.0	1	50.0	2	1	33.3	2	66.7	3
Programming	-	-	1	100.0	1	2	100.0	-	-	2	2	66.7	1	33.3	3
Other	-	-	-	-	-	1	100.0	-	-	1	1	100.0	-	-	1
Economics															
Economics-Principles	-	-	2	100.0	2	4	36.4	7	63.6	11	4	30.8	9	69.2	13
Consumer Economics	-	-	3	100.0	3	1	25.0	3	75.0	4	1	14.3	6	85.7	7
Business Statistics	-	-	1	100.0	1	3	50.0	3	50.0	6	3	42.8	4	57.2	7
Transportation	-	-	-	-	-	2	66.7	1	33.3	3	2	66.7	1	33.3	3
Other	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Management															
Management	-	-	3	100.0	3	2	15.4	11	84.6	13	2	12.5	14	87.5	16
Business Administration	-	-	-	-	-	2	33.3	4	66.7	6	2	33.3	4	66.7	6
Introduction to Business	-	-	3	100.0	3	2	20.0	8	80.0	10	2	15.4	11	84.6	13
Industrial Relations	-	-	-	-	-	2	33.3	4	66.7	6	2	33.3	4	66.7	6
Business Law	1	25.0	3	75.0	4	3	50.0	3	50.0	6	4	40.0	6	60.0	10
Insurance	-	-	2	100.0	2	1	50.0	1	50.0	2	1	25.0	3	75.0	4
Other	-	-	1	100.0	1	-	-	2	100.0	2	-	-	3	100.0	3
Total	29	27.4	77	72.6	106	54	31.7	116	68.3	170	83	30.1	193	69.9	276

3240

business teachers expressed the opinion that business experience was of little value in the teaching of Business Mathematics, Data Processing, Programming, and Transportation.

There were 106 opinions expressed by the junior college teachers of business subjects regarding the value of business experience to teaching the business subjects listed. Seventy-seven, or almost three-fourths of the teachers, stated that business experience was of great value in the teaching of business subjects.

There were 170 opinions registered by business teachers in four-year colleges and universities regarding the value of business experience in teaching the listed business subjects. Business experience was of great value according to 116 or 68.3 per cent of those business teachers. It was reported by the greatest number of teachers that the teaching of Accounting was benefited most by business experience. Of all subjects, Business English had the highest percentage index showing "great value" as opposed to "little value".

There were 216 opinions reported by full-time teachers of business subjects regarding the value of business experience to the teaching of the subjects listed in Table XA. A total of 140, or almost two-thirds, were of the opinion that business experience was of great value in teaching the subjects listed. The majority of full-time teachers were of the opinion that business experience was of little value in teaching Clerical Practice, Data Processing and Transportation Economics.

Table XB shows that in twenty of the twenty-five subjects

TABLE XA

OPINIONS OF FULL-TIME BUSINESS TEACHERS OF THE VALUE OF BUSINESS EXPERIENCE IN THE TEACHING OF VARIOUS SUBJECTS

	Junior Colleges					Four-Year Colleges and Universities					Total				
	Little Value		Great Value		Total	Little Value		Great Value		Total	Little Value		Great Value		Total
	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N
Office															
Business Communications	1	50.0	1	50.0	2	1	33.3	2	66.7	3	2	40.0	3	60.0	5
Business English	-	-	4	100.0	4	1	33.3	2	66.7	3	1	14.3	6	85.7	7
Clerical Practice	3	75.0	1	25.0	4	1	33.3	2	66.7	3	4	57.2	3	42.8	7
Secretarial Practice	2	33.3	4	66.7	6	1	33.3	2	66.7	3	3	33.3	6	66.7	9
Shorthand	3	37.5	5	62.5	8	1	33.3	2	66.7	3	4	36.4	7	63.6	11
Office Machines	3	37.5	5	62.5	8	1	50.0	1	50.0	2	4	40.0	6	60.0	10
Typing	3	30.0	7	70.0	10	1	25.0	3	75.0	4	4	28.5	10	71.5	14
Other	-	-	2	100.0	2	-	-	-	-	-	-	-	2	100.0	2
Accounting and Finance															
Accounting	3	37.5	5	62.5	8	5	38.5	8	62.5	13	8	38.1	13	61.9	21
Business Mathematics	5	62.5	3	37.5	8	3	60.0	2	40.0	5	8	61.5	5	38.5	13
Finance	-	-	2	100.0	2	2	22.2	7	77.8	9	2	18.2	9	81.8	11
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marketing															
Advertising	1	50.0	1	50.0	2	2	40.0	3	60.0	5	3	42.9	4	57.1	7
Marketing	1	50.0	1	50.0	2	2	28.6	5	71.4	7	3	33.3	6	66.7	9
Salesmanship	1	50.0	1	50.0	2	1	16.7	5	83.3	6	2	25.0	6	75.0	8
Other	-	-	-	-	-	-	-	2	100.0	2	-	-	2	100.0	2

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TABLE XA (Continued)

OPINIONS OF FULL-TIME BUSINESS TEACHERS OF THE VALUE OF BUSINESS EXPERIENCE IN THE TEACHING OF VARIOUS SUBJECTS

	Junior Colleges					Four-Year Colleges and Universities					Total				
	Little Value		Great Value		Total	Little Value		Great Value		Total	Little Value		Great Value		Total
	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N
Data Processing															
Data Processing	1	50.0	1	50.0	2	3	75.0	1	25.0	4	4	66.7	2	33.3	6
Computing Science	-	-	-	-	-	1	50.0	1	50.0	2	1	50.0	1	50.0	2
Programming	-	-	-	-	-	2	100.0	-	-	2	2	100.0	-	-	2
Other	-	-	-	-	-	1	100.0	-	-	1	1	100.0	-	-	1
Economics															
Economics-Principles	-	-	2	100.0	2	4	40.0	6	60.0	10	4	33.3	8	66.7	12
Consumer Economics	-	-	2	100.0	2	1	50.0	1	50.0	2	1	25.0	3	75.0	4
Business Statistics	-	-	1	100.0	1	3	50.0	3	50.0	6	3	42.9	4	57.1	7
Transportation	-	-	-	-	-	2	66.7	1	33.3	3	2	66.7	1	33.3	3
Other	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Management															
Management	-	-	1	100.0	1	2	16.7	10	83.3	12	2	15.4	11	84.6	13
Business Administration	-	-	-	-	-	2	40.0	3	60.0	5	2	40.0	3	60.0	5
Introduction to Business	-	-	3	100.0	3	2	28.6	5	71.4	7	2	20.0	8	80.0	10
Industrial Relations	-	-	-	-	-	2	40.0	3	60.0	5	2	40.0	3	60.0	5
Business Law	1	50.0	1	50.0	2	1	25.0	3	75.0	4	2	33.3	4	66.7	6
Insurance	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Other	-	-	-	-	-	-	-	2	100.0	2	-	-	2	100.0	2
Total	28	34.6	53	65.4	81	48	35.6	87	64.4	135	76	35.2	140	64.8	216

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TABLE XB

OPINIONS OF PART-TIME BUSINESS TEACHERS OF THE VALUE OF BUSINESS EXPERIENCE IN THE TEACHING OF VARIOUS SUBJECTS

	Junior Colleges					Four-Year Colleges and Universities					Total				
	Little Value		Great Value		Total	Little Value		Great Value		Total	Little Value		Great Value		Total
	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N
Office															
Business Communications	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Business English	-	-	1	100.0	1	-	-	1	100.0	1	-	-	2	100.0	2
Clerical Practice	-	-	2	100.0	2	-	-	2	100.0	2	-	-	4	100.0	4
Secretarial Practice	-	-	2	100.0	2	-	-	2	100.0	2	-	-	4	100.0	4
Shorthand	-	-	2	100.0	2	1	33.3	2	66.7	3	1	20.0	4	80.0	5
Office Machines	1	50.0	1	50.0	2	1	100.0	-	-	1	2	66.7	1	33.3	3
Typing	-	-	2	100.0	2	-	-	3	100.0	3	-	-	5	100.0	5
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accounting and Finance															
Accounting	-	-	1	100.0	1	1	33.3	2	66.7	3	1	25.0	3	75.0	4
Business Mathematics	-	-	-	-	-	-	-	2	100.0	2	-	-	2	100.0	2
Finance	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marketing															
Advertising	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Marketing	-	-	-	-	-	-	-	2	100.0	2	-	-	2	100.0	2
Salesmanship	-	-	2	100.0	2	-	-	1	100.0	1	-	-	3	100.0	3
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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TABLE XB (Continued)

OPINIONS OF PART-TIME BUSINESS TEACHERS OF THE VALUE OF BUSINESS EXPERIENCE IN THE TEACHING OF VARIOUS SUBJECTS

	Junior Colleges					Four-Year Colleges and Universities					Total				
	Little Value		Great Value		Total	Little Value		Great Value		Total	Little Value		Great Value		Total
	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N
Data Processing															
Data Processing	-	-	1	100.0	1	-	-	-	-	-	-	-	1	100.0	1
Computing Science	-	-	1	100.0	1	-	-	-	-	-	-	-	1	100.0	1
Programming	-	-	1	100.0	1	-	-	-	-	-	-	-	1	100.0	1
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Economics															
Economics-Principles	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Consumer Economics	-	-	1	100.0	1	-	-	2	100.0	2	-	-	3	100.0	3
Business Statistics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management															
Management	-	-	2	100.0	2	-	-	1	100.0	1	-	-	3	100.0	3
Business Administration	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Introduction to Business	-	-	-	-	-	-	-	3	100.0	3	-	-	3	100.0	3
Industrial Relations	-	-	-	-	-	-	-	1	100.0	1	-	-	1	100.0	1
Business Law	-	-	2	100.0	2	2	100.0	-	-	2	2	50.0	2	50.0	4
Insurance	-	-	2	100.0	2	-	-	1	100.0	1	1	33.3	2	66.7	3
Other	-	-	1	100.0	1	-	-	-	-	-	-	-	1	100.0	1
Total	1	4.0	24	96.0	25	5	14.3	30	85.7	35	7	11.7	53	88.3	60

3245

regarding which the part-time teachers expressed opinions there was unanimity of expression that business experience was of great value in teaching the subjects. Of the sixty opinions reported by the part-time teachers of business subjects, fifty-three, or 88.3 per cent, stated that business experience was of great value in teaching the subjects listed.

The twenty-five opinions expressed by junior college part-time teachers were, with one exception, that business experience was of great value in teaching the subjects indicated.

II. BENEFITS OF BUSINESS EXPERIENCE

Business teachers were asked whether their business experience had helped them to do a more effective job of teaching, whether their business experience had helped them become better acquainted with business practices and techniques, and whether their business experience had enabled them to present to their students more facts about business. Table XI shows the favorable replies to these three questions expressed as percentages. The replies ranged from 78.5 per cent favorable for full-time teachers at four-year institutions to unanimity for part-time teachers in junior colleges and in four-year institutions.

The teachers were asked whether their business experience had enabled them to make desirable contacts with business men, enabled them to render more effective vocational guidance and had raised their stature in the eyes of their students. Table XI shows that favorable replies to these three questions ranged from 33.3 per

TABLE XI

SUMMARY OF FAVORABLE OPINIONS OF BUSINESS TEACHERS OF THE BENEFITS OF BUSINESS EXPERIENCE AS APPLIED TO TEACHING BUSINESS SUBJECTS

	Junior Colleges			Four-Year Colleges and Universities			All Teachers		
	Part-Time	Full-Time	All	Part-Time	Full-Time	All	Part-Time	Full-Time	All
	Per Cent			Per Cent			Per Cent		
Helped you to do a more effective job of teaching.	100.0	92.9	95.5	100.0	78.5	82.3	100.0	83.2	87.5
Helped you to become more acquainted with business practices and techniques.	100.0	92.9	95.5	100.0	86.2	88.6	100.0	88.4	91.3
Enabled you to present to the students more facts about business.	100.0	92.9	95.5	100.0	82.0	85.2	100.0	85.6	89.2
Enabled you to make desirable contacts with business men. (Obtaining guest speakers, for example.)	85.8	42.9	57.2	33.3	52.9	50.0	61.5	50.0	52.9
Enabled you to render more effective vocational guidance to your students.	62.5	84.6	76.2	50.0	64.1	61.8	57.2	70.8	67.3
Raised your stature in the eyes of the students.	62.5	50.3	54.6	66.7	46.4	50.0	64.3	47.6	51.5
Enabled you to secure a better teaching position.	25.0	46.1	38.1	20.0	43.1	39.4	23.1	44.0	38.8

3247

cent for part-time teachers at four-year institutions to 85.8 per cent among part-time teachers at junior colleges. Although the favorable replies were not so prevalent as in the case of the first three questions, generally more than one-half of those replying answered favorably.

The teachers were asked whether their business experience had enabled them to secure a better teaching position. Table XI shows that only twenty per cent of part-time teachers at four-year institutions were of a favorable opinion. The full-time junior college teachers registered the highest favorable percentage with 46.1 per cent.

Some teachers were undecided as to the benefits of business experience in relation to the questions listed. Reference is made to Appendix I for detailed support of Table XI.

III. SCHOOL POLICIES REGARDING BUSINESS EXPERIENCE FOR TEACHERS

Table XII gives the answers of business teachers to questions regarding their schools' policies of requiring or recommending prior business experience for the teaching of business subjects. Only three teachers of the sixty-eight in the sample reported that their schools required business experience for teaching business subjects. All were from junior colleges.

When asked whether their schools recommended business experience for the teachers of business subjects, 45.6 per cent answered affirmatively, while 44.1 per cent answered negatively. Over one-half of the junior college teachers said that their schools

TABLE XII

SCHOOL POLICIES REGARDING BUSINESS EXPERIENCE
FOR TEACHING BUSINESS SUBJECTS

	Junior Colleges		Four-Year Colleges and Universities		All Schools	
	N	Per Cent	N	Per Cent	N	Per Cent
Schools requiring business experience for teaching business subjects.	3	11.5	-	-	3	4.4
Schools not requiring business experience for teaching business subjects.	23	88.5	41	97.6	64	94.1
No Response.	-	-	1	2.4	1	1.5
Total Number of Teachers Reporting	26	100.0	42	100.0	68	100.0
Schools recommending business experience for teaching business subjects.	15	57.7	16	38.1	31	45.6
Schools not recommending business experience for teaching business subjects.	8	30.8	22	52.4	30	44.1
No Response.	3	11.5	4	9.5	7	10.3
Total Number of Teachers Reporting	26	100.0	42	100.0	68	100.0

3249

recommend business experience. More than one-third of the four-year colleges and universities replied that their schools recommended business experience for business teachers.

IV. TEACHERS' OPINIONS REGARDING BUSINESS EXPERIENCE AS A REQUIREMENT FOR TEACHING

Table XIII summarizes answers of business teachers to two questions regarding business experience as a requirement for teaching. One question asked the teachers if they were of the opinion that business experience should be a requirement for teaching at junior colleges, and the other question asked for their opinions regarding business experience as a requirement to teach at four-year colleges and universities. Only slightly more than one-half of all forty-seven respondents were of the opinion that business experience should be a requirement to teach business subjects in junior colleges. In contrast, slightly less than one-half of all of the business teachers responding were of the opinion that business experience should be a requirement to teach business subjects in four-year colleges and universities.

Part-time business teachers as a group registered overwhelmingly that business experience should be a requirement to teach at both junior colleges and at four-year colleges and universities.

Opinions of full-time junior college teachers were overwhelming that business experience should be a requirement for teaching at four-year colleges and universities.

Part-time junior college teachers showed a preponderance favoring business experience as a requirement for teaching. Eighty

TABLE XIII

OPINIONS OF BUSINESS TEACHERS REGARDING BUSINESS EXPERIENCE AS A REQUIREMENT FOR TEACHING BUSINESS SUBJECTS

Teachers	Should Be Required For Junior College Teachers					Should Be Required For Four-Year College and University Teachers				
	Yes		No		Total	Yes		No		Total
	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N
All	25	53.2	22	46.8	47	23	48.9	24	51.1	47
Full-Time	17	45.9	20	54.1	37	16	42.2	22	57.8	38
Part-Time	8	80.0	2	20.0	10	7	77.8	2	22.2	9
Full-Time Junior College	7	50.0	7	50.0	14	8	66.7	4	33.3	12
Part-Time Junior College	6	85.7	1	14.3	7	4	80.0	1	20.0	5
Full-Time Four-Year College and University	10	43.4	13	56.6	23	8	30.7	18	69.3	26
Part-Time Four-Year College and University	2	66.7	1	33.3	3	3	75.0	1	25.0	4

3251

per cent of part-time teachers favored a business experience requirement at four-year colleges and universities.

Two-thirds of the full-time four-year college and university teachers were opposed to the requirement for four-year institutions.

V. COMPARISON BETWEEN AMOUNT OF BUSINESS EXPERIENCE AND OPINIONS OF ITS VALUE

There appears to be a positive relationship between the amount of business experience possessed by business teachers and their opinions of its value as an aid to teaching. Generally, teachers are of the opinion that the more business experience possessed, the greater the value of that experience in teaching. Table XIV shows a summary of the favorable responses of the teachers to the seven questions listed as III 2 (a) through (g) in the questionnaire (see Appendix C) in regard to the benefit of varying amounts of business experience, associated with their years of business experience.

The summary column of Table XIV shows the replies for all teachers and reveals that there is a fairly steady progression of increasing percentages of affirmative opinion from a low percentage in the "1 to 3 years" category of 51.7 per cent through a plateau-like average of almost 80.0 per cent in the categories from over three years to twenty-five years. The "over 25 years" category of business experience shows 92.3 per cent answering that business experience was of value in all of seven areas of teaching.

The second column of figures in Table XIV shows the

affirmative replies, expressed as percentages, from junior college teachers answering the seven questions referred to. While there is a steady progression from the categories "1 to 3 years" through fifteen years, from 65.6 per cent affirmative to 92.3 per cent, there is a fairly sharp drop to 57.2 per cent in the "15.1 to 25 years" category.

The last column of figures in Table XIV gives the affirmative replies, expressed as percentages, of four-year college and university teachers answering the seven questions above mentioned. Here, as in the first column showing all teachers, a fairly steadily increasing progression of affirmation is noted from 41.7 per cent in the "1 to 3 years" category to 92.3 per cent in the "over 25 years" category.

Reference is made to Appendix J for detailed support of Table XIV.

TABLE XIV

SUMMARY OF COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO BENEFITS OF BUSINESS EXPERIENCE AS AN AID TO TEACHING

	Affirmative Replies to Seven Questions		
	Summary All Teachers	Junior College Teachers	Four-Year College and University Teachers
Business Experience	Per Cent	Per Cent	Per Cent
1 to 3 years	51.7	65.6	41.7
3.1 to 5 years	76.2	78.5	74.3
5.1 to 10 years	81.1	82.8	80.0
10.1 to 15 years	78.1	92.3	71.4
15.1 to 25 years	73.8	57.2	82.1
Over 25 years	92.3	-0-	92.3

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of the study was to determine certain characteristics of the business teachers in Illinois community (junior) colleges and in Illinois four-year colleges and universities, with emphasis on their occupational backgrounds.

The names of 1,572 business teachers were furnished by the chairmen of the business departments of seventy-six junior colleges and four-year colleges and universities. By use of a statistical formula, a sample size of either forty-eight or forty-nine was determined to be necessary to represent, properly, the entire population. In order to insure additional reliability the sample size was doubled. Questionnaires were sent to ninety-seven teachers picked by random sampling. Sixty-eight, or 70.1 per cent, of the ninety-seven teachers returned completed questionnaires.

I. SUMMARY OF SIGNIFICANT FINDINGS

Analysis of the data recorded in the questionnaires was performed manually and by means of electronic data processing.

1. Of the sixty-eight completed questionnaires, twenty-six, or 38.3 per cent, represented junior college teachers and forty-two, or 61.7 per cent, represented four-year college and university teachers.

2. In the population of 1,572 business teachers, 38.1 per cent represented junior college teachers and 61.9 per cent

represented four-year colleges and universities.

3. Fifty-six, or 82.4 per cent of the sixty-eight teachers in the sample, were male. In four-year colleges and universities, forty, or 95.2 per cent of the forty-two teachers, were male. In junior colleges, sixteen, or 61.5 per cent, were male.

4. Forty-four, or 64.7 per cent of all teachers, were married. Eighteen of twenty-six, or 69.3 per cent of junior college teachers and twenty-six of forty-two teachers, or 61.9 per cent at four-year colleges and universities, were married.

5. Fifty-three, or 77.9 per cent, of the teachers were full-time while fifteen, or 22.1 per cent, were part-time.

6. Of the twenty-six junior college teachers, eighteen, or 69.2 per cent, were full-time, while eight, or 30.8 per cent, were part-time.

7. Thirty-five, or 83.3 per cent of the forty-two teachers at four-year colleges and universities were full-time, and seven, or 16.7 per cent, were part-time.

8. Fifty-three, or 77.9 per cent, of all the teachers had some business experience. Among the junior college teachers, twenty-one, or 80.7 per cent, had business experience. Among teachers at four-year colleges and universities, thirty-two, or 76.2 per cent, had business experience.

9. Approximately eighty-seven per cent of the part-time teachers and three-fourths of the full-time teachers had business experience.

10. One-fourth of all the teachers reported that they were

employed in business at the time of answering the questionnaires.

11. Twelve, or 17.5 per cent of the teachers, had their most recent business experience over ten years ago, while eleven, or 16.2 per cent, had no business experience.

12. Approximately the same proportion of teachers at junior colleges (15.4 per cent) as at four-year colleges and universities (16.7 per cent) had no business experience.

13. One-third of the junior college teachers were employed in business at the time of the inquiry compared with one-fifth of the four-year college and university teachers.

14. Forty-eight, or 70.6 per cent of all the teachers, had business experience prior to their teaching careers. Employment during summer months and vacations, with 45.6 per cent so reporting, was the second most popular means of obtaining business experience. One-fourth of the teachers had experienced part-time employment during the school year.

15. The largest number of teachers, seventeen, representing one-fourth, reported from one to three years of business experience. One-fifth had more than ten years' experience.

16. Management experience in business was reported by 42.6 per cent of the teachers. Sales experience, reported by 30.9 per cent, was the next most frequently reported occupational experience.

17. Eighty-eight per cent of junior college teachers of business subjects had five years or less of teaching experience. Less than 12.0 per cent had more than five years experience in teaching at junior colleges.

18. Teachers of business subjects at four-year colleges and universities reported that one-half of their number had five years or less of teaching experience.

19. Over one-fifth of the sixty-eight teachers were teaching Accounting at the time of the inquiry. Management, taught by slightly less than one-fifth of the teachers, was the next most frequently mentioned subject being taught. The Management group of subjects was taught by more teachers than any other subject group, with forty-two, or almost two-thirds of the teachers involved.

20. Of the 276 opinions given regarding the value of business experience to the teaching of the thirty-one business subjects listed in the questionnaire, about 70.0 per cent of teachers at junior colleges and a similar proportion of teachers at senior institutions stated that business experience was of great value.

21. Almost ninety per cent of all teachers were of the opinion that business experience was of benefit to them in (1) doing a more effective job of teaching, (2) becoming more acquainted with business practices and techniques, and (3) presenting to the students more facts about business.

22. Two-thirds of the teachers stated that business experience enabled them to render more effective vocational guidance to students.

23. Slightly more than one-half of the teachers were of the opinion that business experience (1) enabled teachers to make desirable contacts with business men, and (2) raised the teacher's stature in the eyes of the students.

24. About forty per cent of the teachers were of the opinion that business experience enabled the teacher to secure a better teaching position.

25. Three junior colleges, or 4.4 per cent of all schools, were reported as requiring business experience to teach business subjects. While forty-five per cent of the teachers reported that their schools recommended business experience for teaching, an almost identical proportion replied that their schools did not so recommend.

26. Slightly more than one-half of all responding teachers stated that business experience should be required to teach business subjects in junior colleges, while slightly less than one-half said that business experience should be required to teach in four-year colleges and universities.

27. Substantially larger percentages of part-time teachers than full-time teachers were of the opinion that business experience should be a requirement for teaching business subjects.

28. There appears to be a positive relationship between the amount of business experience possessed by business teachers and their opinions of its value as an aid to teaching. Generally speaking, the more business experience possessed by the teachers, the greater was their support that business experience is of value in teaching.

29. Thirty-two, or 47.0 per cent, of the teachers held doctorate degrees; twenty-eight, or 41.1 per cent, held master's; and five had bachelor's degrees.

II. CONCLUSIONS

1. Over three-fourths of the sixty-eight teachers in the sample had business experience. Over seventy per cent of the teachers stated that business experience was of great value in teaching specific business subjects. Almost ninety per cent of the teachers were of the opinion that business experience was of benefit to them in the overall job of teaching, in becoming more acquainted with business practices and techniques and in presenting to students more facts about business. Thus, it can be concluded that the great majority of the teachers feel positively about business experience as an important adjunct to teaching.

2. Two-thirds of the teachers were of the opinion that business experience enabled them to render more effective vocational guidance to students. Vocational guidance of students can be an important function in the total responsibility of a teacher. Thus, it can be concluded that there are benefits stemming from business experience that help the teacher discharge duties aside from teaching.

3. Approximately three-fourths of the junior college teachers held master's degrees as their highest degree. Approximately three-fourths of the four-year college and university teachers held doctorates. Thus, it can be concluded that in the junior colleges there are teachers with degrees less than masters and in four-year colleges and universities with degrees less than the doctorate.

4. Over ninety-five per cent of the teachers in four-year

colleges and universities were male in contrast to about sixty per cent in the junior colleges. Thus, it can be concluded that there is considerably more dependence on female teachers in junior colleges than in four-year colleges and universities.

5. The predominant characteristics of the business teachers in the sample are as follows: most are married, are male, hold the doctorate, teach full-time at a four-year college or university, have had three years of management business experience prior to teaching, have taught Accounting about four and one-half years, and feel positively about the benefits and value of business experience as an aid to teaching.

III. RECOMMENDATIONS

It is recommended that these findings be publicized among school administrators and department heads of schools of business in order that they have current information regarding the importance in which business experience is held by teachers. Such information could effect a modification of hiring practices regarding business teachers.

The findings revealed that the more business experience possessed by teachers the more numerous were their opinions about its positive value in teaching. However, approximately sixty per cent of all teachers had five years or less of business experience. It is recommended that methods be devised to enable teachers of business subjects to obtain continuing business experience on some regular basis.

It is recommended that future studies relative to the subject of this paper cover areas much larger than one state.

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APPENDIXES

APPENDIX A

520 South Belmont
Arlington Heights,
Illinois 60005

September 19, 1969

Chairman
Department of Business

Dear Sir:

As a business educator you are in a position to help in a study to determine business occupational backgrounds of business teachers. The study will also attempt to determine the value, as expressed by the teachers, of that background as an aid to teaching. The survey will cover all community colleges and four-year colleges and universities in Illinois, and the data will be used in connection with a Master's Thesis at Northern Illinois University.

It would be greatly appreciated if you would send me a list of the names of all full-time and part-time business teachers in your institution.

I enclose an addressed envelope for your convenience.

Thank you.

Sincerely,

Leonard S. Holstad

APPENDIX B

520 South Belmont
Arlington Heights,
Illinois 60005

January 15, 1970

Dear Professor:

Your name has been given me by your department chairman as a person engaged in the teaching of business subjects and one who might participate in a research study. We are trying to determine the extent and value of business experience as an aid to teaching, as expressed by business professors in community colleges and four-year universities and colleges in Illinois. This study is related to achieving my master's degree at Northern Illinois University.

Although the enclosed questionnaire appears lengthy, the answers in almost all cases can be made with a check mark. Thus, with the exception of question 3 on page 2, you should be able to complete the form in less than 10 minutes. Would you please take a few more minutes to give me your general opinion on the importance of business experience in the teaching of business subjects as well as suggestions as to how such experience can best be acquired. Your promptness in returning the form in the enclosed envelope will be appreciated.

If you are interested in the results of the study, I will be glad to share them with you upon completion. Thank you.

Sincerely,

Leonard S. Holstad

Enclosures (2)

APPENDIX C

BUSINESS EXPERIENCE QUESTIONNAIRE

(Please fill in each blank with a check mark, number, or a few words.)

I. GENERAL INFORMATION

1. Male_____ Female_____ Married_____ Single_____
2. Name of school where teaching_____
3. (a) Years of teaching business subjects:
   H.S._____ Jr. College_____ Four-yr. College or Univ.____
   Other____
   (b) Years of teaching other subjects:
   H.S._____ Jr. College_____ Four-yr. College or Univ._____
   Other____
4. Present teaching status, full-time_____ part-time_____
5. List courses you are teaching now_____, _____, _____
6. Highest degree attained, Bachelor's_____, Master's_____, Certificate of Advanced Study_____, Doctorate_____, Other____

II. BUSINESS EXPERIENCE INFORMATION

1. (a) Does your school require business experience as a qualification for employment as a teacher in business?
   Yes_____ No_____
   (b) If the answer is "no," does your school highly recommend that business teachers have business experience?
   Yes_____ No_____
2. Have you had any experience in business? Yes_____ No_____

   (IF YOUR ANSWER IS "NO," PLEASE DISREGARD THE REMAINDER OF THIS QUESTIONNAIRE AND RETURN IT IN THE ADDRESSED ENVELOPE.)

3. Method of obtaining your business experience: (Check more than one, if necessary)
   (a) Before you began your teaching career.....____
   (b) Full-time employment during the teaching school year..____
   (c) Part-time employment during the teaching school year..____
   (d) Part-time employment while attending college.....____
   (e) Co-op or internship program while attending college...____
   (f) During Summer months and vacation periods.....____
   (g) During periodic leaves of absence.....____
   (h) Other (describe)_____
4. When was the most recent business experience?
   (a) At the present time_____ (d) From 3 to 5 yrs. ago_____
   (b) Within the last year_____ (e) From 5 to 10 yrs. ago_____
   (c) From 1 to 3 years ago____ (f) Over 10 yrs. ago_____
5. Please estimate the approximate total time of your business experience.....years_____
   months_____

6. Specific business occupations in which you have had experience:

(a) Managerial_____	(e) Sales_____	(i) Truck Driver___
(b) Accountant_____	(f) Secretary_____	(j) Stock Clerk____
(c) Bookkeeping_____	(g) Clerical_____	(k) Typist_____
(d) Cashier_____	(h) Data Processing___	(l) Other_____

III. VALUE OF YOUR BUSINESS EXPERIENCE

1. Which courses that you have taught have been aided by your business experience?

	Little Value	Great Value		Little Value	Great Value
Office			Data Processing		
Bus.Communications			Data Processing		
Bus.English			Computing Science		
Clerical Practice			Programming		
Secretarial Practice			Other		
Shorthand			Economics		
Office Machines			Economics-Principles		
Typing			Consumer Economics		
Other			Bus.Statistics		
Accounting & Finance			Transportation		
Accounting			Other		
Business Math.			Management		
Finance			Management		
Other			Bus.Administration		
Marketing			Intro. to Bus.		
Advertising			Indus. Relations		
Marketing			Bus. Law		
Salesmanship			Insurance		
Other			Other		

2. Generally, as a result of your business experience, is it your opinion that it has:

	Yes	No	Undecided
(a) Helped you to do a more effective job of teaching?.....	___	___	_____
(b) Helped you to become more acquainted with business practices and techniques?..	___	___	_____
(c) Enabled you to present to the students more facts about business?.....	___	___	_____
(d) Enabled you to make desirable contacts with business men? (Obtaining guest speakers, for example).....	___	___	_____
(e) Enabled you to render more effective vocational guidance to your students?....	___	___	_____
(f) Raised your stature in the eyes of the students?.....	___	___	_____
(g) Enabled you to secure a better teaching position?.....	___	___	_____

3. Your additional comments on the importance of business experience in relation to teaching as well as your suggestions as to how such experience can be obtained will be appreicated. You may use the reverse side of this page or a separate sheet.

4. Is it your opinion that business experience should be a requirement for teaching, at Jr. College level?_____ at 4-yr. College level?_____

THANK YOU FOR YOUR COOPERATION:

Please send me the results of this study (_____)

My name and address is:_____

_____

_____

APPENDIX D

520 South Belmont
Arlington Heights,
Illinois 60005

February 6, 1970

Dear Professor:

On January 15, I wrote asking if you would participate in a research study to try to determine the extent and value of business experience as an aid in teaching. I enclosed a questionnaire which would take about ten minutes to fill out as well as an addressed, stamped envelope.

This study relates to achieving my master's degree at Northern Illinois University.

I would appreciate it greatly if you would send me the completed questionnaire at your earliest convenience. In the event you have already done so, I thank you.

Sincerely,

Leonard S. Holstad

APPENDIX E

VOLUNTARY STATEMENTS REGARDING BUSINESS EXPERIENCE MADE BY RESPONDENTS TO QUESTIONNAIRE - APPENDIX C

1. Business experience enables one to see how the myth of the antagonism between "theory" and "practice" is just that - a myth.

2. Business experience helps one "personalize" the subject - by illustrations from experience.

3. Business experience teaches one to be realistic.

4. Business experience is no panacea for poor teaching. The business experience comes as a complement to other factors.

5. Just "any" business experience is not "that" valuable.

6. Teaching certain courses is very difficult without business experience. There is little correlation between experience and being an effective teacher. "Motivation" and "stimulation" of students - whether or not one has had business experience, is important.

7. If you have no business experience - you don't know the "loop holes" in what you are teaching!

8. Business experience will not make a good teacher out of a bad one. Teaching ability depends on motivation and interest.

9. Would business experience be important in teaching English or History?

10. There is too much inbreeding in the teaching profession.

11. Nothing is as important as business experience for a teacher. Students with some business experience do better in class.

12. Teachers of business subjects must have business experience.

13. Fellowship programs for teachers to gain business experience are very good.

14. No teacher should be allowed to teach Economics or other business courses without having had several years of business experience.

15. Economics textbooks should be written by men with business experience who have a Ph.D.!

16. Business experience can slant a teacher toward "practical vs. theory." Some courses should have business experience.

17. I feel very strong (sic) that all business teachers should have business experience.

18. New cooperative programs should be developed to give business experience to teachers.

19. Business experience should not be required for teaching.

20. No student should be admitted to a Master's or Ph.D. program without some practical business experience. Should have students register with employment offices, for example.

21. Business experience makes a teacher realize that the academic world is like a glass cage!

22. Business experience is sometimes over-rated. Teachers should visit businesses twice a month! Also seminars with business men should be held.

23. Business experience is not only educational - but humbling!

24. Anyone can and should get part-time business experience.

25. Student attention is "intense" during a correlation by the teacher of business law with a practical situation. Business experience inspires "what if" questions.

26. Business experience helps a teacher decide what areas should get most attention.

27. It is unthinkable that anyone can understand business principles - without business experience.

28. All curricula should have a "practicum" in business occupations. Experience is the best teacher.

29. How to gain experience? Summer jobs, co-op programs, part-time work, part-time teaching and part-time administration, field trips, talking with business men, getting speakers. Businesses should engage teachers to teach courses to employees on company time.

APPENDIX F

METHODS OF OBTAINING BUSINESS EXPERIENCE
AMONG BUSINESS TEACHERS

	Junior Colleges N = 26		Four-Year Colleges and Universities N = 42		Total N = 68	
	N	Per Cent	N	Per Cent	N	Per Cent
Prior to Teaching Career	18	69.2	30	71.4	48	70.6
Full-Time Employment During School Year	5	19.2	3	7.1	8	11.8
Part-Time Employment During School Year	7	26.9	11	26.2	18	26.5
Part-Time Employment While Attending College	13	50.0	15	35.7	28	41.2
Co-op or Internship Program While Attending College	5	19.2	1	2.4	6	8.8
During Summer Months and Vacation Periods	15	57.7	16	38.1	31	45.6
During Periodic Leaves of Absence	2	7.7	2	4.8	4	5.9
Other Ways of Obtaining Business Experience	1	3.8	6	14.3	7	10.3

METHODS OF OBTAINING BUSINESS EXPERIENCE
AMONG FULL-TIME BUSINESS TEACHERS

	Junior Colleges N = 18		Four-Year Colleges and Universities N = 35		Total N = 53	
	N	Per Cent	N	Per Cent	N	Per Cent
Prior to Teaching Career	12	66.7	25	71.4	37	69.8
Full-Time Employment During School Year	1	5.6	1	2.9	2	3.8
Part-Time Employment During School Year	6	33.3	10	28.6	16	30.2
Part-Time Employment While Attending College	8	44.4	13	37.1	21	39.6
Co-op or Internship Program While Attending College	4	22.2	1	2.9	5	9.4
During Summer Months and Vacation Periods	11	61.1	14	40.0	25	47.2
During Periodic Leaves of Absence	1	5.6	2	5.7	3	5.7
Other Ways of Obtaining Business Experience	1	5.6	4	11.4	5	9.4

METHODS OF OBTAINING BUSINESS EXPERIENCE
AMONG PART-TIME BUSINESS TEACHERS

	Junior Colleges N = 8		Four-Year Colleges and Universities N = 7		Total N = 15	
	N	Per Cent	N	Per Cent	N	Per Cent
Prior to Teaching Career	6	75.0	5	71.4	11	73.3
Full-Time Employment During School Year	4	50.0	2	28.6	6	40.0
Part-Time Employment During School Year	1	12.5	1	14.3	2	13.3
Part-Time Employment While Attending College	5	62.5	2	28.6	7	46.7
Co-op or Internship Program While Attending College	1	12.5	-	-	1	6.7
During Summer Months and Vacation Periods	4	50.0	2	28.6	6	40.0
During Periodic Leaves of Absence	1	12.5	-	-	1	6.7
Other Ways of Obtaining Business Experience	-	-	2	28.6	2	13.3

APPENDIX G

AMOUNT OF BUSINESS EXPERIENCE
AMONG BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
No Business Experience	4	15.4	7	16.7	11	16.2
1 to 3 years	8	30.8	9	21.5	17	25.0
3.1 to 5 years	4	15.5	5	11.8	9	13.2
5.1 to 10 years	5	19.1	8	19.1	13	19.1
10.1 to 15 years	2	7.7	4	9.5	6	8.9
15.1 to 25 years	2	7.7	4	9.5	6	8.8
Over 25 years	-	-	2	4.8	2	2.9
No Response	1	3.8	3	7.1	4	5.9
Total	26	100.0	42	100.0	68	100.0

AMOUNT OF BUSINESS EXPERIENCE AMONG
FULL-TIME BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
No Business Experience	4	22.2	6	17.0	10	18.8
1 to 3 years	6	33.3	7	20.0	13	24.5
3.1 to 5 years	4	22.2	4	11.5	8	15.0
5.1 to 10 years	2	11.1	7	20.0	9	17.0
10.1 to 15 years	1	5.6	4	11.5	5	9.5
15.1 to 25 years	-	-	4	11.5	4	7.6
Over 25 years	-	-	1	2.8	1	1.9
No Response	1	5.6	2	5.7	3	5.7
Total	18	100.0	35	100.0	53	100.0

AMOUNT OF BUSINESS EXPERIENCE AMONG
PART-TIME BUSINESS TEACHERS

	Junior Colleges		Four-Year Colleges and Universities		Total	
	N	Per Cent	N	Per Cent	N	Per Cent
No Business Experience	-	-	1	14.3	1	6.7
1 to 3 years	2	25.0	2	28.5	4	26.6
3.1 to 5 years	-	-	1	14.3	1	6.7
5.1 to 10 years	3	37.5	1	14.3	4	26.6
10.1 to 15 years	1	12.5	-	-	1	6.7
15.1 to 25 years	2	25.0	-	-	2	13.3
Over 25 years	-	-	1	14.3	1	6.7
No Response	-	-	1	14.3	1	6.7
Total	8	100.0	7	100.0	15	100.0

APPENDIX H

AREAS OF BUSINESS EXPERIENCE
AMONG BUSINESS TEACHERS

	Junior Colleges N = 26		Four-Year Colleges and Universities N = 42		Total N = 68	
	N	Per Cent	N	Per Cent	N	Per Cent
Management	10	38.5	19	45.2	29	42.6
Accounting	8	30.8	11	26.2	19	27.9
Bookkeeping	9	34.6	3	7.1	12	17.6
Cashiering	2	7.7	1	2.4	3	4.4
Sales	8	30.8	13	31.0	21	30.9
Secretarial	10	38.5	6	14.3	16	23.5
Clerical	11	42.3	9	21.4	20	29.4
Data Processing	1	3.8	1	2.4	2	2.9
Truck Driving	-	-	1	2.4	1	1.5
Stock Clerking	1	3.8	2	4.8	3	4.4
Typing	7	26.9	7	16.7	14	20.6
Other	7	26.9	12	28.6	19	27.9

AREAS OF BUSINESS EXPERIENCE AMONG
FULL-TIME BUSINESS TEACHERS

	Junior Colleges N = 18		Four-Year Colleges and Universities N = 35		Total N = 53	
	N	Per Cent	N	Per Cent	N	Per Cent
Management	4	22.2	18	51.4	22	41.5
Accounting	7	38.9	10	28.6	17	32.1
Bookkeeping	8	44.4	2	5.7	10	18.9
Cashiering	2	11.1	-	-	2	3.8
Sales	3	16.7	9	25.7	12	22.6
Secretarial	7	38.9	2	5.7	9	17.0
Clerical	8	44.4	7	20.0	15	28.3
Data Processing	-	-	1	2.9	1	1.9
Truck Driving	-	-	-	-	-	-
Stock Clerking	1	5.6	2	5.7	3	5.7
Typing	5	27.8	5	14.3	10	18.9
Other	4	22.2	10	28.6	14	26.4

AREAS OF BUSINESS EXPERIENCE AMONG
PART-TIME BUSINESS TEACHERS

	Junior Colleges N = 8		Four-Year Colleges and Universities N = 7		Total N = 15	
	N	Per Cent	N	Per Cent	N	Per Cent
Management	6	75.0	1	14.3	7	46.7
Accounting	1	12.5	1	14.3	2	13.3
Bookkeeping	1	12.5	1	14.3	2	13.3
Cashiering	-	-	1	14.3	1	6.7
Sales	5	62.5	4	57.1	9	60.0
Secretarial	3	37.5	4	57.1	7	46.7
Clerical	3	37.5	2	28.6	5	33.3
Data Processing	1	12.5	-	-	1	6.7
Truck Driving	-	-	1	14.3	1	6.7
Stock Clerking	-	-	-	-	-	-
Typing	2	25.0	2	28.6	4	26.7
Other	3	37.5	2	28.6	5	33.3

APPENDIX I

OPINIONS OF BUSINESS TEACHERS OF THE BENEFITS OF BUSINESS EXPERIENCE AS APPLIED TO TEACHING BUSINESS SUBJECTS

	Junior Colleges							Four-Year Colleges and Universities						
	Yes		No		Undecided		Total	Yes		No		Undecided		Total
	N	Per Cent	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	Per Cent	N
Helped teachers to do a more effective job of teaching.	21	95.5	1	4.5	-	-	22	28	82.3	4	11.8	2	5.9	34
Helped teachers to become more acquainted with business practices and techniques.	21	95.5	1	4.5	-	-	22	31	88.6	4	11.4	-	-	35
Enabled teachers to present to the students more facts about business.	21	95.5	1	4.5	-	-	22	29	85.2	2	5.9	3	8.9	34
Enabled teachers to make desirable contacts with business men.	12	57.2	7	33.3	2	9.5	21	17	50.0	14	41.1	3	8.9	34
Enabled teachers to render more effective vocational guidance to students.	16	76.2	3	14.3	2	9.5	21	21	61.8	8	23.6	5	14.6	34
Raised the teacher's stature in the eyes of the students.	12	54.6	3	13.5	7	31.9	22	17	50.0	4	11.8	13	38.2	34
Enabled the teacher to secure a better teaching position.	8	38.1	10	47.9	3	14.0	21	13	39.4	14	42.7	6	17.9	33

3296

OPINIONS OF BUSINESS TEACHERS OF THE BENEFITS OF BUSINESS EXPERIENCE AS APPLIED TO TEACHING BUSINESS SUBJECTS

	All Teachers						
	Yes		No		Undecided		Total
	N	Per Cent	N	Per Cent	N	Per Cent	N
Helped teachers to do a more effective job of teaching.	49	87.5	5	8.9	2	3.6	56
Helped teachers to become more acquainted with business practices and techniques.	52	91.3	5	8.7	-	-	57
Enabled teachers to present to the students more facts about business.	50	89.2	3	5.4	3	5.4	56
Enabled teachers to make desirable contacts with business men.	29	52.9	21	38.0	5	9.1	55
Enabled teachers to render more effective vocational guidance to students.	37	67.3	11	20.0	7	12.7	55
Raised the teacher's stature in the eyes of the students.	29	51.5	7	12.5	20	36.0	56
Enabled the teacher to secure a better teaching position.	21	38.8	24	44.6	9	16.6	54

32977

OPINIONS OF FULL-TIME BUSINESS TEACHERS OF THE BENEFITS OF BUSINESS EXPERIENCE AS APPLIED TO TEACHING BUSINESS SUBJECTS

	Junior Colleges							Four-Year Colleges and Universities						
	Yes		No		Undecided		Total	Yes		No		Undecided		Total
	N	Per Cent	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	Per Cent	N
Helped teachers to do a more effective job of teaching.	13	92.9	1	7.1	-	-	14	22	78.5	4	14.3	2	7.2	28
Helped teachers to become more acquainted with business practices and techniques.	13	92.9	1	7.1	-	-	14	25	86.2	4	13.8	-	-	29
Enabled teachers to present to the students more facts about business.	13	92.9	1	7.1	-	-	14	23	82.0	2	7.2	3	10.8	28
Enabled teachers to make desirable contacts with business men.	6	42.9	6	42.9	2	14.2	14	15	52.9	11	39.9	2	7.2	28
Enabled teachers to render more effective vocational guidance to students.	11	84.6	1	7.7	1	7.7	13	18	64.1	7	25.1	3	10.8	28
Raised the teacher's stature in the eyes of the students.	7	50.3	3	21.3	4	28.4	14	13	46.4	4	14.3	11	39.3	28
Enabled the teacher to secure a better teaching position.	6	46.1	6	46.1	1	7.8	13	12	43.1	10	35.3	6	21.6	28

3298

OPINIONS OF FULL-TIME BUSINESS TEACHERS OF THE BENEFITS OF BUSINESS EXPERIENCE AS APPLIED TO TEACHING BUSINESS SUBJECTS

	All Teachers						
	Yes		No		Undecided		Total
	N	Per Cent	N	Per Cent	N	Per Cent	N
Helped teachers to do a more effective job of teaching.	35	83.2	5	12.0	2	4.8	42
Helped teachers to become more acquainted with business practices and techniques.	38	88.4	5	11.6	-	-	43
Enabled teachers to present to the students more facts about business.	36	85.6	3	7.2	3	7.2	42
Enabled teachers to make desirable contacts with business men.	21	50.0	17	40.4	4	9.6	42
Enabled teachers to render more effective vocational guidance to students.	29	70.8	8	19.5	4	9.7	41
Raised the teacher's stature in the eyes of the students.	20	47.6	7	16.4	15	36.0	42
Enabled the teacher to secure a better teaching position.	18	44.0	16	39.0	7	17.0	41

3299

OPINIONS OF PART-TIME BUSINESS TEACHERS OF THE BENEFITS OF BUSINESS EXPERIENCE AS APPLIED TO TEACHING BUSINESS SUBJECTS

	Junior Colleges							Four-Year Colleges and Universities						
	Yes		No		Undecided		Total	Yes		No		Undecided		Total
	N	Per Cent	N	Per Cent	N	Per Cent	N	N	Per Cent	N	Per Cent	N	Per Cent	N
Helped teachers to do a more effective job of teaching.	8	100.0	-	-	-	-	8	6	100.0	-	-	-	-	6
Helped teachers to become more acquainted with business practices and techniques.	8	100.0	-	-	-	-	8	6	100.0	-	-	-	-	6
Enabled teachers to present to the students more facts about business.	8	100.0	-	-	-	-	8	6	100.0	-	-	-	-	6
Enabled teachers to make desirable contacts with business men.	6	85.8	1	14.2	-	-	7	2	33.3	3	50.0	1	16.7	6
Enabled teachers to render more effective vocational guidance to students.	5	62.5	2	25.0	1	12.5	8	3	50.0	1	16.7	2	33.3	6
Raised the teacher's stature in the eyes of the students.	5	62.5	-	-	3	37.5	8	4	66.7	-	-	2	33.3	6
Enabled the teacher to secure a better teaching position.	2	25.0	4	50.0	2	25.0	8	1	20.0	4	80.0	-	-	5

3300

OPINIONS OF PART-TIME BUSINESS TEACHERS OF THE BENEFITS OF BUSINESS EXPERIENCE AS APPLIED TO TEACHING BUSINESS SUBJECTS

	All Teachers						
	Yes		No		Undecided		Total
	N	Per Cent	N	Per Cent	N	Per Cent	N
Helped teachers to do a more effective job of teaching.	14	100.0	-	-	-	-	14
Helped teachers to become more acquainted with business practices and techniques.	14	100.0	-	-	-	-	14
Enabled teachers to present to the students more facts about business.	14	100.0	-	-	-	-	14
Enabled teachers to make desirable contacts with business men.	8	61.5	4	30.8	1	7.7	13
Enabled teachers to render more effective vocational guidance to students.	8	57.2	3	21.4	3	21.4	14
Raised the teacher's stature in the eyes of the students.	9	64.3	-	-	5	35.7	14
Enabled the teacher to secure a better teaching position.	3	23.1	8	61.5	2	15.4	13

3301

APPENDIX J

COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO THE BENEFIT OF BUSINESS EXPERIENCE TO ENHANCE EFFECTIVE TEACHING

		Replies			
Business Experience	N	Yes	Per Cent	No	Undecided
None	11	-	-	-	-
1 to 3 years	21	15	71.4	4	2
3.1 to 5 years	9	9	100.0	-	-
5.1 to 10 years	12	12	100.0	-	-
10.1 to 15 years	6	6	100.0	-	-
15.1 to 25 years	6	6	100.0	-	-
Over 25 years	2	1	50.0	1	-
No Response	1	-	-	-	-
Total	68	49		5	2

COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO THE BENEFIT OF BUSINESS EXPERIENCE IN BECOMING ACQUAINTED WITH BUSINESS PRACTICES

		Replies			
Business Experience	N	Yes	Per Cent	No	Undecided
None	11	-	-	-	-
1 to 3 years	21	18	85.7	3	-
3.1 to 5 years	9	8	88.9	1	-
5.1 to 10 years	13	12	92.3	1	-
10.1 to 15 years	6	6	100.0	-	-
15.1 to 25 years	6	6	100.0	-	-
Over 25 years	2	2	100.0	-	-
No Response	-	-	-	-	-
Total	68	52		5	

COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO THE BENEFIT OF BUSINESS EXPERIENCE IN PRESENTING MORE BUSINESS FACTS TO STUDENTS

Business Experience	N	Replies Yes	Per Cent	No	Undecided
None	11	-	-	-	-
1 to 3 years	21	17	80.9	2	2
3.1 to 5 years	9	9	100.0	-	-
5.1 to 10 years	12	11	91.6	1	-
10.1 to 15 years	6	5	83.3	-	1
15.1 to 25 years	6	6	100.0	-	-
Over 25 years	2	2	100.0	-	-
No Response	1	-	-	-	-
Total	68	50		3	3

COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO THE BENEFIT OF BUSINESS EXPERIENCE IN MAKING MORE DESIRABLE CONTACTS WITH BUSINESS MEN

Business Experience	Replies				
	N	Yes	Per Cent	No	Undecided
None	11	-	-	-	-
1 to 3 years	21	5	23.9	14	2
3.1 to 5 years	9	5	55.6	3	1
5.1 to 10 years	12	8	66.7	3	1
10.1 to 15 years	5	4	80.0	1	-
15.1 to 25 years	6	5	83.3	-	1
Over 25 years	2	2	100.0	-	-
No Response	2	-	-	-	-
Total	68	29		21	5

COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO THE BENEFIT OF BUSINESS EXPERIENCE IN RENDERING MORE EFFECTIVE VOCATIONAL GUIDANCE

Business Experience	N	Replies Yes	Per Cent	No	Undecided
None	11	-	-	-	-
1 to 3 years	20	9	45.0	9	2
3.1 to 5 years	9	8	88.9	-	1
5.1 to 10 years	12	11	91.6	1	-
10.1 to 15 years	6	4	66.7	-	2
15.1 to 25 years	6	3	50.0	1	2
Over 25 years	2	2	100.0	-	-
No Response	2	-	-	-	-
Total	68	37		11	7

COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO THE BENEFIT OF BUSINESS EXPERIENCE IN RAISING TEACHERS' STATURE IN EYES OF STUDENTS

		Replies			
Business Experience	N	Yes	Per Cent	No	Undecided
None	11	-	-	-	-
1 to 3 years	21	6	28.5	6	9
3.1 to 5 years	9	6	66.7	-	3
5.1 to 10 years	12	8	66.7	-	4
10.1 to 15 years	6	4	66.7	-	2
15.1 to 25 years	6	3	50.0	1	2
Over 25 years	2	2	100.0	-	-
No Response	1	-	-	-	-
Total	68	29		7	20

COMPARISON OF YEARS OF BUSINESS EXPERIENCE AMONG BUSINESS TEACHERS WITH THEIR OPINIONS AS TO THE BENEFIT OF BUSINESS EXPERIENCE IN SECURING A BETTER TEACHING POSITION

	Replies				
Business Experience	N	Yes	Per Cent	No	Undecided
None	11	-	-	-	-
1 to 3 years	20	5	25.0	14	1
3.1 to 5 years	9	3	33.3	4	2
5.1 to 10 years	12	7	58.3	3	2
10.1 to 15 years	6	3	50.0	1	2
15.1 to 25 years	6	2	33.3	2	2
Over 25 years	1	1	100.0	-	-
No Response	3	-	-	-	-
Total	68	21		24	9

APPENDIX K

Statistical Formula Used to Determine Sample Size:[1]

N, the population (1572) is relatively large, therefore, a first approximation for sample n is

$$n_o = \frac{t^2pq}{d^2}$$

t = the abscissa of the normal curve which cuts off an area of 1.96 sigma, or ninety-five per cent, at the tails.

p = .85, the estimated favorable response regarding the value of business experience as an aid to teaching.

q = .15, the remainder, or unfavorable responses.

d = .1, the maximum error limit desired.

$\frac{n_o}{1572}$ is negligible, i.e., less than .05, therefore n_o was used.

[1]William G. Cochran, Sampling Techniques, (New York: John Wiley & Sons, Inc., 1953), 54.

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Jobst, Richard J.; Melton, Johnnie H.
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ABSTRACT - To test the effectiveness of reducing unemployment through labor mobility and financial assistance, 372 unemployed workers were relocated in the Seattle-Everett Standard Metropolitan Area where their job skills were in demand. The average relocatee was generally a married male in his early thirties with two or more children, a high school graduate, averaged about 15 weeks of unemployment, received a relocation allowance of about $460, and had relocated a distance of about 290 miles. Though these relocated workers did not alter the national unemployment rate, their relocation did alter the local employment market. The relocation allowance not only influenced the decision to move but was also the only means of relocation for many. The extensive post-migration services contributed greatly to the success of the project. Evidence indicates that relocation can be effective in balancing labor shortage and surplus and that successful relocation depends on strong organization, trained staff, and comprehensive support services. Several recommendations are included, and other project information is appended. (SB)

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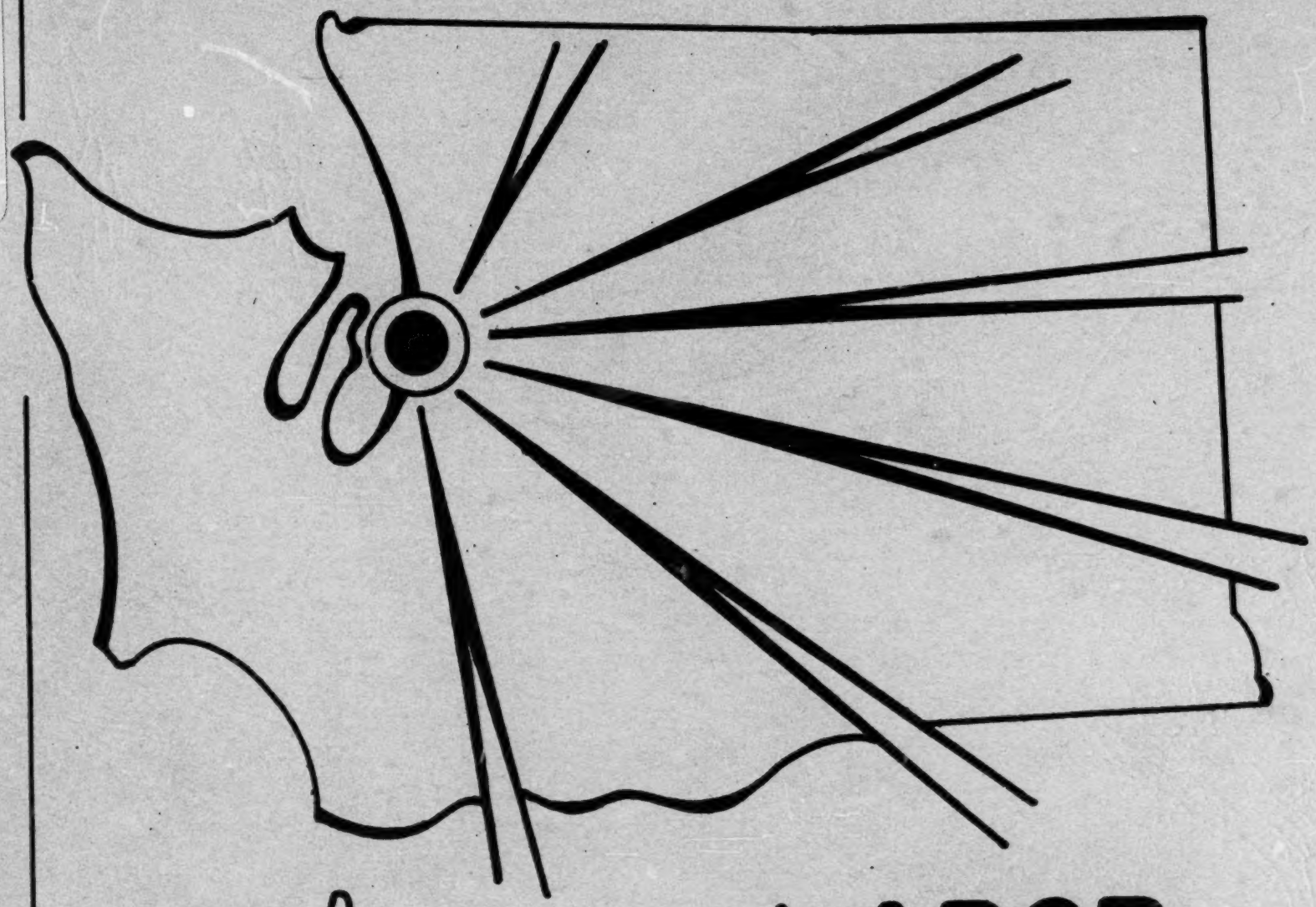
WASHINGTON



LABOR MOBILITY REPORT

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139p

FINAL REPORT

of the

WASHINGTON LABOR MOBILITY DEMONSTRATION PROJECT

No. 1182

by

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Prepared for

State of Washington

Employment Security Department

Olympia, Washington

(Mrs.) Maxine E. Daly, Commissioner

February 17, 1969

3314

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I. Background and Introduction

Beginning in January of 1967, the Washington State Employment Security Department conducted a Labor Mobility Demonstration Project under the Manpower Development and Training Act of 1962. In December of 1967, the project was extended. In all, Washington State's Labor Mobility Project operated for twenty-one months, ending in September, 1968.

The primary purpose of the Labor Mobility Project was to help reduce unemployment in certain geographical areas of the state and to fill job vacancies in other areas by bringing the unemployed worker and job together. Because the program was a pilot project, it was designed to assess the effectiveness of reducing unemployment through labor mobility and through the provision of financial assistance in the form of grants and/or loans to qualified unemployed workers.

Differing from most Labor Mobility Projects in other states, the Washington State project might be considered as a "reverse-type" Mobility Project. Instead of dealing with the out-migration of workers, this project was designed to facilitate in-migration to

a geographical area experiencing a high level of industrial expansion. This area was designated as the "Demand Area" and consisted of the King, Snohomish, and Kitsap Counties in the Puget Sound area of Western Washington--identified as the Seattle-Everett Standard Metropolitan Area (SMSA).

Because sufficient numbers of unemployed workers possessing given job skills could not be procured from the local population of the Demand Area, unemployed qualified workers were sought from specified Supply Areas. Except for the three counties comprising the project's Demand Area, all counties of the state of Washington were considered as Supply Areas. In fact, any area in which there was a supply of unemployed workers interested in relocating was termed a Supply Area. In all, twenty-two local employment security offices in the state acted as Supply Areas. These areas were distinctly separate and outside the commuting distance of the Demand Area.

In addition to these in-state Supply Areas, seven western states were also incorporated into the Supply Area in July of 1967. These states were Idaho, Oregon, Utah, Wyoming, California, South Dakota and New Mexico. The greatest majority of relocations were made by means of intrastate movement. In all, these

seven states supplied only twenty per cent of the relocatees. Any state or area having an approved and funded Labor Mobility Project of its own was excluded for consideration in the Washington project. For example, the State of Montana, the City of Sacramento, and Lane County, Oregon were excluded from the Project.

The following statistical tables give the employment data for the Demand Area and the several in-state Supply Areas:

TABLE I

THE DEMAND AREA

Demand Area	Labor Force		Unemployment			
			Total		Rate	
	4/66	4/65	4/66	4/65	4/66	4/65
King-Snohomish Counties	528,800	492,100	12,900	23,900	2.4	4.9

TABLE II

THE SUPPLY AREA

In-State Supply Areas	Labor Force	Unemployment		
		Total	Rate 4/66	Rate 4/65
Okanogan	10,820	516	13.3	15.6
Colville	6.310	531	13.0	14.6
Wenatchee	24,260	1285	11.0	14.3
Yakima-Toppenish	52,570	1931	8.0	9.8
Ellensburg	8,830	258	8.0	11.3
Anacortes-Mt. Vernon	19,290	849	7.6	8.2
Centralia	16,170	589	7.3	7.2
Moses Lake	16,510	337	4.9	7.3
Bellingham	27,230	716	5.4	6.7
Port Angeles	11,810	343	4.2	4.2
Spokane	96,300	1860	3.1	4.0

Because of the high industrial expansion and number of in-migrations to the Demand Area a critical housing situation had developed. To help with this and other relocation and settling-in problems,[1] the services of Traveler's Aid Society of Seattle were contracted. Traveler's Aid listed the available housing

and assisted the relocatee in finding suitable housing. In addition, the Society also provided extensive post-migration counseling to help with the settling-in process throughout the duration of the project.

With the help of the Traveler's Aid Society, the Washington State Labor Mobility Pilot Project successfully relocated 372 unemployed workers. The entire project population consisted of 889 workers. Out of these 845 were initially found to be eligible for relocation assistance. In all 841 job referrals were made with 372 actually relocating. Twenty-five of these later returned to the Supply Area within sixty days after entering the Demand Area and were subsequently termed unsuccessful relocations. The following table gives a general breakdown of the project population. For a more detailed treatment of the population refer to Appendix I.

TABLE III

GENERAL DATA OF PROJECT POPULATION

Workers screened for eligibility		889
Number employed at the time of initial screening		134
Less than 20 hours a week	40	
More than 20 hours a week	94	
Number found initially eligible for relocation assistance		845
Number willing to move under program		841
Number of applicants referred to specific out-of-area jobs		415
Total number of job referrals		841
Total number of withdrawals		6
Total number physically relocated		372
Placed by project	258	
Found own job	114	
Total number of unsuccessful relocations		25
Number returning to supply area	25	
Number leaving new job and unemployed in demand area	0	
Other (drafted, died, prison, etc.)	0	
Number of local placements		56

II. Organization and Staffing

A. Organization

The organization structure of the Labor Mobility Project tended to be rather complex due to the nature of the project. Three main bodies can be distinguished in the overall structure: (1) the Demand Area staff, (2) the Supply Area staff, and (3) the administrative staff.

The Supply Area staff consisted of twenty-two staff members in the local Employment Security Offices who were designated as Supply Area Labor Mobility Representatives. These persons were usually regular employment interviewers or, as in the case of smaller local offices, assistant managers. Their duties consisted of recruitment, screening, enrollment, submittal of a resumé or Clearance Application to the Demand Area mobility staff, and certain pre-migration services such as counseling and proficiency testing. As the Supply Area Labor Mobility Representatives were still required to carry our their normal functions in their respective local offices, they were able to work in their field representative capacities only on a part-time basis.

Since the Washington State Labor Mobility Project was a Demand

Area project, most of the activity was naturally concentrated in Seattle-Everett Standard Metropolitan Area--the project's Demand Area. The center of the Demand Area was the Seattle Local Employment Security Office, where an Assistant Project Officer, two Employment interviewers, and a part-time clerk-typist were stationed. These individuals were responsible for all Demand Area functions. Their functions included a second screening for eligibility and suitability, job development, scheduling of pre-employment interviews when required, securing bona-fide job offer letters and certification of employment, coordination of the worker's move, verification of report on job, providing (in conjunction with the Traveler's Aid Society) post-migration supportive services, and completion of the Follow-up Questionnaire.

In addition to the full time staff in Seattle, part time Labor Mobility Representatives were designated in other Demand Area offices located in Renton, Auburn, Everett, and Bremerton. These Labor Mobility Representatives prepared submittals for the "Labor Mobility Job Openings List" (JOL), a publication which lists the job openings in the Demand Area and which is sent to Supply Area offices.

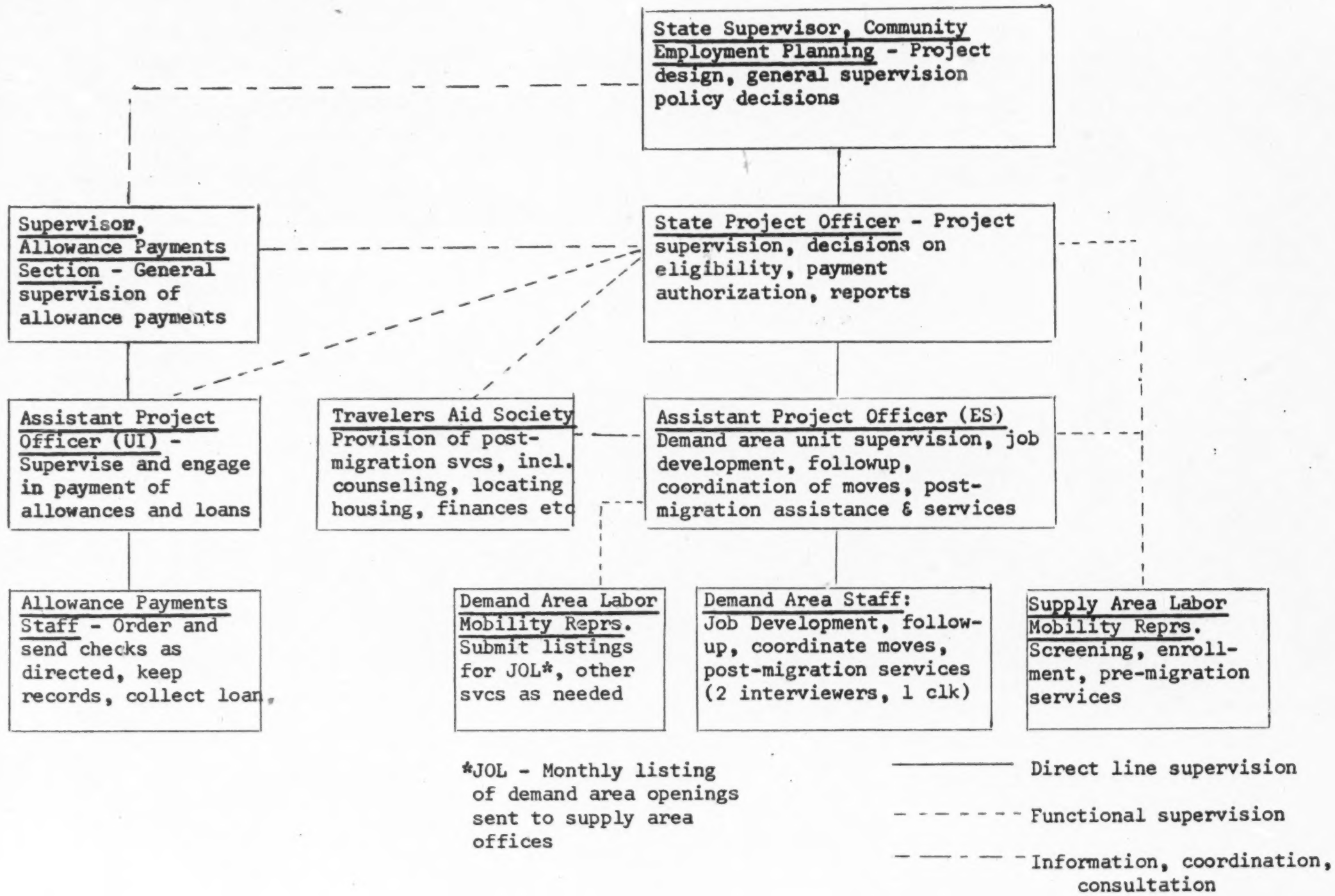
The third general body in the organizational structure of the

Labor Mobility Project was the Administrative staff, located in Olympia, the state's capitol. The two administrative officers were the State Supervisor, Community Employment Planning and the State Project Officer. The former's responsibilities included project design, general supervision, and policy decisions. Under the auspice of the State Supervisor, the State Projects Officer's duties concerned project supervision, decisions of eligibility and payment authorization of relocation allowances. The actual payment of allowances, however, was the duty of the Assistant Project Officer (UI) and the Allowance Payments Staff, also located in Olympia.

The Administrative Office Staff exercised both direct line and functional supervision. (Functional supervision indicates that the work performed, but not the worker, is supervised. In line supervision, both worker and work performed are directly supervised.) The central Office mobility staff exercised direct line supervision over the Demand Area staff in the Seattle area, which included the Assistant Project Officer (ES), two Employment Interviewers, and a part time clerk-typist. Functional supervision was exercised by the administrative staff over the Assistant Project Officer (UI) and over each of the Labor

Mobility Representatives in the local offices of the Supply Areas. There was also an element of functional supervision between the Assistant Project Officer (ES) in Seattle and his relations with the Supply Area Labor Mobility Representatives. A full description of the duties of the project officers will be found in Appendix III. The following is a chart which shows the organization and relationships between mobility staff.

FUNCTIONAL ORGANIZATION OF LABOR MOBILITY DEMONSTRATION PROJECT NO. 1182



B. Staff Recruitment

In the Washington State Labor Mobility Project, all staff and project officers were recruited from within the existing Employment Services system. No outside recruitments were made. In the case of the State Supervisor, Community Employment Planning, his general duties were simply expanded to cover Labor Mobility. The same is also true of the Supervisor, Allowance Payments Section. Although these individuals were general supervisors over Labor Mobility, the project itself was only part of their respective duties. For those individuals who were involved with Labor Mobility on a full time basis, i.e., the State Project Officer in Olympia and the Assistant Project Officer (ES) in Seattle, recruitment simply involved selection from the promotional registers as prescribed by civil service. The Assistant Project Officer (UI) in Olympia who was in charge of allowance payments and loans, was reassigned to the function for the duration of the project. The two employment interviewers in the Seattle Demand Area staff were transferred from other functions in the Seattle office. The local Supply Area Representatives, too, were simply assigned to their Labor Mobility duties while remaining in their respective local offices.

In all cases, staff recruitment was made from within the existing system. Because of this no problems were encountered in the recruitment of staff.

The kinds of people who worked out best in the Washington State Labor Mobility Project were those people who had had a variety of assignments in the department in the past. These assignments included employment interviewing, employer relations experience, counseling, supervision, and so forth. In short, it appears that the best kinds of people, the people who will work out best in Labor Mobility, are those individuals who have much and varied experience in Employment Security.

C. Training

Training in Labor Mobility procedures was given to all local office managers and to local Supply Area labor mobility representatives, as well as central office project staff in Olympia and Demand Area staff in Seattle. This training consisted of an initial eight-hour training period in which all staff officers

were briefed on methods and operations of Labor Mobility. In addition, each person involved in the project was issued a document called the Labor Mobility Procedural Guidelines. These guidelines reviewed in detail each step in the relocation process and included eligibility information, reports, a glossary of terms, copies of all forms and instructions for their completion, and a list of shortage occupations, as well as numerous other items. As mentioned above, however, each staff member was a regular Employment Security employee and as such was familiar with Labor Mobility procedures. Nevertheless, the guidelines were designed in such a manner that a local office interviewer, completely unfamiliar with the project, would have been able to screen, enroll, and refer a relocation candidate by following the steps therein.

III. Operations

A. Recruitment and Screening

1. Recruitment Methods

In the Washington State Labor Mobility Pilot Project most prospective relocations were drawn from file search and from normal applicant flow. As already mentioned, a regular Employment Security interviewer or Assistant Manager (in the smaller offices) was selected from the staff of a local Supply Area office and designated as a Labor Mobility Representative. It was part of this individual's duties to interview applicants after it had been determined by an interviewer that relocation might be a solution to the applicant's employment problems.

File search was also used extensively by the Supply Area offices as a recruiting method. It was a normal process for these offices to make a periodic review of work application cards and to select those applicants who could possibly benefit from relocation. A telephone call was made or a call-in card was sent to those individuals selected. Many of the local in-state Supply Area offices served small rural areas in Eastern Washington. Because the staff in these offices knew the applicants and their

needs first hand, the search and call-in was especially appropriate. On one occasion an interviewer from the Demand Area staff in Seattle toured a few of these Supply Area offices in Eastern Washington for the purpose of a file search. A number of persons possessing skills in the Demand Area were identified as potentially eligible. However, the number of relocations resulting from his visit was insufficient to justify its continuance.

On occasion, special publicity such as newspaper advertisements, radio spots, and hand bills were used as a recruiting technique. While the results from the hand bills and radio sports were negligible, newspaper advertisements would bring a barrage of calls to the Supply Area offices. The reason for this penomenon is unknown. Perhaps it is because people are accustomed to seeking work through classified advertising. At any rate, special publicity was not an especially successful recruitment method in Washington's Mobility project.

In addition to file search and special publicity, recruitment was also accomplished to a limited degree through referrals by an other agency. At the request of Governor Evans, a procedure

was worked out by the Employment Security Department and the State Department of Public Assistance for the referral of eligible and interested Public Assistance recipients to a Supply Area local office for further screening and enrollment. In all 21.2% of Washington State's relocatees were Public Assistance recipients.

In the final analysis, the most successful methods of recruitment for the Washington State Labor Mobility Project were file search and personal interviews with regular employment applicants. While special publicity and outside agency referrals were used as recruiting methods, their success was limited. When the occasion presented itself, canvassing of unemployed workers from mass layoffs (from the coal mines in Eastern Washington, for example) also was employed. Again, however, the number of actual relocations resulting from this method was small indeed. Perhaps the success of the file search and personal interview lies within the nature of their method. That is, these methods are selective in presenting relocation as a possibility only to those persons for whom it has been predetermined by the careful judgment of the mobility staff. Quite obviously, applicants who have been hand-picked according to their needs and interests are more

apt to relocate and do so successfully than those applicants to whom a general appeal has been made.

2. General Operational Methods

In the State of Washington Labor Mobility Demonstration Project eleven steps were involved in the process of screening, determining eligibility, enrolling and relocating an interested applicant for participation in the project. The following narrative will describe this process from beginning to end in an effort to present in a coherent, connected manner the relocation operations of Washington's demonstration project. Following this narrative on operations, further explanation concerning job development and services to applicants will be given.

Before the first step of the relocation process was initiated the Supply Area employment interviewer questioned the applicant as to his interest in relocating to an out-of-area job. If the applicant was not interested in relocating he was declared initially ineligible. However, no applicant was determined permanently ineligible solely because he was not interested in moving at the time of the initial interview. If the applicant expressed inter-

est in relocating to an out-of-area job, several items were accomplished during the initial interview. A regular Employment Security Work Application form was completed. This form constituted the applicant's basic work record and personal data. After the work application form was filled out, two additional forms were prepared for the person expressing a strong interest in relocating: (1) ES-260 Worker Information Schedule Section I - Initial Screening and (2) ES-262 Characteristics of Workers Under MDTA Labor Mobility Projects. The information from these forms concerning the applicant's personal data, past work record, present status (including employment and financial compensation) and participation in government training programs was used to screen out persons who were obviously ineligible for relocation assistance allowance, and to assist with job placements.

Concerning eligibility, four basic criteria were used by the Washington State Labor Mobility Demonstration Project:

I. Involuntarily Unemployed;

   A. Applicant is unemployed through no fault of his own. This was determined by the following criteria:

      1. laid off due to lack of work;

      2. discharged for reasons other than fault or misconduct; or

3. forced to resign for reasons other than misconduct.

B. Unemployed for six or more weeks, regardless of cause of termination.

C. A member of a farm family with less than $1200 annual net farm family income.

(Occasional odd-job employment was not considered as employment in determining whether the worker was involuntarily unemployed. The criteria constituting odd-job employment was based on the subjective decision of the Suppy Area interviewer. A person working full time at a job below his skill level, however, and at a lower rate of pay was not considered involuntarily unemployed.)

II. No reasonable expectation of employment in the applicant's area of residence.

(This was also a subjective judgment by the employment interviewer based on knowledge of local employment trends, job openings, and other extenuating factors.)

III. Receipt of a bona-fide job offer from the Demand Area (to be discussed below); and

IV. Relocation to the Demand Area would not involve filling jobs that could be filled by a suitable local unemployed worker.

(If only a few job listings were available for a given position judgment on this criterion would be rendered according to the known employment needs of the Demand Area.)

These four criteria were used to establish an applicant's eligibility for participation in the Mobility Project. No other established requirements were used to rule on eligibility, however. Also, no special groups were devised from which applicants were drawn. Rather than being designed for exclusion, the project was constructed for inclusion of applicants--selecting applicants from areas of substantial labor surplus, areas having mass lay offs, selected areas in which skills of specialized unemployed workers were available although the area itself was not classified as a labor surplus area, all enrollees or graduates from a training course (including an MDTA Course), and the Employment Security Active files. In short, any eligible applicant from within a Supply Area who expressed a sincere interest in relocating was considered for participation in the project. Because Washington State's Labor Mobility Project was a demonstration project, however, a certain control was exercised by selecting for consideration only those applicants whose personal characteristics and work records would render them "good relocation risks." In

the final analysis, this was left to the judgment of the Supply Area interviewers.

Returning to the methods of operation in the Relocation process, after forms ES-260 and ES-262 had been prepared, the Supply Area representative would determine if the applicant was intially eligible for relocation assistance allowance. If the applicant was found to be eligible, a second interview was arranged for an in-depth study of relocation possibilities and for the purposes of a second screening. This second in-depth interview constituted the fourth step in the relocation operation. It was during this interview that form ES-261 Worker Information Schedule Post-Screening Detailed Interview Schedule was prepared. It was a project rule that the spouse (parent or guardian in the case of an unmarried minor) of the applicant should be present for the interview. The result of this interview was often the determining action on the applicant's decision to apply for relocation assistance. It also provided the basis for further action in that the form covered in detail the applicant's background, references, and present status.

The fifth step in the project's sequence of operation entailed the filling out of form ES-263 Services to Individual Workers. For

each worker for whom a service was provided--a service (or assistance) included counseling, testing, referral, or any special service concerned with relocation--this form was necessary.

The sixth step in the project's method of operation consisted of rescreening the job skills of the qualified applicant (a process also accomplished at the initial interview) against the latest Demand Area job shortage list and the Washington State Inventory of Job Openings to determine that a job opening still existed. Also the sixth step usually included a thumbnail sketch or resumé of personal data (also accomplished by completing form ES-564 - a job development form). The purpose of the resumé was to expedite the job development function, to preselect the prospective employing agency, and to obtain a bona-fide job offer from the Demand Area.

The Supply Area local office usually completed form ES-261 and the resumé during the second in-depth interview with the applicant. Also during the second interview the applicant was briefed on the Demand Area and the post-migration services and financial assistance available to him. If during this interview it was

discovered that the applicant was in need of and desired immediate counseling, a further interview was arranged for this purpose.

After completing the resumé (or form ES-564 - Clearance Application) and forms ES-260, ES-261, and ES-262 (described above), the Supply Area labor mobility representative immediately sent copies of them to the Assistant Project Officer (ES) in the Seattle Demand Area. On receipt of the worker's application in the Demand Area, the Assistant Project Officer (ES) would assign the case to one of the Labor Mobility Interviewers for job development. If the position on the Job Openings List in which the applicant had expressed an interest was not filled beforehand, the Demand Area contacted the employing firm and secured bona-fide job offer data (wages offered, letter of hire and certification of employment, date to report, etc.). If the applicant's position had been filled, further job development on the part of the Demand Area staff was necessary.

It was the experience of the mobility staff that job development was not a problem in the Demand Area, however. After the Demand Area provided the bona-fide job offer data to the Supply Area local office, the Supply Area local office made the offer to

the applicant. If the applicant accepted the job offer in the Demand Area, the Supply Area local office would proceed to process the application papers for relocation allowances and to determine further eligibility and amount requested by applicant to relocate. These application papers for relocation assistance allowance were contained in the ES-955 series of forms and included such information as certification of employment, request for financial assistance, itemized list of estimated expenses, and the recommendation of the local Supply Area office. These forms for relocation assistance were then sent to the State Project Director at the Administrative Office in Olympia. In the above, the job development function constituted the seventh step and the request for relocation allowances constituted the eighth step in the methods of operation of Washington's Mobility Project.

The ninth step in the relocation process began with the receipt of the above forms for application at the central office in Olympia, Washington Labor Mobility Project Director would, on date of receipt, verify with the prospective employer that the job offer was still open. If open, the Washington Project Director reviewed the request for relocation assistance and either

approved or disapproved it. If he approved the request, he would also request that a check be issued by the Assistant Project Director (UI), also located in the Administrative office in Olympia, in the amount approved. Unless the starting date for entry in the Demand Area job was more than ten days away from the applicant's departure from the Supply Area, authorized Relocation Assistance Payments were always mailed on the same day the request for assistance was received.

Upon receipt of the relocation assistance check and authorization to relocate the Supply Area local office assisted the relocatee as necessary to prepare him and his family for departure and directed him as to where and when to report for work. Also at this time certain documents and additional information, such as the addresses of the labor mobility representative and Traveler's Aid Society in Seattle were given to the relocatee. The preliminary preparation for migration and the issuance of necessary documents and addresses constituted the tenth step in the methods of operation in the relocation process.

The eleventh and final step in the operation included a verification of applicant's report on the job, the performance of certain post-migration services (to be described below), and the

completion of form ES-264, a follow-up questionnaire, which was accomplished two months after the relocatee had been in the Demand Area.

The preceding section constitutes an attempt to describe briefly the general methods of operation in the relocation process as conducted by Washington State's Labor Mobility Project. Its purpose has not been to present all aspects of the project. Rather, its purpose is to give the reader a feeling for the sequence of events, and their contents. A fuller treatment of steps seven and eleven (job development and services to relocatees respectively) follows.

B. Job Development

As a Demand Area project, job development in Washington State's Labor Mobility Project was a relatively easy, uncomplicated process with no special problems. In a Supply Area project, a project designed in reverse of Washington State's project, job development is a difficult task. For each applicant who is screened and enrolled into the project, job development must be accomplished for the area into which he wishes to relocate. Since in a Supply Area project there is no specified areas for relocation (the place of relocation simply being any area to which the applicant desires to move and in which suitable employment can be found), the complexity and problems of job development become quite obvious.

In Washington's Demand Area project, on the other hand, after an applicant was screened and enrolled into the project, his resumé, or clearance form was sent to the Demand Area where its mobility staff then initiated job development. Rather than referring an applicant several times to numerous areas or employers, as in many Supply Area projects, the applicant's resumé was referred one time to one place, and that to the Demand Area in Seattle.

Another factor that facilitated job development efforts in Washington State's Mobility project was that all the prospective employing firms were not only located in one compact and industrially dense area, but also in an area with low unemployment rates and a labor shortage. Perhaps more than any other factor this made job development an easy process, since job offers in the Demand Area were virtually limitless.

The following narrative describes the actual job development process in the Washington project.

Employers in the Demand Area who had current job openings listed them with the Demand Area Employment Offices. These job openings were then compiled into one list prepared by the Mobility Project staff. The list also contained those job openings occuring in the Demand Area that were listed in the Standard Clearance System Inventory of Job Openings. The information pertinent to the job opening included such items as occupation title, the number of openings for that position, the rate of pay, a brief description of occupational duties and functions, and the Demand Area Office holding the job opening order. These Mobility Project job opening lists were prepared monthly. If the number of job openings occuring in the Demand Area and on

the job openings list was not sufficient to meet the Mobility Project's demand for a given period of time, or if a job opening did not appear on the list which met the job skills of a given applicant, then other employers in the community were contacted by a Demand Area representative. Approximately half of all the job referrals were made from a specific out-of-area job opening in the job openings list. All other job referrals were made for general job development, i.e., with no specific Demand Area job in mind.

Once a job opening suiting the applicant's job skills had been obtained, the employing firm was contacted and a bona fide job offer procurred. This offer was then sent back to the Supply Area and presented to the applicant. If the applicant accepted the job offer, then job development for that applicant was completed. On occasion an employing firm would require a face-to-face interview with the applicant. If this was the case, the Demand Area staff made funds available for the purpose of a pre-employment interview. In most cases, however, job development efforts did not include the physical presence of the applicant. In all, only about 10 percent of the applicants were required to have a pre-employment interview.

Essentially, the above description constitutes the process of job development as it was carried out in Washington's Demand Area Mobility Project. As indicated, the very nature of the Project made job development an easy task. Because job development was an uncomplicated process, several procedures were of limited or no use to Washington's Project. These procedures included positive recruitment, clearance and special publicity.

On several occasions during the project positive recruitment was linked with Labor Mobility in Supply Areas. On no occasion, however, did Labor Mobility request that an employing firm perform positive recruitment, since the Supply Areas were too many and too large. When a given employer initiated positive recruitment in a Supply Area on his own efforts, Labor Mobility would often ask to be incorporated with it. The kinds of companies performing positive recruitment in conjunction with Labor Mobility were mainly of two types: the lumber products industries and Aero-Space.

There were certain drawbacks to incorporating workers into the Project with this method, however. The greatest drawback to

positive recruitment laid with the positive recruiter's seeming propensity to offer employment to nearly anyone who seemed minimumly qualified. This presented a couple of problems. First, when those individuals hired by the positive recruiter were interviewed by the Labor Mobility representative for the purpose of determining eligibility for relocation assistance allowances (see information on eligibility under section on General Operational Methods), it was difficult to explain to a prospective relocatee that he was not eligible for assistance when another, possibly a friend, was eligible. A second problem with this method of job development was that those individuals whom the positive recruiter so hastily hired often turned out to be poor risks and soon quit their jobs. On one occasion a company who ran into this difficulty complained to Labor Mobility about the high number of work terminations. Since the company and not the staff of Labor Mobility selected the applicants for hire, the former was obviously at fault. All in all positive recruitment was not successful to any great degree or even beneficial for job development in Washington's Labor Mobility Project. In total only about 10 percent of all relocatees were placed through this method.

Clearance, as a regular job development system for relocation,

was also of limited use in the Project. While certain clearance forms and procedures were used in the Washington Labor Mobility Project, formal Clearance channels were not utilized. The reason for this was that the project placed applicants for employment in one Demand Area, rather than in a number of areas or states. As a result the job development process of the Demand Area was more useful and expedient than the cumbersome Clearance system.

Finally, special publicity, as a method or technique of job development, was not utilized at all. While publicity in the Supply Area was occasionally used to inform workers of the existence of the Project, publicity was not used in the Demand Area in order to secure job listings. As a Demand Area is one in which a shortage of skilled workers exists, it is not necessary to solicit employers to place orders with the local employment service office. The orders are already there.

There is no specific information available on the number of jobs developed in Washington's Labor Mobility Project since the number of jobs was always in excess of the total number of persons seeking employment through Labor Mobility. In other words, there was always a surplus of job openings. The average number of job

openings listed in the Labor Mobility's job openings list, however, was around 75 to 100 openings per month. In all, 415 persons were referred to out-of-area jobs.

C. Services to Applicants

The most extensive type of service to applicants for Labor Mobility in the Washington Project was the "settling-in" assistance provided to newcomers to the Demand Area through a contract with the Traveler's Aid Society of Seattle. The least extensive service was the pre-migration type. One reason why premigration services to applicants did not play a large role in the project can be attributed to the fact that full time project staff was not available in the Supply Areas. As a result of this, services to applicants prior to relocation were provided by local offices as a part of their regular Employment Security operations. Counseling, for example, (when performed) was provided by a local offices counselor rather than a member of the project staff. Since a local office Labor Mobility representative was a part-time function of a regular employment security personnel (usually an employment interviewer), there was not sufficient time available to perform functions beyond those required for the processing of relocation forms and the conducting of relocation interviews. When on occasion an applicant requested or was in obvious need of pre-migration services, however, they were always given. In short, pre-migration services played an insignificant part in the project.

As mentioned above, the Traveler's Aid Society of Seattle provided extensive settling-in services to the relocatee arriving in the Demand Area. Since Traveler's Aid is a competent organization well equipped to handle this function, no other outside agency was involved in post-migration services except as suggested to the applicant by Traveler's Aid, e.g., medical or legal assistance. Also, since the Washington Labor Mobility Project was a Demand Area project, no other employment security offices were involved with settling-in services. This function was the primary responsibility of Traveler's Aid Society as a sub-contractor to the project.

A full description of Traveler's Aid Services will be found in the original Traveler's Aid-Employment Security Agreement located in Appendix IV. In short these services included assistance in locating housing and in providing counseling for a variety of problems such as marital, medical, family, community and financial problems, and various other post-migration difficulties. These services ranged from providing a relocatee with an address of a house for rent to arbitrating complicated disputes between tenants and landlords. When available, the Traveler's Aid Society hired students from a local university to show the newcomers around the Demand Area and to help the

relocatee find suitable housing. Another important function provided by Traveler's Aid Society was the advancing of money to relocatees under certain circumstances. On occasion, for example, a relocatee would arrive in the Demand Area before Olympia had been able to mail the relocation check or without any of his relocation assistance allowance left or would need a sum of money in excess of his allowances upon arrival (e.g. for rent deposit). An Emergency Fund was maintained in the Seattle local office to cover these situations. However, if the relocatee's arrival was after the local employment security office had closed, Traveler's Aid would advance the needed money to the relocatee.

The need for settling-in and post-migration services as provided by the Traveler's Aid Society has been demonstrated by the Washington Labor Mobility Project to be essential. This would be true particularly when the worker has relocated to an urban area, similar to the Demand Area of this Project. Frequently, the relocatee was a rural non-agricultural person with many conceptions and misconceptions about city life. Often, too, workers relocated to a new area experience severe problems with a

situation that was only minimumly a problem in their former place of residence (e.g., marital or emotional difficulties). With the strain of moving to a new environment all problems seem to become aggrevated. To the degree that the above is true, then, to that degree extensive settling-in and post-migration supportive services will be required by a mobility project.

In the Washington Project, housing was not the biggest barrier to relocation, although it was a major problem. A discussion of housing problems and actions taken to ameliorate them will appear in the following discussion of the relocation process.

IV. The Relocation Process

A. Non-Relocatee Compared to Relocatee

The following table gives selected comparative characteristics of the relocated and non-relocated workers.

TABLE IV

Relocatee and Non-Relocatee Compared

Characteristic	Relocatee		Non-Relocatee	
	Number	Percent	Number	Percent
Under 22	85	22.8	47	10
Between 22 and 45	247	66.3	310	66.3
Older than 45	40	10.7	106	22.6
High School Drop-out	124	33.2	151	32.2
High School Graduate	191	51.3	216	46.2
Some College	48	12.9	58	12.4
College Graduate	9	2.4	34	7.2
Married	252	67.7	303	64.8
Single	90	24.1	93	19.9
Divorced, Separated, Widowed	30	8.0	66	14.1
Female	24	6.4	41	8.8
Male	348	93.5	426	91.2
Disadvantaged	120	32.2	98	20.9
MDTA Training	93	25.0	51	10.9
Weeks Unemployed	318 (14 wks)	85.4	387 (15 wks)	82.8

It will be noted from the table that although most of the relocatees and non-relocatees were between the ages of 22 and 44 (66.3% each), substantially more relocatees were younger than 22 years (22.8%). Conversely, the non-relocatee was represented more heavily in the older years, 22.6 percent being 45 years old or older. The relocatee, then, tended to be slightly younger than the non-relocatee on the average.

Considering education, both relocatee and non-relocatee were equally represented for the most part. A somewhat higher percentage, 7.2 percent as compared to 2.4 percent of the non-relocatees were college graduates. Although this is not a significant difference, it suggests that perhaps the college graduate is less likely to use labor mobility for the purpose of relocation.

Again both relocatee and non-relocatee are fairly equally represented in the categories of "married" and "single." However, more non-relocatees than relocatees were widowed, divorced, or separated, as indicated in the table.

Perhaps the most significant comparison is that more relocatees than non-relocatees received MDTA training. A possible concomi-

tant to this is that 32.2 percent of the relocatees were termed disadvantaged (socially or economically) whereas only 20.9 percent of the non-relocatees were. Apparently a disadvantaged individual who has received government training is more apt to participate in a labor mobility project.

Since it is statistically unsound to draw any far-reaching conclusions about the non-relocatee from the above data, such an endeavor will not be attempted. However, certain things can be said about this individual which are not necessarily indicated by the data. For the most part, a non-relocatee was any eligible individual who was unwilling to relocate. This individual was generally from a rural or small town and held what might be termed a conservative set of values. The most significant barrier to his relocation was the problems he felt he might encounter in the unfamiliar environment of the large Seattle Demand Area. These included housing, transportation, cost of living, incidence of crime, anonymity of urban life, and so forth. In short, the non-relocatee may be typified as the rural-town dweller who was fearful of what he might encounter in the city.

B. Relocatee

1. Costs of Relocation

TABLE V

Average Expenditures per Relocatee

Expenditure Category	Amount
Average amount of RAA granted per relocatee	$462.00
Average administrative cost per relocatee	644.00
Average amount of RAA per interstate move	685.00
Average amount of RAA per intrastate move	405.00

2. Problems Involved in Relocation

The following indicate the major problems encountered in the Washington Project.

Immediate need for funds:

As often happened a relocatee would arrive in the Seattle Demand Area with no funds. To satisfy the need for immediate funds an emergency fund was set up at the local Seattle office from which newly arrived relocatees could draw. The amount of their draw was deducted from their total Relocation Assistance Allowance.

Often, too, a relocatee would not only arrive in the Demand Area without funds, but the Seattle local office would be closed. Since the emergency fund would be inaccessible in this instance, an arrangement was made with Traveler's Aid of Seattle whereby they would advance the newly arrived relocatee emergency funds. Loans were also possible, on approval of the State Project Office, if all relocation assistance allowances had been paid.

Careless Spending of Allowances:

It was learned early in the project that the payment of all relocation assistance allowances to which the relocatee was entitled was an unwise procedure. Relocatees who had often spent an extended period of time unemployed, drawing unemployment insurance, or on welfare, were unable to handle large sums of money wisely. In addition, some relocatees exhausted their allowances by paying off old debts in the Supply Area, arriving in the Demand Area with no money left for rent, rental deposit, or food. To solve this problem, a system was worked out whereby Relocation allowances were disbursed as needed rather than in one lump-sum.

Personal Ties:

Automobiles:

Workers unemployed for an extended period of time often cannot afford periodic service or maintenance of their automobiles. As a result automobile failure occured frequently. This was especially true when long distances were covered, when the mountain passes between Eastern and Western Washington were crossed, or when rental trailers were hauled. To avoid these problems, relocatees were encouraged to have their cars checked and serviced before beginning their trips. This reduced the incidence of automobile failures only slightly. Fuel pumps, transmissions, radiators, differentials, mufflers, and tires continued to be troublesome problems. When needed, loans were approved to finance repairs.

Wives Unwilling to Move:

On occasion a worker would enroll in the Project and accept a job in the Demand Area without consulting with his wife. The wife would then refuse to move, thus rendering the applicant ineligible. This problem had been anticipated when the project was designed, being one of the reasons the procedural guidelines stated that the worker and his wife should be present during the in-depth interview. This recommendation was not always

followed, however, and it became necessary to require the wife's signature on Form ES-955, "Request for and Determination of Relocation Assistance Allowances." This insured that she was aware of and concurred with her husband's choice to relocate. The wife was also informed at this time of the amount of relocation assistance her husband would receive and the purposes for which it would be paid.

Job Separations:

When relocated workers became separated from their new jobs in the Demand Area, renewed job development was initiated immediately by the Demand Area Mobility staff in an effort to secure another job. As mentioned before, this presented no special problems, since the Project staff developing the jobs were in the same area as the potential employing firms.

According to the follow-up interview which was conducted on the relocatees after they had been in the Demand Area for two months, 59 of the 331 respondents indicated that they were no longer employed with their original Demand Area employer. The following table gives the statistical characteristics:

TABLE VI

Reasons No Longer Working for Original Demand Area Employer

Reason Category	Number in Category
Laid off temporarily	0
Laid off permanently	21
Quit to accept other employment	
in Demand Area	11
in local Supply Area	3
in other area	1
Quit to return to local Supply Area with job prospects	9
Quit without other employment but remained in Demand Area	8
Quit - job prospects, employment area and/or living area unknown	3
Other	3
TOTAL	59

For the 59 workers who were no longer employed with their original Demand Area employers, 12 stated that they were currently unemployed. Moreover, 45 stated that they were currently employed with another employer. Of the 45, 38 stated that they had

worked for only one other employer, 5 claimed two other employers, and two claimed that they had worked for three other employers since leaving their original employer. Of these 45, 42 considered their present employment permanent, one did not, and two were uncertain.

Housing:

Finding suitable housing in the Seattle Demand Area to accomodate all the relocatees was also a common problem in Washington's project. In fact since the Demand Area was a heavily populated area with high rates of in-migration, housing was a problem before the project began. As already mentioned, Traveler's Aid Society of Seattle, the sub-contractor to the Project, was a great help in locating the necessary housing. Besides carrying a listing of all currently available housing, the agency also helped develop housing openings. As often happened, however, a listing appearing in the morning paper would be claimed by the time the evening paper went to press. For the most part housing remained a problem with no special solutions, each incident being handled as it arose.

For the 331 respondents to the follow-up questionnaire, the

following table indicates their housing arrangements at time of questionnaire.

TABLE VII

Housing Arrangements at Time of Follow-up

Category	Number in Category
Renting - temporary	30
Renting - long duration	179
Renting - length not known	35
Living with friends - temporary	13
Living with friends - long duration	7
Living with friends - length unknown	5
Buying home	14
Living in hotel	18
Other	29

Of the 331 respondents, 258 stated that their present dwellings were either being rented or purchased. 203 claimed that aid had been given them in locating their present homes. The following table gives the breakdown of persons or agencies giving aid

in locating relocatee's housing.

TABLE VIII

Source of Aid in Finding Housing

Category	Number in Category
Real Estate Agency	41
Friends or relatives	58
Community Agency	1
Mobility Project staff	17
Traveler's Aid Society	118

C. The Returnee

By definition a returnee is any individual who was relocated to the Demand Area, entered employment and then returned to his local Supply Area within sixty days. In Washington State's Labor Mobility Project only 25 persons, or 6.7 percent of the total relocated, fell into this category.

For the most part, the returnees were married males between the ages of 22 to 44 with 12 or less years of education. From the returnee's statistical characteristics, however, there was little to distinguish him from the "average" relocatee.

There did not seem to be any consistent or identifiable pattern in these persons' reasons for returning to their local Supply Areas. Most (44.4 percent) returned within the first weeks, with 24 percent returning within two to four weeks after their arrival in the Demand Area. The great majority of returnees, then, left the Demand Area before the end of a month.

Some of the reasons given for leaving the Demand Area, for those who could be located by Project staff, were homesickness, complaints from wives, dislike for city life, debts, and

housing. It must be noted, however, that those individuals who left the Demand Area to return to their respective Local Supply Area were often "unstable." That the returnees constituted only a very small minority of the total number of relocatees suggests that the project's method of relocation was not to blame. On occasion, however, an individual with an unstable background, but who qualified for relocation under the general eligibility criteria, would be enrolled into the project. Sometimes the enrollment of such a person was the result of faulty screening in the Supply Area local office. At other times, the project staff was prohibited from being as discriminating as they might have wished. Such was the case, for example, when a recruiter from an employing firm in the Demand Area visited a Supply Area and proceeded to hire workers without bothering to check their work backgrounds. When those newly hired workers applied for relocation assistance, the Project staff was under pressure to grant assistance to individuals who might have been excluded from the project under different circumstances. In Appendix V are case histories of two returnees who left the Demand Area.

D. Withdrawals

The withdrawals, those individuals who completed all steps in the relocation process but failed to report for work in the Demand Area, constituted only six persons. Therefore they are too small a group to be considered statistically significant. As with the returnees, no special studies were done on this group.

V. Conclusions

A. Summary

The Washington State Labor Mobility Project began in January of 1967 and was in operation for a total of twenty-one months. The project was designed to test the effectiveness of Labor Mobility and financial assistance in reducing unemployment. The areas from which the project population was drawn were mainly the rural regions of Eastern Washington, although several applicants also were found in seven other western states. All applicants were relocated into the area designated as the Seattle-Everett Standard Metropolitan Area of Western Washington, subsequently termed the Demand Area. All areas from which the project population was drawn were termed Supply Areas.

In all the Washington Project physically relocated 372 unemployed workers who could not reasonably be expected to find work in their areas of residence and whose job skills were needed in the Demand Area. Of the 372, 258 were placed by the Project and 114 found their own jobs. Since these persons came from highly diverse geographical areas, it is not surprising that they did not constitute an homogenous group.

However, the "average" relocatee was generally a married male in his early thirties with two or more children. He had graduated from high school and averaged about 15 weeks of unemployment before his enrollment into the project. His Relocation Assistance Allowance was about $460 and he had relocated a distance of around 290 miles.

The very fact that 841 of the 845 workers who were found initially eligible for relocation assistance were also willing to move suggests that Labor Mobility can be a possible answer to unemployment problems. The additional fact that only 6 persons withdrew from the project and only 25 persons left the Demand Area and returned to the Local Supply Areas further suggests that a Labor Mobility Project which is highly organized and staffed by trained personnel as well as supported by extensive post-migration services can be efficient and successful.

It was also very well proved in the project that job development is a small problem if a staff is available in the area of relocation to carry out this function. An advantage of a Demand Area type project, then, is that the bulk of the Project staff is located in the area where it is needed most and where most complications arise. The disadvantage, of

course, is that few individuals are scattered over a wide geographical area in the many Supply Areas to perform the important functions of recruitment and screening.

B. Findings

1. General Findings

a. Extent to Which Labor Mobility Is Effective in Reducing Unemployment

It is quite evident that the Washington Labor Mobility Project was successful in reducing state unemployment by attempting to balance out labor surplus and labor shortage. As already indicated, 372 unemployed workers were relocated to the Demand Area where they filled job openings that could not otherwise be filled by the local Demand Area population. Had these 372 individuals remained in their Supply Areas, it can reasonably be assumed that they would have remained unemployed for a significantly longer period of time during which they would also have continued to draw unemployment compensation and welfare benefits. Although these 372 relocated workers did not greatly alter the national unemployment rate their relocation did alter the local employment market.

b. Extent to Which Financial Assistance Is Needed to Accomplish Labor Mobility

It was the experience of the Labor Mobility Project staff that relocation assistance allowances not only played a large part

in the relocatee's decision to move, but for many it was the only means of relocation. Of the 329 individuals who answered the follow-up questionnaire's inquiry, "How important would you regard the relocation allowances in your moving decision?" the following answers were given:

209	would not have moved without it
38	made relocation decision easier but might have moved without it
65	would have moved anyway, but allowance permitted earlier move
17	would have moved anyway, no difference in timing of move

c. Extent to Which Social Services Are Needed to Accomplish Labor Mobility

That which seemed to be a decisive factor in the overwhelming success of Washington's Mobility Project was the extensive post-migration services given by Traveler's Aid Society of Seattle and the project staff in the Seattle local office. Many of the relocatees were persons of rural or small town backgrounds who were not familiar with the style of life in the Seattle Metropolitan area. Had these services not been available to them, then, it can be assumed that the success of the Project would have been greatly curtailed. For those

individuals who responded to the follow-up questionnaire's inquiry, "What about agencies or organizations in Demand Area? Have you gotten any assistance or advice from any of them?" the following answers were given:

327	Public Employment Service
0	Welfare Agency
5	Church Organization
1	Neighborhood Organization
277	Traveler's Aid Society
3	None

When asked how these agencies helped, the following was indicated:

165	Housing
130	Community Orientation
16	Referral to Community Facilities
2	Introduction to Friends
289	Financial Assistance
42	Personal problems and other

2. Specific Findings

a. Workers' Reasons for Changing Jobs in Demand Area

Of the 59 individuals who were no longer working for the origi-

nal employing firm in the Demand Area, the following reasons were given for changing jobs.

18	Laid-off by original employer
4	Changed for job with better hours
9	Changed for job with better wages
13	Changed for improvement related to work, e.g., working conditions, type of work
4	Changed jobs because of area of residence
11	Changed jobs for reasons of health, personal problems, other

b. Advantages and Disadvantages of Housing or Community in Demand Area as Compared with Housing or Community in Supply Area

Questionnaire respondents were asked how they would compare their present housing with their former area of residence; the following was obtained:

1. Advantages

a. The neighborhood is cleaner, more community resources	127
b. The quality and condition of the housing and its facilities are better	162
c. Located near job or transportation services	186

2. Disadvantages

a. Housing and monthly expenses more	264
b. Crowded conditions or anonymity of city life	34

c. Workers' Satisfaction with Relocation Experience

The following categories were checked by the relocated workers as expressing their satisfaction or dissatisfaction with their move.

247	Very satisfied
63	Somewhat satisfied
14	Somewhat dissatisfied
3	Very dissatisfied

When asked why they were satisfied or dissatisfied with their move the following reasons were given:

1. Reasons for satisfaction

a. Job considerations	300
b. Other economic considerations	132
c. Family considerations	58
d. Community considerations	181

2. Reasons for dissatisfaction

a.	Job considerations	23
b.	Other economic considerations	22
c.	Family considerations	17
d.	Community considerations	43

C. Conclusions

Evidence from the Washington Labor Mobility Project indicates that relocation of unemployed workers can be an effective as well as successful means of reducing unemployment by balancing labor surplus and labor shortage. It is also quite evident that for labor mobility to be successful there is a need for strong organization, trained staff, and comprehensive supportive services. That people are willing to participate in a labor mobility project is also evident, although the number who could do so without financial assistance is small.

D. Recommendations for Future Labor Mobility Projects

1. By the Workers

Most relocatees did not make any suggestions or made only the most abstract kind of suggestion. From their suggestions, the following may be considered representative:

a. Less paperwork to be filled out in the Supply Areas. This was probably the most common comment.

b. More help should be given to the relocated worker in finding suitable housing in the Demand Area.

c. More money should be granted the relocated worker and paid with less delay.

2. By the Project Staff

a. The amount of data gathered during the operation of a Labor Mobility Project tends to be a prolific quantity. It was the opinion of the project staff, therefore, that a full time research director would be a desireable addition to the mobility staff. His function would

include the sorting and categorizing of all in-coming data and the planning of the project's research design. The presence of a full time research director throughout the life of a Mobility Project would eliminate the need for haphazardly assimilating the data at the termination of the Project.

b. It was the experience of the project staff that the Supply Areas were not oriented to the design and methods of the project as well as they could have been at the start of the Project. For approximately three months, the Supply Areas tended to lag behind the Demand Area. It was felt that this problem could be eliminated by the employment of a full time labor mobility representative in each Supply Area local office who would be familiar with the needs in the area of demand. Moreover, the employment of such a person would enable each local office to devote more time to assist workers in need of relocation as well as providing

assistance for job development and settling-in for in-migrants.

c. A further suggestion of the Project staff is that all financial assistance given to the relocated workers be in the form of grants as opposed to grant-loan combinations. As most of the workers who were relocated in this project could not have made the move without financial assistance, the contracting of a loan places an unnecessary burden on individuals who are already under a heavy financial burden. Also, it was found that many individuals would not or could not live up to their contracts and hance many were termed delinquent in their payments. Since Labor Mobility could not get the state to prosecute for such a meager amoung of money, most delinquent loans were simply written off as a loss. Under these circumstances it is felt that grants only would be more conducive to the needs and interests of both Project staff and workers than a grant-loan combination.

d. In the course of the project, the staff encountered a number of problems in relation to the federally supplied forms. In most instances these forms requested information that was not adequate enough for a Demand Area Project. To accommodate for these inadequacies, several state forms were devised to be used in conjunction with the regular Employment Security forms. Also, a number of new state forms were revised for internal usage, such as forms requesting the issuance of a check or more information. Finally, the project staff devised a form which combined three regular Employment Security forms. Although this form was not used, it is submitted as a possible replacement for the regular Employment Security forms. See Appendix VI for a complete description of these forms as well as for the forms themselves.

e. Because of the outstanding success of the WAshington Labor Mobility Project, it is

recommended that Labor Mobility be extended to national proportions on a permanent basis.

3. By the Authors

In viewing the Washington State Labor Mobility Project a number of salient characteristics are readily apparent. Perhaps the most obvious is that, in comparison with other mobility projects, this project was extremely successful as measured by the fact that only six of the original 372 relocatees subsequently withdrew from the project, and only 25 returned to their Supply Areas. Such success, we feel, was due in part to the selective procedures built into the project, but it is also attributable to what might be termed the "humanness" of the project. For rather than dealing with the unemployed worker and the securance of employment in the Demand Area, the project staff, along with the Traveler's Aid Society, dealt with the social and personal problems faced by each individual relocatee. So rather than being isolated in a new job and in a new

area, the worker had available to him a number of supportive services to aid him in his personal and social adjustment. However, most supportive services only lasted for approximately two months. In future projects we would recommend that these services be extended for at least six months and that other agencies within the community become actively involved.

APPENDICES

Appendix I: Statistical Characteristics
of Project Population

		TOTAL PROJECT (889)	ELIGIBLE (845)	NON-RELOCATEES (467)	WITH-DRAWALS (6)	TOTAL RELOCATED (372)	RETURNEES (25)	OTHERS "WHEREABOUTS UNKNOWN" "MOVED ON" (24)
Age	-22	138	132	47	0	85	7	8
	22-44	590	563	310	6	247	16	16
	45+	156	146	106	0	40	2	0
	I.N.A.	5	4	4	0	0	0	0
Education	-8	84	82	48	0	34	1	2
	9-11	206	196	103	3	90	10	4
	12	436	410	216	3	191	10	15
	13-15	109	106	58	0	48	4	3
	16+	45	43	34	0	9	0	0
	I.N.A.	9	8	8	0	0	0	0
Marital Status	Married	588	560	303	5	252	20	10
	Single	190	183	93	0	90	3	10
	Other	105	97	66	1	30	2	4
	I.N.A.	6	5	5	0	0	0	0
Dependents	None	230	222	114	1	107	5	14
	1	96	91	46	0	45	3	2
	2	137	128	80	0	48	3	4
	3-4	247	238	127	2	109	6	2
	5+	169	158	92	3	63	8	2
	I.N.A.	10	8	8	0	0	0	0

		TOTAL PROJECT (889)	ELIGIBLE (845)	NON-RELOCATEES (467)	WITH-DRAWALS (6)	TOTAL RELOCATED (372)	RETURNEES (25)	OTHERS "WHEREABOUTS UNKNOWN" "MOVED ON" (24)
Household Head	Yes	837	796	436	6	354	25	24
	No	34	33	15	0	18	0	0
	I.N.A.	18	16	16	0	0	0	0
Veteran	Yes	487	478	250	2	226	13	10
	No	321	318	171	1	146	12	14
	I.N.A.	81	49	46	3	0	0	0
Disadvantaged	Yes	226	220	98	2	120	9	6
	No	616	580	324	4	252	16	18
	I.N.A.	47	45	45	0	0	0	0
Financial Reserves	None	302	298	85	4	209	16	15
	$100	149	49	11	0	38	1	3
	$100-499	29	29	6	0	23	1	1
	$500-999	11	11	4	0	7	0	1
	$1000+	15	15	7	0	8	0	1
	Unknown	11	11	4	0	7	0	2
	I.N.A.	472	432	350	2	80	7	1
Total Income Past 12 Months	None	0	0	0	0	0	0	0
	-$1199	15	15	7	0	8	0	0
	$1200-$2999	142	139	30	1	108	10	9
	$3000-$4999	148	147	40	2	105	5	5
	$5000-$6999	78	78	33	1	44	1	5
	$7000+	41	41	12	0	29	2	4
	I.N.A.	464	425	345	2	78	7	1

		TOTAL PROJECT (889)	ELIGIBLE (845)	NON-RELOCATEES (467)	WITH-DRAWALS (6)	TOTAL RELOCATED (372)	RETURNEES (25)	OTHERS "WHEREABOUTS UNKNOWN" "MOVED ON" (24)
Unemployment Insurance Past 12 Months	None	228	226	70	0	156	0	17
	-$100	51	51	14	0	37	1	0
	$100-299	55	53	14	0	39	2	0
	$300-499	31	31	11	1	19	1	5
	$500-999	27	27	9	0	18	2	0
	$1000+	18	18	4	0	14	1	1
	I.N.A.	479	439	345	5	89	18	1
Public Assistance Past Year	None	294	290	89	0	201	0	20
	-$100	28	28	6	0	22	0	1
	$100-299	14	14	3	0	11	0	2
	$300-499	21	21	7	1	13	1	0
	$500-999	18	18	5	1	12	3	0
	$1000+	34	34	12	0	22	1	0
	I.N.A.	480	440	345	4	91	20	1
Sex	Male	819	780	426	6	348	24	23
	Female	70	65	41	0	24	1	1
Handicapped	Yes	68	63	51	0	12	1	0
	No	800	765	399	6	360	24	24
	I.N.A.	21	17	17	0	0	0	0

		TOTAL PROJECT (889)	ELIGIBLE (845)	NON-RELOCATEES (467)	WITH-DRAWALS (6)	TOTAL RELOCATED (372)	RETURNEES (25)	OTHERS "WHEREABOUTS UNKNOWN" "MOVED ON" (24)
Average Last 52 Weeks	Weeks Unemp.	15(771)	15(735)	15(387)	13(6)	14(318)	19(24)	17(23)
	Weeks Emp.	36(784)	35(745)	38(388)	33(6)	34(327)	30(24)	33(24)
	Weeks MDTA	17(137)	18(134)	19(46)	0	16(87)	15(5)	11(4)
	Weeks out of Labor Force	17(118)	17(113)	19(47)	20(2)	16(50)	13(4)	11(3)
MDTA Training	Yes	147	144	51	0	93	5	4
	No	706	667	382	6	279	20	20
	I.N.A.	36	34	34	0	0	0	0
Race	Information Not Available							
Home Owner	Yes	90	90	37	0	53	2	1
	No	394	392	98	4	290	23	23
	I.N.A.	405	363	332	2	29	0	0
Appl. Source	Information Not Available							

		TOTAL PROJECT (889)	ELIGIBLE (845)	NON-RELOCATEES (467)	WITH-DRAWALS (6)	TOTAL RELOCATED (372)	RETURNEES (25)	OTHERS "WHEREABOUTS UNKNOWN" "MOVED ON" (24)
Old Occupation	0 & 1	107	102	74	0	28	1	1
	2	92	91	52	0	39	1	0
	3	34	30	12	0	18	2	1
	4	32	31	9	0	22	3	1
	5	34	31	15	0	16	2	1
	6	162	150	91	1	58	3	4
	7	28	27	11	1	15	2	1
	8	247	240	132	2	106	6	6
	9	140	133	61	2	70	5	9
	I.N.A.	13	10	10	0	0	0	0
New Occupation	0 & 1	31	31	0	0	31	1	1
	2	28	28	0	0	28	0	0
	3	6	6	0	0	6	1	0
	4	1	1	0	0	1	0	0
	5	8	8	0	0	8	2	0
	6	100	100	0	2	98	6	11
	7	42	42	0	1	41	5	7
	8	138	138	0	2	136	7	2
	9	24	24	0	1	23	3	3
	I.N.A.	0	0	0	0	0	0	0

* See last two pages of Appendix I for a detailed description of each occupational category.

	TOTAL PROJECT (889)		ELIGIBLE (845)		NON-RELOCATEES (467)		WITH-DRAWALS (6)		TOTAL RELOCATED (372)		RETURNEES (25)		OTHERS "WHEREABOUTS UNKNOWN" "MOVED ON" (24)	
	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem
Earnings past 52 weeks														
None	1	0	1	0	0	0	0	0	1	0	0	0	0	0
$1-3499	245	29	242	28	62	9	2	0	178	19	14	1	14	0
$3500-$4999	40	1	40	1	10	1	1	0	29	0	1	0	0	0
$5000-$7499	97	4	96	4	37	1	1	0	58	4	2	1	8	1
$7500-$9999	3	0	3	0	1	0	0	0	2	0	0	0	0	0
$10,000+	2	2	2	2	0	0	0	0	2	2	0	0	0	0
Earnings after successful relocation (Projected 52 weeks)	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem	Male	Fem
$1-3499									0	1				
$3500-$4999									12	13				
$5000-$7499									205	8				
$7500-$9999									84	0				
$10,000+									0	0				

Information on earnings past 52 weeks was available on 424 of the total project population of 889. For this reason, the sum of the entries above will not equal the totals given in parentheses at the tops of the columns.

0 & 1. PROFESSIONAL, TECHNICAL, AND MANAGERIAL OCCUPATIONS

This category includes occupations concerned with the theoretical or practical aspects of such fields of human endeavor as art, science, engineering, education, medicine, law, business relations, and administrative, managerial, and technical work. Most of these occupations require substantial educational preparation (usually at the university, junior college, or technical institute level).

2. CLERICAL AND SALES OCCUPATIONS

This category includes occupations concerned with preparing, transcribing, transferring, systematizing, and preserving written communications and records, collecting accounts; distributing information; and influencing customers in favor of a commodity or service. Includes occupations closely identified with sales transactions even though they do not involve actual participation.

3. SERVICE OCCUPATIONS

This category includes occupations concerned with performing tasks in and around private households; serving individuals in institutions and in commercial and other establishments; and protecting the public against crime, fire, accidents, and acts of war.

4. FARMING, FISHERY, FORESTRY, AND RELATED OCCUPATIONS

This category includes occupations concerned with growing, harvesting, catching, and gathering land and aquatic plant and animal life and the products thereof; and occupations concerned with providing services in support of these activities.

5. PROCESSING OCCUPATIONS

This category includes occupations concerned with refining, mixing, compounding, chemically treating, heat treating, or similarly working materials and products. Knowledge of a process and adherence to formulas or other specifications are required in some degree. Vats, stills, ovens, furnaces, mixing machines, crushers, grinders, and related equipment or machines are usually involved.

6. MACHINE TRADES OCCUPATIONS

This category includes occupations concerned with feeding, tending, operating, controlling, and setting up machines to cut, bore, mill, abrade, print, and similarly work such materials as metal, paper, wood, and stone. Throughout this category, the overall relationship of the worker to the machine is of prime importance. At the more complex levels, the important aspects of the work include understanding machine functions, reading blueprints, making mathematical computations, and exercising judgment to attain conformance to specifications. Coordination of the eyes and hands is the most significant factor at the lower levels. Disassembly, repair, reassembly, installation, and maintenance of machines and mechanical equipment, and weaving, knitting, spinning, and similarly working textiles are included in this category.

7. BENCH WORK OCCUPATIONS

This category includes occupations concerned with the use of body members, handtools, and bench machines to fit, grind, carve, mold, paint, sew, assemble, inspect, repair, and similarly work relatively small objects and materials, such as jewelry, phonographs, light bulbs, musical instruments, tires, footwear, pottery, and garments. The work is usually performed at a set position in a mill, plant, or shop, at a bench, worktable, or conveyor. At the more complex levels, workers frequently read blueprints, follow patterns, use a variety of handtools, and assume responsibility for meeting standards. Workers at the less complex levels are required to follow standardized procedures.

8. STRUCTURAL WORK OCCUPATIONS

This category includes occupations concerned with fabricating, erecting, installing, paving, painting, repairing, and similarly working structures or structural parts, such as bridges, buildings, roads, motor vehicles, cables, airplane engines, girders, plates, and frames. The work generally occurs outside a factory or shop environment, except for factory production line occupations. Tools

used are hand or portable power tools, and such materials as wood, metal, concrete, glass, and clay are involved. Workers are frequently required to have a knowledge of the materials with which they work, e.g., stresses, strains, durability, and resistance to weather.

9. MISCELLANEOUS OCCUPATIONS

This category includes occupations concerned with transportation services; packaging and warehousing; utilities; amusement, recreation, and motion picture services; mining and logging; graphic arts; and various miscellaneous activities.

Appendix II: Costs and Distance of Relocation

1. Average amount of RAA received

   A. All relocatees $462.00

   B. U.I. and/or Welfare recipients $513.00

2. Average administrative cost:

   A. Per project population $269.00

   B. Per relocatee $644.00

3. States from which relocations were made:

State	Total Relocated
California	44
Idaho	7
Minnesota	1
New Mexico	1
North Dakota	1
Oregon	13
South Dakota	3
Utah	5
Wyoming	1
	76

4. Average distance relocated 292 miles

5. Average weight of household goods (married workers only) I.N.A.

6. Number of intrastate relocations 296

7. Number of interstate relocations 76

8. Average distance of intrastate move 178 (296)

9. Average distance of interstate move 738 (76)

10. Average RAA per intrastate move $405.00 (296)

11. Average RAA per interstate move $685.00 (76)

12. Time span during which relocations became unsuccessful:

	1 week	2-4 weeks	4-6 weeks	6-9 weeks
Total Unsuccessful	11	7	5	2

13. MDTA training - List types of training received (Nurses Aid, Welder, etc.)

Aircraft Mechanic
Airplane Inspector
Assembler-Installer General
Clerk, General Office
Draftsman
Jig and Template Builder
Machine Shop Operator
Machine Shop Practices
Nurse, Liscensed Practical
Patternmaker, Plastic
Plastician
Stock Clerk
Tool Fabricator
Tool Maker Bench
Welder, Arc
Welder-Burner
Welder-Fitter

Appendix III: Description of Duties
of Project Personnel

Manpower Training and Mobility

State Labor Mobility Project Officer

1. Under general supervision of State Labor Mobility officer, administers and supervises the Washington State Labor Mobility Demonstration Project which is concerned with the relocation of eligible workers from areas of labor surplus to areas of labor demand.

2. Participates in the development of plans and procedures to assure the efficient and productive operation of the project.

3. Reviews and evaluates project activity to determine that plans and procedures developed are implemented. This is accomplished by visits to local offices, by telephone, and by review of all Labor Mobility correspondence and documents. Recommends corrective action to avoid procedural breakdown.

4. Rules, in accordance with established procedures, on the eligibility of workers to receive relocation assistance allowances and approves or disapproves requests for financial grants for relocation of a worker and his family, for separate maintenance allowances, and for movement and/or temporary storage of household goods. Approves or disapproves requests for loans to supplement allowances paid when additional funds appear necessary to complete relocation.

5. Exercises direct supervision over a unit located in Seattle consisting of 3.5 positions (1 assistant project officer, 2 Employment Interviewers, and 1/2 clerical position). The primary functions of this unit are job development, coordination of moves, post migration activity such as verification of report, follow-up interviews with the workers, and various settling-in services on behalf of workers and family.

STATE LABOR MOBILITY PROJECT OFFICER : PAGE 2

6. Exercises functional supervision over Labor Mobility activities of local offices throughout the state in the recruitment, identification and enrollment of potential relocatees.

7. Reviews the work of and consults with the Travelers Aid Society of Seattle, a subcontractor to the state under this project, which provides settling-in services to relocatees such as assistance in locating housing, post-migration counseling, and so forth.

8. Coordinates activity with the Allowance Payments Section of the Unemployment Insurance Division in the issuance of checks to relocatees for authorized grants.

9. Maintains records on grants and loans indicating amounts disbursed and monthly balances. Maintains records on each worker relocated including all documents pertaining to that worker, a detailed breakdown of allowances paid and due, and other relevant correspondence.

10. Prepares a monthly report for the Bureau of Employment Security consisting of statistical, financial, and narrative material summarizing project activity. Prepares other reports as they appear necessary or are requested by supervision.

Manpower Training and Mobility

Assistant Labor Mobility Project Officer, ES

1. Under the direction of the State Project Officer, functions as the working supervisor of a unit located in Seattle. This unit is responsible for developing jobs for potential Labor Mobility relocatees, for coordinating their relocation to the King-Snohomish-Kitsap demand area, and for providing certain post-migration services. Performs or assigns and supervises the duties enumerated below.

2. Receives clearance applications or similar documents from designated supply area local offices. Reviews for completeness of information, suitability, and basic eligibility of the worker for relocation.

3. Contacts local employers on behalf of workers to secure job offers. Secures bona fide offers of employment and transmits with certifications to supply area office which makes the offer to the worker.

4. Coordinates with worker and supply office Labor Mobility Representative the relocation of the worker, his family, and household goods.

5. Performs a variety of post-migration services to relocatees, as needed; such as, assistance in locating housing, financial advice, assistance in locating new employment when necessary, explaining grant entitlements under the project. Secures loan applications and recommends approval or disapproval to the project officer.

6. Coordinates with the Travelers Aid Society of Seattle, a subcontractor to the state for this Project, in the performance of post-migration services.

ASSISTANT LABOR MOBILITY PROJECT OFFICER, ES : PAGE 2

7. Conducts follow-up interviews with workers after their relocation to secure information necessary in the evaluation of the project and its procedures.

8. Keeps the project officer informed at all times regarding job development activities, number of workers relocated, procedural lapses or breakdowns, and other information necessary for smooth and effective operation of the project.

9. Maintains records of all workers in the project including their status at a given time, activity on their behalf, and final disposition of their case.

10. Prepares and submits to the project officer weekly and monthly reports of demand area activities. Initiates reports and recommendations as appropriate.

Manpower Training and Mobility

Assistant Labor Mobility Project Officer, UI

1. Performs duties in the Central Office under the direction of the Payment Unit Supervisor. The Payment Unit is responsible for payments under specialized Federal programs such as Labor Mobility, MDTA and WIN. Performs or assigns and supervises the duties enumerated below.

2. Receives from the Labor Mobility Project Officer (ES) forms necessary to establish eligibility for Labor Mobility allowances.

3. Reviews forms to determine the type and allowances payable and orders warrant from Treasurer's Unit.

4. Contacts Fiscal Section to request a purchase order for transportation of household goods by moving firm.

5. Notifies local office serving relocatee or relocatees directly when bid for moving household goods has been awarded.

6. Reviews requests for reimbursement by relocatees to determine if expenditures were authorized and orders warrant to pay approved costs.

7. Reviews bill of lading from moving firms to determine if proper charges have been made and requests warrant from Fiscal Section to reimburse moving firm.

8. Completes monthly report of expenditures advising all parties concerned with Labor Mobility about amounts paid and in what specific categories expenditures were made.

ASSISTANT LABOR MOBILITY PROJECT OFFICER, UI : PAGE 2

9. Maintains records of each individual relocated under the project so individual expenditures can be reported when requested.

10. Reports expenditures to Fiscal Section for completion of Bureau Reports.

Appendix IV: An Outline of the Social Casework Content of Travelers Aid Service in Relation to the Washington State Employment Security Department's Labor Mobility Relocation Demonstration Projects

POST-MIGRATION COUNSELING

In the Labor Demand area the casework content of the service will include the following responsibilities.

1. The identification of resources and gaps in resources which are likely to be needed by relocatees and their families. These should include a range of resources broader than the traditional health and welfare services, such as housing, public transportation, special education, schools and shopping facilities. Special emphasis should be given to suitable housing.

2. The stimulation of new programs or services to meet the special needs of relocatees, such as host committees of local residents and preparation of community churches to receive newcomers.

3. The preparation of guides to resources and estimates of living costs for use by the TA caseworkers in supply areas, the Employment Service and the relocatee and his family.

4. The establishment of a relationship with the relocatee and his family through a personal interview upon arrival, utilizing the insights gained and transmitted by the caseworker in the supply area. This interview should reinforce the availability of the supportive social service, by reaching out to offer tangible help in the solution of immediate problems.

5. The offer of continuing contact by the caseworker with the family so long as the supportive service is needed and accepted. This does not preclude full utilization of other social services as dictated by the situation.

6. Planned and structured interviews by the caseworker, or other designated persons, at appropriate intervals as

required by that segment of the research design which will measure the effect of the TA service. If family has moved from demand area, every effort will be made to locate the family and to arrange for these interviews.

7. Interpretation in the demand area of the TA service for relocatees, with particular emphasis given to a team relationship with Employment Service personnel in the relocation project.

8. Preparation of case records and reports to meet the needs of casework service, as well as the administrative and research requirements of TA and the Employment Service.

The activities of the caseworker in carrying out these responsibilities will include personal and small group interviews with relocatees and their families. From the point of first arrival, the caseworker will be available and accessible to provide the supportive social service which the family finds acceptable and helpful. It is impossible to predict exactly the length of service. Some families may not need contact beyond the initial interview. Other families may need and seek continuing supportive help. It is assumed that after six months in the new community most families will have made a satisfactory adjustment in a new community or will have returned to their former homes.

The caseworker will have continuing relationships with the

Employment Service and other community services on behalf of the relocatees. He may develop and seek to initiate through others supplementary help for the newcomers, such as shopping tours, introductions to transportation, to recreation, to churches and other community groups, and finally the caseworker will maintain the necessary records and reports.

REPORTS, RECORDS

In regard to sub-item 8 (above)--an individual post-migration counseling case record will be established on each relocated contacted. The record will reflect all services provided by TA as well as any cross-counseling engaged in or provided by another agency (or group) arranged by TA.

The Traveler's Aid Society will provide a monthly report to the prime contractor (Employment Security Department) to reflect,

A. Names of all initial contacts with relocatees during the month.

B. Names of relocatees with whom there have been additional contacts during the month.

C. A special narrative section of the report shall be pro-

vided to cover special situations or items not covered elsewhere.

The Traveler's Aid Society will provide a quarterly account record of disbursements of Labor Mobility Demonstration Project funds. The quarterly report may be made at any time following the end of the calendar quarter but not later than thirty (30) days following the end of each quarter. A final report of disbursements will be provided by TA no later than three months following the agreed upon ending date of the project. The final report shall include:

A. A check for all unexpended funds (if any); and

B. An inventory of government equipment.

Arrangements will be made by the prime contractor to pick up and defray costs of moving government equipment.

Appendix V: Selected Case Histories

A Long Term Unemployed Worker Finds Suitable Employment

Mrs. V.M. is 28 years old, a divorcee with one child and has 12 years of formal education. She has previously held positions as a collection clerk, a dental assistant, has sold Revere Ware (cooking utensils) and has held two jobs as a teller. She was unemployed for 17 weeks at the time of relocation. A pre-screening interview for Mrs. V.M. was arranged. To get to the interview she had to take an all-night train ride. Since her interview was in the morning, she had sat up all night so as not to muss her clothing and hair. The interview at that time was unsatisfactory as one person told her a job was available, while another said he was not aware that a position was open. That afternoon found her tired, hungry, insecure and frustrated.

Later she received a written job offer from that same place, and was able to locate adequate housing with the extensive assistance from Traveler's Aid. She began work as a Bank Teller on February 13, 1967 at a wage of $325. per month.

Mrs. V.M. is happy with her job, but feels insecure as the

management releases employees indiscriminately without regard to tenure of service or ability. although she is having difficulty in adjusting to the fact that she has no friends nor relatives in the area, she all-in-all is satisfied with the move and the Labor Mobility Project as a whole.

A Long Distance Relocation

On August 31, 1967, Mr. F., a married man with one child, received notification from his employer in New Mexico that his services as a radiographer would no longer be needed due to a reduction in force. Through a contact with the Santa Fe local office, job development was initiated in the Seattle Demand Area for a radiographer. Two offers of employment resulted and the applicant accepted one paying $3.45 per hour.

Mr. F. was also found eligible for Relocation Assistance Allowance and a check for $438.20 to cover travel expenses and lump-sun allowance was issued. Costs for shipping Mr. F.'s household goods by commercial carrier came to $805.40. In all, Labor Mobility granted him a total of $1243.60 for relocation.

Two days after Mr. F. and his family arrived in the Seattle Demand Area, a home was found with the help of Traveler's Aid. However, this house proved to be unsatisfactory and a home was purchased in another location. Since there was a question of the former landlord returning Mr. F.'s rental deposit, the appli-

cant contacted Traveler's Aid for assistance. The rental deposit was finally returned.

On September 12, Mr. F. reported for work with his new employer. However, the furniture which was shipped from New Mexico by commercial carrier had not arrived in Seattle. A check revealed that the furniture was on its way, but that it would be delayed. On September 27 the furniture arrived at their new home.

Except for the difficulty with the movement of household goods, Mr. F.'s relocation was a smooth process which demonstrated the efficiency of long distance moves. Several months after Mr. F.'s arrival in the Demand Area, he was interviewed by a large Seattle television station as part of a news report on Labor Mobility. At that time Mr. F. stated that had he remained in the New Mexico area, he would have had to drive trucks in order to support his family as no positions were open as a radiographer.

Worker Has Job Before Getting Assistance

B.H. is 25 years old, married with one child and has 12 years of formal education. He joined the U.S. Navy shortly following graduation from high school. He was honorably discharged on September 22, 1966 after four years as a radarman, and returned to Santa Barbara, California. He then took a job as a route salesman and stayed with the job until February 12, 1968 when he was laid off due to lack of work. In June, 1968, he came to the Seattle area and applied for employment with the Boeing Company. He was hired at $2.73 per hour, and was to begin work on July first.

At this time he returned to Santa Barbara and contacted the local office there for financial assistance.

B.H. reported to work as scheduled, and he and his family moved to Olympia and stayed with friends until their relocation at the end of July, 1968.

They now live in a comfortable house in a nice district and are very pleased with the assistance they received.

A Dissatisfied Relocatee

In September of 1967 the Demand Area local office in Seattle received a job referral from Rapid City, South Dakota for a 27-year-old Radiographer with a wife and a small son. The applicant, Mr. H. last worked at his occupation in Marshall, Texas, but was released due to lack of work in January of 1967. Mr. H. and his family moved back to his wife's hometown, Rapid City, where he held jobs as a truck driver, salesman, driver, and was last employed as a trainee draftsman. At the time of the initial interview, Mr. H. had been unemployed for over five weeks.

Upon receipt of the job referral, the Demand Area staff contacted an X-ray company in Seattle and the employer agreed to hire Mr. H. as soon as he could arrive in Seattle. Because Mr. H.'s wife was pregnant, the family could travel only 200 miles a day and subsequently arrived in Seattle one month after leaving the Supply Area. To Mr. H.'s disappointment, his job had been filled some days before by a walk-in applicant. The employer failed to notify the labor mobility staff.

Mr. H. and his wife were very depressed and talked of returning to Rapid City. Job development was initiated immediately by the Demand Area staff. During the ten days after the applicant's arrival in Seattle, over a doxen firms were contacted in an effort to secure suitable employment for Mr. H. Five of these firms granted him interviews, many of which Mr. H. never consummated. One firm offered the applicant a job as an Engineering Aid paying $2.90 per hour. Mr. H. also refused the job. Soon afterward Mr. H. found a job on his own (with the help of a friend) as a Stock Control Manager at a starting salary of $550 per month. Because Mr. H. needed business suits for employment in this position, however, labor mobility advanced him the necessary money, in the form of a loan.

In all, labor mobility granted Mr. H. $395.00 cash including travel and lump-sum allowance. A $400 loan was also made to the applicant to cover expenses incurred in the Demand Area. Throughout, Mr. H.'s contact with Labor Mobility, he received extensive care and assistance both on the part of Traveler's Aid in finding housing and Project staff in financing his relocation.

Nevertheless, Mr. H. was dissatisfied with Labor Mobility and

subsequently wrote a letter to the Bureau of Employment Security in Washington, D.C. complaining about the service he received. The Bureau responded by pointing out to Mr. H. the extensive care he had received from Labor Mobility. It was suggested that perhaps the applicant was unjustified in his complaints.

An Unsuccessful Relocation as the Fault of the Worker

In early May of 1968, Mister F. received an offer of employment by a recruiter from a lumber products company located in the Demand Area. The company agreed to pay a starting salary of $2.66 per hour plus a specified amount to cover travel expenses. Mr. F. was granted Relocation Assistance Allowance by Labor Mobility and arrived in the Demand Area on May 13 at which time he was given a $50 emergency advancement from the Seattle emergency fund. That same evening Mr. F. was verified as on the job working the swing shift.

Two days later the relocatee left the Demand Area and his job to return to the Supply Area, explaining that his father had died unexpectedly. Mr. F. informed his employer that he intended to return to his job by the following Monday (May 20) at the latest. On May 20, the worker did not report to work as indicated, however. A letter was sent to the applicant requesting that he telephone (collect) the Seattle Demand Area office and explain his intentions. Mr. F. telephoned as requested, and explained that his father had not died as he was led to

believe. Now, however, his son was in the hospital. Mr. F. said he planned to return to Seattle by May 22, and move his family a few days later.

On May 23, Mr. F. did return to the Demand Area and his job. At this time Mr. F. also made application for travel allowance to relocate his family to the Demand Area. On the very next day after returning to his job, however, the applicant again returned to the Supply Area without notice. Because the Project staff was not aware of Mr. F.'s actions, a check for $376.60 was sent to the Supply Area to cover the cost of his family's relocation to the Demand Area.

Soon afterward the Seattle office was informed that Mr. F. had not only quit his job, but also that his wife had not relocated to the Demand Area as scheduled, had not heard from her husband, and had contacted the State Department of Public Assistance for financial aid. Mr. F.'s actions indicated to the Project staff that he had not acted in good faith and that he had never intended to relocate his family, expressing this intention merely to secure additional funds.

In all, Labor mobility granted Mr. F. $491.60 in relocation

assistance allowance. Not only was Labor Mobility taken advantage of, but the company with which Mr. F. had been employed blamed the project staff for his termination. As the result of an investigation, Mr. F. was declared "over-paid" and action was taken to recover the money.

An Unsuccessful Relocation Due to Extraneous Circumstances

Mr. P., an unemployed truck driver with ten children, was interviewed in Colville, Washington, by a recruiter from a Seattle bus company and subsequently was hired in April of 1967. Application was made to the local Supply Area office in Colville for travel allownace, separate maintenance and lump-sum allowance for Mr. P.'s relocation in Seattle. His wife and ten children were to remain in the Supply Area until school termination in early June, at which time application for financial assistance would be made for their relocation.

In early May, Mr. P. reported for work at the Seattle bus company as instructed. The Traveler's Aid Society immediately arranged for him to stay at the YMCA. Mr. P. became displeased with the "Y," however and soon rented a house with the assistance of Traveler's Aid.

On May 16, fourteen days after the applicant's arrival in Seattle, Mr. P. quit his job at the bus company and returned to Colville. On May 22 a letter was received at the Seattle Demand Office in which Mr. P. expressed his regrets for not completing his reloca-

tion. He stated that he was not used to city life and that he was unable to adjust to the traffic, responsibilities and pressures of the job.

In addition to his relocation grant of $347.25, Mr. P. had received a loan of $130 to cover the cost of uniforms and equipment. He also received advances of $50 and $160 to cover his living expenses, house rental, and damage deposit. In all, the applicant received $687.25 in grants and loans from Labor Mobility.

It was the decision of Labor Mobility Project staff that Mr. P. not be declared "over-paid" and that attempts not be made to recover the $447.25 in grants. However, since he had signed a contract for the $130 loan, an arrangement was made whereby he could pay the loan back with regular payments. The project staff based their decision not to collect the grants from Mr. P. on the evidence of his good faith and intentions, i.e., his rental of the house and completion of the two weeks training course as bus driver. It was also felt that since Mr. P. had apparently suffered a mental breakdown, the circumstances were beyond his control.

Appendix VI: Special Forms

LABOR MOBILITY DEMONSTRATION PROJECT NO. 1182

Special Forms

The "Labor Mobility Procedural Guidelines" contains samples of all Federal Forms used in the operation of a Labor Mobility Project except Form ES-564 (SF No. 6491), Clearance Application. A number of special forms were designed by project staff for internal use. Generally, their purpose was to reduce the time required to perform a certain action (e.g., requesting issuance of a check), although two were designed to secure additional information about an applicant for relocation.

A few samples of these state-designed forms are included in this section. Each sample form is preceeded by a brief explanation.

FORM ES-564 (S.F. No. 6491) CLEARANCE APPLICATION

This is a federal form (as indicated by "ES"--Employment Service) republished by the state (Hence, "S.F." which means state form).

This form was the basic document of referral filled out by the supply office Labor Mobility Representative and mailed to the Assistant Project Officer (ES) in Seattle. Its inadequacies are obvious. Note particularly the amount of space provided at the bottom of page 2 for Local Office Comments. Here a brief description of the applicant, his personality, appearance, traits, etc., is to be entered.

S. F. No. 6491—(Rev. 8-61)—8-61—3M. 69467.
Form ES-564

CLEARANCE APPLICATION

STATE OF WASHINGTON
EMPLOYMENT SECURITY DEPARTMENT

Mr. Mrs. Miss	Last Name	First	Middle	Occupational Title	Code

Address	Number and Street	City	Zone	State	Telephone

☐ Single ☐ Married
☐ Widowed ☐ Divorced
☐ Separated

Date of Birth	Height	Weight	No. of Deps.	Describe Physical Limitations, if any

MILITARY SERVICE (complete if applicable)

Serial Number	Date Entered	Date Separated	Branch of Service

Citizen of U.S.A. Yes ☐ No ☐

EDUCATION

Grade and High School — Circle highest year completed: 1 2 3 4 5 6 7 8 9 10 11 12

COLLEGE OR UNIVERSITY

Undergraduate—Name, Location	Major	Minor	Credits or Degrees	Dates Attended From	Dates Attended To

Postgraduate—Name, Location	Subject or Field	Credits or Degrees	Dates Attended From	Dates Attended To

OTHER

Occupational or Specialized Training (Describe Fully):

FOREIGN LANGUAGES (State exactly ability to speak, read and write each language you can use.)

List Current Licenses or Certificates (Give State of Issue), Tools, or Special Equipment

Own a Car?.....

Drive a Car?.....

List Memberships in Scientific, Professional, or Trade Organizations, Including Membership in Union

Special Accomplishments or Activities

Specify Preferences Such as Occupational Specializations, Geographic Location, Travel, and **Minimum Salary.**

To:

OHO—City

Street Address

State

From:

AHO—City

Street Address

State

Submitted Re:

Order No.

IJO—Line—Period

Job Dev.

From OHO to AHO:

Special referral instructions, additional information needed, etc.

EMPLOYMENT RECORD

List in order, last job first (including military), list specific qualifying experience.

Name of firm..... Kind of Business.....

Address.....

Date started..... Date ended..... Rate of pay.....

Name and Title of Immediate Supervisor.....

Reason for leaving.....

Job title and description of duties (Include number and type of persons supervised)

Name of firm..... Kind of Business.....

Address.....

Date started..... Date ended..... Rate of pay.....

Name and Title of Immediate Supervisor.....

Reason for leaving.....

Job title and description of duties (Include number and type of persons supervised)

Name of firm..... Kind of Business.....

Address.....

Date started..... Date ended..... Rate of pay.....

Name and Title of Immediate Supervisor.....

Reason for leaving.....

Job title and description of duties (Include number and type of persons supervised)

Summary of Other Work Experience (Account for additional periods not listed above):

May your Present Employer be Contacted? Yes ..... No .....
Local Office Comments:

Attach Additional Sheets if Needed.

SUPPLEMENT TO ES-564 - CLEARANCE APPLICATION

After several months of Project Operation, a survey was made of all memoranda to supply local office Labor Mobility Representatives from the demand area staff. The purpose of the survey was to identify the kinds of additional information about relocatees being requested. It was found that certain questions were being asked about nearly every applicant and these questions were incorporated into the "Supplement to ES-564." The use of the form from that date onward reduced substantially the number of requests for additional information.

LABOR MOBILITY

SUPPLEMENT TO ES-564 - CLEARANCE APPLICATION
(to be attached to each ES-564 forwarded)

Name: _____ S.S.A. No. _____

1. TRAINING:

a. High school (if applicable), check: Diploma___; Certificate___; GED___.
If GED, enter highest grade completed_____.
High school electives (if applicable and useful):

b. Vocational/technical training: Name of school: _____ Dates:_____
Courses by subject and hours:

c. Formal apprenticeship completed - Yes ___ No ___.
Give name of trade and inclusive dates: _____

2. MILITARY INFORMATION:

a. Draft status: Eligible _____ Ineligible _____
If I-Y or IV-F, explain: _____

b. If ex-service man: Type of discharge: _____
If other than regular Honorable Discharge, explain: _____

3. MISCELLANEOUS

a. Arrest Record (other than minor traffic violations): Yes ___ No ___
Offense: _____ Disposition: _____
Dates confined: _____ Parole or Probation status: _____

b. Bondable (if applicable): Yes____ No____

c. Shift work exclusions: _____ Valid driver's license ___State_____

PLEASE CHECK FOLLOWING ITEMS BEFORE SUBMITTING APPLICATION:

Is employment record complete and as per instructions on Form ES-564?

Are all periods not listed in employment record accounted for?

Are reasons for leaving jobs adequately explained?

Are all personal data complete? Include tools, union status, licenses and certificates, etc.

Are your personal comments such that the applicant "comes alive" to an outsider?

If available, have you included reference information obtained from a previous employer?

NOTE: For the sake of uniformity, include applicant in number of dependents.

PLEASE USE BACK OF THIS FORM FOR ANY ADDITIONAL SPACE NEEDED.

FORM MEMORANDUM: REQUEST FOR CLARIFICATION, ETC.

The following form was devised to avoid dictating complete memos to a supply area Labor Mobility Representative on routine matters. Appropriate blocks were filled in in ink or typed depending on the typing load.

EMPLOYMENT SECURITY DEPARTMENT
Olympia, Washington

M E M O R A N D U M

_____
(Date)

TO: _____, Labor Mobility Representative_____L.O.

FROM: Pat Nesser, Assistant Project Officer, by_____

SUBJECT: Request for Clarification and/or Report of Status, Labor Mobility

1. Before we contact an employer on behalf of this applicant, we feel the need for additional information or clarification as follows:

_____

_____

_____

_____

_____

_____

2. ES 564 received and reviewed. Applicant's present status in the process best described by one or more of the following, as checked:

Employer contact pending ___ Employer refused ___

Not qualified as referred ___ Cited "Job List" line closed ___

Job in suspense (strike, etc.) ___ Assigned for job development ___

Appears unqualified for all listings--will check later unless advised___

Other:_____

_____

3. Additional comments:_____

_____

_____

_____

_____

_____

_____

F-100

INFORMATION FOR TRAVELER'S AID

The following letter and form were sent to each applicant on receipt of a clearance application. It served both to assure the applicant that efforts in his behalf were underway and to secure preliminary information needed by Traveler's Aid. A return envelope was provided. When the forms was received in the Seattle Project office, it was logged in and sent on to Traveler's Aid.

STATE OF WASHINGTON

3438

Employment Security Department

DANIEL J. EVANS
Governor

MAXINE E. DALY
COMMISSIONER

Labor Mobility Project
P.O. Box 1748
Seattle, Washington 98111

Dear

This form is being sent to all persons who are interested in securing work in the Washington State Demand Area. It will be used by this office and the Travelers Aid Society in determining the housing and related needs of your family. We would appreciate your filling it in at your earliest convenience and returning it to us in the enclosed postage paid envelope. Thank you.

Sincerely,

Patrick J. Nesser

Patrick J. Nesser
Assistant Project Officer

PRINT NAME - LAST FIRST	SOC. SEC NO	DATE OF BIRTH	SPOUSE'S NAME

PRESENT ADDRESS	HOW LONG THERE?
PREVIOUS ADDRESS	HOW LONG THERE?

CHECK APPROPRIATE BOX:	SINGLE	MARRIED	WID.	DIV.	SEP.	CAR?	LICENSE	ESTIMATE LAST YEAR'S WAGES: $_____

IF YOU ARE INTERESTED IN HOUSING NEAR A CHURCH, STATE PREFERENCE:

WILL YOU NEED HOUSING NEAR A SCHOOL? (CHECK FOLLOWING WHERE APPROPRIATE) GRADE YES___ NO___ JR. HIGH YES___ NO___ HIGH SCHOOL YES___ NO___

CHECK ANY OF FOLLOWING TO INDICATE PREFERENCES: HOUSE___ APT___ FURN___ UNFURN___ RENT___ OWN___ NO OF BEDROOMS REQ'D_____

NAMES OF CHILDREN	AGE	SEX	UNUSUAL NEEDS SUCH AS SPECIAL SCHOOLS, ETC.?

USE REVERSE OF THIS FORM TO INDICATE ANY SPECIAL PROBLEMS YOU FEEL TRAVELERS AID SOCIETY MIGHT NEED TO KNOW ABOUT IN ORDER TO ASSIST YOU WITH SPECIAL HOUSING NEEDS OR OTHER SERVICES

PAYMENT REQUEST FORM

Originally a separate memorandum was sent to the Assistant Project Officer (UI) each time a payment was requested. This was time consuming and the following form memo was devised.

EMPLOYMENT SECURITY DEPARTMENT
OLYMPIA, WASHINGTON

3440

MEMORANDUM

_____
(Date)

To: Allowance Payments Section

From: State Labor Mobility Project Officer

Subject: _____, S.S.A. No. _____, RAA Project No. 1182

This relocatee appears eligible for the following funds:

$ _____ (RAA for self)

$ _____ (Separate maintenance for self

for _____ weeks for the period _____.)

$ _____ (Family RAA for _____ dependents.)

Travel for self: Yes_____ No_____ _____

Travel for family: Yes_____ No_____ _____

$ _____ (_____

_____.)

TOTAL: $ _____ (plus travel, if appropriate)

If you concur with the above, please issue a check for the total amount as indicated in _____ below:

A. To the relocatee as instructed in Section D., ES-956, attached.

B. To the relocatee in care of Patrick J. Nesser, Seattle.

C. To the relocatee at (or in care of): _____

_____.

Comments: _____

_____

_____

_____

Attachments (checked where appropriate)

_____ ES-955-A (employer letter attached)
_____ ES-955
_____ ES-956
_____ Receipt, Emergency Advance
_____ Other: _____

cc: Patrick J. Nesser - Seattle

_____
Initialed

TRANSMITTAL, LABOR MOBILITY EMERGENCY FUND ADVANCES

This, like the Payment Request Form, was prepared to save time for the project staff.

EMPLOYMENT SECURITY DEPARTMENT
OLYMPIA, WASHINGTON

MEMORANDUM

_____
(Date)

To: Allowance Payments Section

From: Michael H. Forslof

Subject: Labor Mobility Emergency Advance for

Attached is an Application for Emergency Funds for _____, S.S.A. No. _____, who was advanced $_____ from the Labor Mobility emergency fund on _____.

Attachment

_____
Initialed

LETTER TO RELOCATEE

A number of relocatees, after requesting movement of household goods by commercial carrier, changed their minds and rented U-haul trucks or trailers or made other arrangements. This was usually done without consulting with project staff. Moving companies, having scheduled trucks and drivers for nothing began complaining to the State Department of Purchasing which, in turn, complained to this Department. Repeated requests that local office LMR's stress with relocatees problems caused by cancelled purchase orders were ineffective and the following letter was tried. It worked. Incidentally, the final paragraph was never invoked for no one who received the letter failed to notify the Department of a change in plans. This was the expected result. Project experience has shown that relocatees, vague and forgetful about many things, very rarely forgot or made mistakes where payment of allowances were involved.

STATE OF WASHINGTON

Employment Security Department

DANIEL J. EVANS
Governor

P. O. Box 367
OLYMPIA, WASHINGTON 98501

MAXINE E. DALY
COMMISSIONER

You have requested movement of your household goods by commercial carrier on Form ES-956, Request for Payment of Relocation Assistance Allowances. On receipt of this request, this Department initiates action to contract for the move. As it is difficult and time-consuming to cancel a move by commercial carrier, such cancellations may be made only with the approval of the Project Officer in Olympia.

Should you find it necessary to change the method of transporting your household goods, contact the nearest Employment Security Department office and explain the situation to the Labor Mobility Representative. In Seattle, contact Patrick J. Nesser, Assistant Project Officer, or a member of his staff at MA 3-8900. If your reasons for requesting the change are of an emergency nature, a cancellation of commercial carrier move will be considered.

Failure on your part to inform this Department immediately of a change in plans may render you ineligible for reimbursement for movement of household goods by other means.

Michael H. Forslof
State Labor Mobility Project Officer

MHF:bj

ES-955, ES-955-A, and ES-956, COMBINED

This form was NOT used during the operation of the Washington project as the federal guidelines call for the separate use of the three forms listed above. They were combined in the following sample to demonstrate that they could be merged into one form by eliminating numerous duplications. This compression reduces by two the number of forms required in the relocation of a worker.

Sections A and B correspond to Sections A and C of the ES-955-A and would be completed in a demand area office. The form would then be mailed to the supply area office for certification in Section C (corresponding to Section B of the ES-955-A). If the supply area certification were favorable for relocation, Sections D through H, corresponding to the ES-955 and ES-956, would then be completed.

(Samples of forms ES-955, ES-955-A, and ES-956 are attached to facilitate evaluation of this form.)

Form ES_____ _____ (Local Office)

_____ (State) _____ (Project No.)

SUITABLE EMPLOYMENT CERTIFICATIONS AND REQUEST FOR AND DETERMINATION OF RELOCATION ASSISTANCE ALLOWANCES

A. IDENTIFYING INFORMATION

Name _____ SSA No. _____

Address _____ (STREET) (CITY) (STATE) (ZIP)

Regular Occupation _____ Telephone _____

B. CERTIFICATION WITH RESPECT TO WHETHER OR NOT A WORKER HAS A BONA FIDE OFFER OF, OR HAS OBTAINED, SUITABLE FULL-TIME EMPLOYMENT IN ANOTHER AREA

This is to certify that the above-named person has obtained suitable full-time employment as shown below affording a reasonable expectation of long-term duration in the state of _____ ☐ Yes ☐ No

If "Yes" continue:

Name and Address of Employer _____

Occupation _____ Starting Date _____ Monthly Wage _____

_____ (Date) _____ (Relocation State ES Director) _____ (State)

C. CERTIFICATION WITH RESPECT TO AVAILABILITY OF SUITABLE FULL-TIME EMPLOYMENT IN RESIDENT STATE FOR APPLICANT DESIRING TO RELOCATE

This is to certify that the above named person may be expected to secure full-time suitable employment within commuting distance of his regular place of residence without relocation to another area.

☐ Yes ☐ No If "No" continue:

_____ (Date) _____ (Resident State Director) _____ (State)

D. REQUEST BY APPLICANT

1. I am an involuntarily unemployed person, and request a determination of entitlement to relocation assistance allowances in the form of: _____

   I wish to relocate from my address above to _____ (city and state)

2. I wish to relocate the following members of my family (if any):

Name and Relationship	Age	Address (if different from my own)	Date of Move	Type of Transportation

3. Address after relocation (if known) _____

4. Date on which you plan to move _____

5. If date your family expects to move is more than 30 days later than date you applied for allowances, give reason _____

6. Specify type of transportation to be used by you _____

(continued on reverse)

E. TEMPORARY STORAGE AND/OR TRANSPORTATION OF HOUSEHOLD GOODS

1. Are you moving household goods to your new residence? ☐ Yes ☐ No
   (If "Yes" is checked and no storage of household goods is required, complete items 2 and 7 below. If storage is required, complete all items.)
2. Type of transportation to be used for transporting household goods _____
3. Will you require temporary storage of household goods? ☐ Yes ☐ No
4. Specify the point of storage _____
5. Specify the number of days that storage will be required _____
6. Date you expect to move your household goods to the point of storage _____
7. Date you expect to move your household goods to your new residence _____

F. CERTIFICATION BY APPLICANT

1. My last employment that was not of a temporary nature was with:
   Employer's name and address _____
   Date of Separation _____ Reason for Separation _____
   _____
2. I have obtained suitable employment or a bona fide offer of suitable employment with the employer listed in Section B of this Form and will begin work in the designated occupation on or about _____ (Date), at a wage of $ _____ per _____
3. I certify that the information supplied by me on this form is true to the best of my knowledge and belief. My unemployment status and re-employment status has not changed since the date I requested relocation assistance allowances. I understand that all such allowances are paid from funds provided for by the United States Government, and that penalties of fines and imprisonment are imposed for knowingly giving false information, or withholding information to obtain such allowances.

   Applicant's Signature _____ Date _____
   Resident State Agency Rep. _____ Date _____

G. ISSUANCE OF RELOCATION ASSISTANCE ALLOWANCES

Address to which check(s) should be forwarded if not delivered to applicant at local office: _____
_____

H. DETERMINATION BY STATE AGENCY

1. Is applicant involuntarily unemployed?..... ☐ Yes ☐ No
2. Applicant entitled to relocation assistance allowances? ☐ Yes ☐ No
   Such assistance to be afforded in the form of:
   _____
   If "No" reason for denial _____
   _____

_____ _____
(Resident State Agency Representative) (Date)

ATTACHMENT: (1) Verification of Separation (if pertinent);
(2) Employer Statement Verifying Employment or Employment Offer.

S. F. No. 9889—(8-66)—2M. 3941.
Form ES 955

3448

State of Washington
EMPLOYMENT SECURITY DEPARTMENT

REQUEST FOR AND DETERMINATION OF RELOCATION ASSISTANCE ALLOWANCES

Name..... SSA No.....

Local Office..... Project No.....

A. Request by Applicant

1. I am an involuntarily unemployed person, and request a determination of entitlement to relocation assistance allowances in the form of:

   .....

   I wish to relocate from:

   Present Address..... to

   New Address.....
   (City and State)

2. I wish to relocate the following members of my family (if any).

Name and Relationship	Age	Address (if different from own)

3. I wish to relocate my household goods ☐ Yes ☐ No
4. I wish to temporarily store my household goods ☐ Yes ☐ No

B. Certification by Applicant

1. My last employment that was not of a temporary nature was with:

   ....
   (Name of Employer) (Date of Separation)

   .....
   (Address of Employer)

   The reason for separation from this employer is.....

   .....

2. I have obtained suitable employment or a bona fide offer of suitable employment with:

   .....
   (Complete name and address of employer)

3. I will begin work as a..... with the above employer on or
   (Job title)
   about..... at $..... per .....
   (Month-day-year) (Approximate Salary)

I certify that the information contained in parts A and B is correct to the best of my knowledge. I understand that all relocation assistance allowances are paid from funds provided for by the United States Government, and that penalties of fines and imprisonment are imposed for knowingly giving false information, or withholding information to obtain such allowances.

....
(Applicant's Signature) (Date)

.....
(State Agency Representative)

C. Determination by State Agency

1. Is applicant involuntarily unemployed? ..... ☐ Yes ☐ No
2. Is suitable employment available without relocation? ..... ☐ Yes ☐ No
3. Is certification on file from relocation state ES director that applicant has suitable employment or a bona fide offer of suitable employment? ..... ☐ Yes ☐ No

   Date certification requested ..... (Date)
4. Applicant entitled to relocation assistance allowances ..... ☐ Yes ☐ No
   Such assistance to be afforded in the form of:

   .....

   If "No," reason for denial .....

   .....

..... (State Agency Representative)

..... (Date)

Verification of Separation (if pertinent)

S. F. No. 9889-A—8-66—5M. 7617.
(ES-955 A)

3450

State of Washington
EMPLOYMENT SECURITY DEPARTMENT

SUITABLE EMPLOYMENT CERTIFICATIONS

A. IDENTIFYING INFORMATION

Name of Applicant..... SSA No.....

Address.....
(Regular Place of Residence)

Regular occupation..... Date to begin new job.....

Name of new employer in the relocation state.....

Mailing address.....

B. CERTIFICATION WITH RESPECT TO AVAILABILITY OF SUITABLE FULL-TIME EMPLOYMENT IN RESIDENT STATE FOR APPLICANT DESIRING TO RELOCATE

This is to certify that the above-named individual may be expected to secure full-time suitable employment within commuting distance of his regular place of residence without relocation to another area.

☐ Yes ☐ No

..... (Date) ..... (Resident State Employment Service Director)

Address to:
Employment Service Director of
Relocation State

C. CERTIFICATION WITH RESPECT TO WHETHER OR NOT A WORKER HAS A BONA FIDE OFFER OF, OR OBTAINED, SUITABLE FULL-TIME EMPLOYMENT IN ANOTHER AREA

This is to certify that the above-named individual has obtained suitable full-time employment, or a bona fide offer of suitable full-time employment as shown below affording a reasonable expectation of long-term duration in..... (State) ☐ Yes ☐ No

If "Yes," answer the following:

..... (Name of Employer)

..... (Address)

..... (Occupation) ..... (Date to Begin Work) ..... (Approx. monthly salary or wages)

..... (Date) ..... (Relocation State Employment Service Director)

Attachment:
Employer Statement Verifying
Employment or Employment Offer

..... (State)

S. F. No. 9889-B—8-66—5M. 8102.
Form ES-956

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State of Washington
EMPLOYMENT SECURITY DEPARTMENT

REQUEST FOR PAYMENT OF RELOCATION ASSISTANCE ALLOWANCES

A. Identifying Information

1. Applicant's Name..... SSA No. .....
2. Date on which you applied for relocation assistance allowances.....
3. Address prior to relocation.....
4. Address after relocation (if known).....

B. Transportation for You and Your Family

1. Date on which you plan to move.....
   (a) Date your family expects to move.....
   (b) If date your family expects to move is more than 30 days later than date you applied for allowances, give reason.....
   .....
2. Specify type of transportation to be used by you.....
3. Specify type of transportation each member of your family will use, and date they expect to move.

Name	*Date of Move*	*Type of Transportation*

(If additional space is needed, use a supplemental sheet.)

C. Temporary Storage and/or Transportation of Household Goods

1. Are you moving household goods to your new residence? ☐ Yes ☐ No
   (If "yes" is checked and no storage of household goods is required, complete items 2 and 7 below. If storage is required, complete all items.)
2. Type of transportation to be used for transporting household goods.....
3. Will you require temporary storage of your household goods? ☐ Yes ☐ No
4. Specify the point of storage.....
5. Specify the number of days that storage will be required.....
6. Date you expect to move your household goods to the point of storage.....
7. Date you expect to move your household goods to your new residence.....

D. Issuance of Relocation Assistance Allowances

Address to which check(s) should be forwarded if not delivered to applicant at local office:

.....

E. Applicant's Certification

I certify that the information supplied by me on this form is true to the best of my knowledge and belief. My unemployment status and re-employment status has not changed since the date I requested relocation assistance allowances. I understand that all such allowances are paid from funds provided for by the United States Government, and that penalties of fines and imprisonment are imposed for knowingly giving false information, or withholding information to obtain such allowances.

Applicant's Signature..... Date.....

State Agency Representative..... Date.....

VT 012 122
Edwards, Judith B.
Computer Instruction; Planning and Practice.

Northwest Regional Educational Lab., Portland, Oreg.
Office of Education (DHEW), Washington, D.C.
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IDENTIFIERS - ELEMENTARY AND SECONDARY EDUCATION ACT TITLE III; ESEA TITLE III

ABSTRACT - Recognizing the implications of the computer in relation to society and education this program guide was prepared to assist teachers and administrators in planning and implementing computer programs. Developed as a result of the Title III project, entitled Computer Instruction NETWORK, this monograph summarizes an 8-month planning phase which involved 40 secondary schools. The guide includes information concerning (1) Teacher Training, (2) Languages for Computer Instruction, (3) Mathematics and Problem Solving, (4) Equipment for Computer Instruction, and (5) Cost of Computer Instruction. Those engaged in curriculum planning will also find the reference section to be a useful resource. (JS)

VT 012 122

EDO 54390

3453

Computer Instruction: Planning and Practice

Judith B. Edwards

Northwest
Regional
Educational
Laboratory

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U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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FOREWORD

Educators now have available an exciting new instructional "tool"--The Computer.

One outstanding example of how the computer can be used to improve education is demonstrated by the Computer Instruction Network, a Title III project.

It is a strong conviction of the Northwest Regional Educational Laboratory that information about this project should be widely disseminated so that other educators may benefit from the experiences of students, teachers and administrators at schools in the Computer Instruction Network.

Lawrence D. Fish
Executive Director

Portland, 1969

September 1969

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Northwest Regional Educational Laboratory, 400 Lindsay Building, 710 S.W. Second Avenue, Portland, Oregon 97204

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PREFACE

In 1962 two teachers in Oregon schools 30 miles apart began experimenting with teaching about computers. During the next three years, Mrs. Marian Putnam at North Salem High School and Mr. Bud Pembroke at Lake Oswego High School successfully incorporated one-month units in computer concepts into existing mathematics courses.

Students in these classes learned about computers by actually programming and operating a simple digital computer. The classroom computer had been developed several years earlier at Oregon College of Education with a grant from the National Science Foundation.

The Salem School District and the State Department of Education, together with the Marion County Intermediate Education District, decided in 1965 the good things happening in these two schools should be studied and expanded to other districts.

A proposal for a planning grant was written and funded under Title III of the Elementary and Secondary Education Act. Forty secondary schools in a four-county area participated in the eight-month planning phase which began in the summer of 1966. It resulted in an operational grant for a program, which began in the summer of 1967. The Title III project, called Computer Instruction NETWORK, has operated through the Marion County IED and has received some $100,000 per year for each of three years.

Several new procedures for computer instruction have been tried and evaluated. The results of these experiences are reported in this monograph to help other schools plan and implement programs for teaching with and about computers.

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COMPUTER INSTRUCTION: A RATIONALE

Introducing the special September 1966 issue of The Saturday Review devoted to "The Computerized Age," the editors said, "Few technological developments are formidable enough to mark turning points in human history. Two such phenomena have occurred in our time: The atomic bomb and the computer.... The implications of the computer as yet are only faintly comprehended."

The computer is changing human history; no longer is this debatable. As a tool for extending man's thinking powers, the computer portends something as consequential as the industrial age when power was applied to supplement man's muscles. The age of the computer has developed so quickly and with such an impact that the man in the street views the computer with awe, fear and mistrust. The information available to students and their parents in newspapers, magazines, television and films usually emphasizes the dramatic nature of computers and automation and plays down the role of man. Consequently, the Man-Machine System is viewed as a Machine-Man System. The most dangerous of the misconceptions about the computer is its potential for "taking over" or controlling man and his world. The possibility of the myth becoming reality increases if educators ignore the need to prepare students for the automated age.

Students entering high school in 1970 will be 45 years old in the year 2000. By that time, two significant realities of the computerized age will be a part of their everyday life: the computer utility and the cybernated system.

Widespread use of the computer utility will mean a computer terminal in every home, as familiar as the telephone or cable television. Telephones and television, however, do not have the vast implications for social and cultural change which computers have. The cashless, checkless society is technically feasible now and sure to be a reality in the year 2000. Banking and all exchange of goods can be accomplished using computers without the transfer of actual money.

The implementation of these computer based systems is not without problems, however. "Total information" at everyone's fingertips raises questions of personal privacy which are only beginning to be examined, for example.

"Unemployment resulting from automation would be greater right now except that industries are holding back--at a sacrifice to their projects," says Richard Bellman of the RAND Corporation. "The scientific know-how to automate U.S. industry completely is already available and is certain to be used." When cybernated systems do, indeed, completely automate industry, a new ethic other than the sanctity of work will have to be found. Meanwhile, the computer--the cause of all this--remains little understood and often poorly used.

Two educational tasks are vital in the changes being wrought by the computer. Education must begin these tasks if students are to receive a relevant education. The first of these, which has become the primary goal of the Computer Instruction NETWORK, is to provide a degree of "computer appreciation" for as wide a segment as possible. The second--more difficult to tackle and with much broader implications--is to prepare students to live in a world so drastically changed by automation that the old values, occupations and roles no longer have meaning.

The "instructional" roles for the computer, as opposed to data processing for school administration, include prevocational training, problem solving as a "curriculum extender," and computer appreciation units or courses.

Computer appreciation is more than the study of automation. It includes understanding the simplicity of the machine responsible for the computerized age. This basic understanding of "what is a computer?" should be available to all students. It should not be considered a technical topic worthy of examination only in mathematics or vocational courses. The computer, itself, need not be studied in detail or at a high level of complexity, but study of a simple computer with a simple language--even a hypothetical one--can remove the mystery. The notion computers do not "think," but must be instructed by a human being, is not easy for a student to understand until he tries instructing a computer himself.

Awareness of the potential power of the computer is as important as the study of its simplicity. Developing this understanding is as vital for the student who will be affected only indirectly by computers in his lifetime as for the college bound engineering student. Only the informed, imaginative and thoughtful use of computers by the consumer can prevent the age of computerization from being a threat to mankind and ultimately a human tragedy.

The preNETWORK pilot classes demonstrated that student operation of an uncomplicated computer is the most effective way to teach about computers. The complexities of machine language need not be a major area of study. With a little practice using a simple machine language, students comprehend the concept of computer memory, how a computer is programmed to solve problems, the movement of information into and inside the machine, and the necessity for the computer operator to use careful and logical problem analysis techniques. A bit of serendipity apparently motivates students--particularly underachievers--when they are allowed to operate the machine themselves.

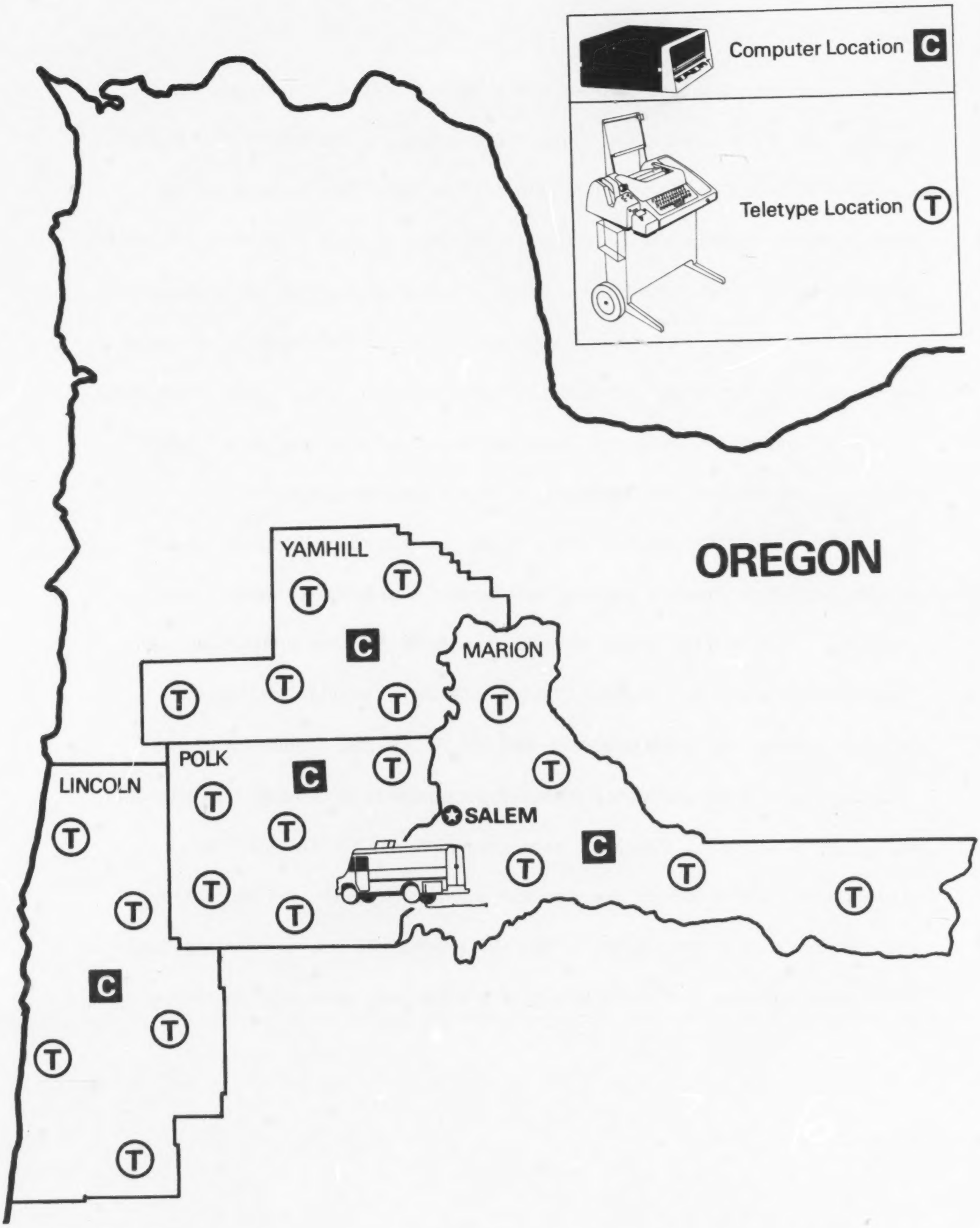
The Computer Instruction NETWORK, then, was planned to develop both students' and teachers' computer appreciation--their understanding of the computer itself and an appreciation of its potential for good or evil. Secondly, students who achieved some computer appreciation were given the opportunity to use the computer itself for developing problem solving skills.

The particular constraints the NETWORK faced included the very high percentage of small rural schools in the project area (37 out of 40), a lack of teachers with even slight knowledge of computers, a need for classroom

handson experience in each school and a limited budget. Most schools operate with these same constraints. The schools in the NETWORK region had been reluctant to venture into this area on their own because of the multiplicity of decisions to be made and the lack of funds, qualified teachers and appropriate teacher-training courses, continuing professional assistance and outside impetus. The many decisions to be made probably is the most dismaying prospect of all. Crucial decisions must be made about curriculum, emphasis, equipment, software, materials, methods and teacher training. Few are qualified, or feel qualified, to make such decisions.

The NETWORK provided the outside impetus, the continuing professional assistance, teacher training and funds for schools to begin. Small computers were rotated among schools to provide handson instruction, and Teletype terminals were installed at the schools to provide for remote problem solving and communication with the NETWORK office and other schools. One larger computer installed permanently in a large van travelled among rural schools. Teachers were trained by NETWORK staff in a continuing series of formal courses and short workshops, and the nearby colleges and universities began to provide appropriate courses for teachers. Curriculum planning and development of instructional materials continues.

3465


Computer Location C
Teletype Location T
OREGON
YAMHILL
MARION
POLK
LINCOLN
SALEM

THE PROPER ORDER

Many schools start computer instruction because of the persistence of a computer salesman or the availability--somewhere--of a computer. The equipment, then, dictates the objectives, methods and sometimes even the curriculum.

This is decidedly cart first. Equipment selection should come last, after all other important decisions have been made. Equipment should be selected on the basis of these decisions. A careful study involving administrators and curriculum coordinators, as well as teachers from several subject areas, should result in decisions in the following order:

Curricular areas to be involved

Teacher training

Unit and course content

Selection and/or adaptation of programming languages to to be taught and used

Selection and development of resource materials

Equipment

The first, curricular areas, often is made "easy" when a mathematics teacher indicates interest in initiating a computer program. Too often, however, this means decisions are made on the basis of "what is needed for mathematics" rather than "what is needed for computer

instruction." If mathematics teachers make all decisions in the early stages, business teachers give up in disgust, social studies teachers turn their backs and science teachers may or may not be slightly interested. It is altogether possible to have what is needed for both mathematics and computer instruction, if the early planning is done by a cross-curricular group of teachers and administrators, perhaps with the help of competent professionals. If teacher training can begin a year or two in advance, planning is made immensely easier.

The specification of course and unit content implies either the existence of trained teachers or the assistance of competent outside help. The opinions of several outside consultants, however, should be sought rather than relying on the possible prejudices of one individual.

The selection of programming languages is critical. Too often, FORTRAN is used for instruction simply because it is available. However, for nonvocational training or problem solving, the simplest possible language to teach and use is the best choice. An example is the conversational BASIC. For simple handson practice with a computer, the most straightforward and simple machine language available is preferred. If one does not have freedom of choice, appropriate subsets of the available languages may be identified for instructional use.

Resource materials are more likely to be "developed" than "selected." Seldom is there a single text available which is exactly appropriate for one's objectives. Films often are outdated and poorly done. And manufacturer's reference manuals are exactly that--meant to be used for reference by a well trained computer user, not for instructional purposes.

Finally, equipment selection can follow evaluation of all computers and terminals. If the school district is getting a computer for administrative purposes, certainly the specifications of the computer instruction planning committee should be given as high a priority as the administrative considerations. If no effective compromise can be reached, equipment for computer instruction should be planned for in addition to the district's administrative system. It is an unfortunate fact of life in education that data processing and administrative needs of school systems usually are met with alacrity and money, while computer instruction must "wait until next year."

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PLANNING FOR COMPUTER INSTRUCTION

A maximum of six people should form a committee to begin the planning for computer instruction. This planning committee can include one representative from each of four curricular areas: social studies, science, business education and mathematics. In addition, a district administrator or curriculum coordinator should be involved. If the committee gets much larger, little effective action will be taken.

In planning the committee must realize any unit or course will demand more time of the teacher than any other course he has ever taught. A lecture-type approach usually is discarded after the first few days in favor of a lab-tutorial system. Since resource materials usually are not appropriate for what is being taught, teachers often must develop their own audiovisual aids and mimeographed materials. Released time for such activities, and help in supervising computer labs, relieves the pilot teacher of some of the burden.

Once formed, the committee can begin immediately to find answers to the many vital questions.

What computing equipment is available locally?

Investigate local businesses, banks, the school district office, government agencies, colleges and universities. Find out about equipment availability (times as well as student access),

costs, languages used, input media required (punched cards, paper tape or remote keyboard), auxiliary equipment required in the school (keypunch or teletype), and personnel available for assistance.

What teachers in the district have had training or experience with computers?

These teachers can serve as leaders in planning curriculum content.

What teachers, though untrained, are interested and willing to teach about or with computers?

Teachers identified should be the first ones trained. An enthusiastic group of trained teachers from several subject areas lessens initial anguish.

What professional advice and assistance is available?

Ask for help or recommendations from professional organizations such as the National Council of Teachers of Mathematics, Association of Business Educators, Association for Educational Data Systems, Data Processing Management Association and Association for Computing Machinery. Inquire at universities, regional educational laboratories, federal projects, the state educational agency, state government, local businesses, business training schools and technical-vocational schools.

Often manufacturers can provide valuable free materials and sample curricula, but keep in mind this source probably will provide you with advice designed to sell a particular computer.

What funds are available?

In addition to funds from the local district budget, ask the state educational agency what funds might be sought from other agencies (including the state). Possibilities include federal grant programs, vocational education programs, foundations and local businesses. In some well-to-do districts, students pay for their own time on computers or terminals.

How can teachers be trained?

If no appropriate courses for teachers are available at nearby universities--and there probably are none--start pressure immediately for such courses. Ask the state educational agency what extension courses are offered, or might be. Some manufacturers offer short courses at no cost. The National Science Foundation sponsors a number of excellent summer institutes and conferences at universities around the country. Ask the state chapter (if there is one) of the Association for Educational Data Systems for information about available computer courses. Or contract with a consultant to come into the district and offer workshops before school starts in the fall.

What are the objectives for computer instruction in each of four curricular areas (math, science, social studies and business education), and what objectives can be defined for cross-curricular needs?

Defining these objectives takes time and thought. The committee should study the objectives developed in other districts or projects. A mathematics teacher might wish to use the computer only as a problem solving aid or as a "mathematics laboratory," but a social studies teacher may wish to examine the social and cultural implications of automation. Prevocational computer training could be the goal of a business education teacher, and a scientist might decide to extend the existing curriculum in physics, chemistry or biology by exploring and experimenting with the aid of the computer. All four teachers can combine talents to teach about the computer itself.

What content should be taught to reach the objectives?

Content designed to meet instructional objectives should be specified with outside professional assistance or by adapting from programs in other schools. Since this will be a pilot program, syllabi, outlines and guides probably will need revision after the first trial and evaluation. Some discoveries made in operation of the NETWORK were: "History of the

Computer" often is a tedious topic consuming time better used on other topics; "problem solving techniques" often is passed over too quickly; business education "data processing" courses sometimes turn out to be keypunching, which is a skill with questionable saleability in tomorrow's world; sophisticated programming techniques and complex languages should not be taught at all, except possibly for vocational purposes. Advice on content, if solicited from computer professionals who are not educators, is likely to be oriented toward vocational training, with emphasis on computer programming and operation skills.

What length unit or course can be implemented best in the beginning?

A short unit of a month or two incorporated in an existing course is the smoothest beginning. The mathematics curriculum is the most obvious vehicle. Business education is another. Social studies, while not so obvious a choice, could certainly incorporate a unit on computers and automation as part of a modern problems class. If the course is an elective, try a team-taught semester course. A full year's course usually tries the patience, skill, inventiveness and knowledge of a novice teacher of computer concepts.

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What programming languages should be taught?

The choice of a programming language will depend upon objectives. Criteria for judging and selecting languages appear in the section titled Languages for Computer Instruction.

What equipment or terminals will be needed?

This will depend on the instructional objectives and course content, available funds, languages chosen and number of students to be served. Usually necessary is some additional auxiliary equipment--extra keypunches, Teletypes, optical card readers which will read both punched cards and cards marked with a pencil, or other devices to prepare programs.

What will costs be?

Costs should include computer purchase or lease, maintenance contracts, Teletype lease or purchase, line charges and contract charges for time sharing, long distance charges if time sharing is not on a local computer, and cost of auxiliary equipment. Teacher training and released time for teachers to plan, prepare materials and visit computer instruction programs in other schools also should be included.

How much can a school afford?

If a district must depend on local funds for total support, a modest beginning should be planned. Initially, only funds to support teacher training need be committed. Short units might

be taught using "on approval" equipment or borrowed equipment, or by sharing costs with other schools or districts. A successful program probably will always require funds to make additional equipment available for student use. Teacher training is a never ending project. Teachers who have developed a beginning level of knowledge and experience will be the most vociferous in demanding more advanced courses. The district should plan to continue to provide financial aid to these teachers for further training.

TEACHER TRAINING

Although the C. I. NETWORK plan called for an intensive summer of teacher training to precede implementation, budget reductions made it impossible. Instead, the NETWORK was implemented slowly and gradually, first using only teachers with previous training. Four evening courses for teachers were taught the first fall term and two courses each term since. On the basis of this experience, teacher training started well in advance and continued on a regular basis is urged.

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Teacher training never ends. Once a nucleus of teachers has a good background in basic computer concepts and programming, a demand is created for advanced courses: programming in various languages, advanced programming techniques, special courses for particular curricular areas and advanced educational technology. At this time, an advanced course in educational technology does not exist, but should include computer assisted instruction languages, practical experience in CAI development and indepth exploration of the ways a computer can expand or extend the curriculum and ease a teacher's load. Meanwhile, attrition and the exposure of other teachers maintains the need for introductory courses.

The mechanics of establishing a course for graduate credit, approved through a university, is sometimes a tedious one, but is worth doing if teachers in the program need credit for their graduate program. Often the credit course is an enticement for teachers who otherwise might not enroll in a computer course. Most districts have an established inservice program and easily can include computer courses. In Oregon, the State System of Higher Education, Division of Continuing Education (DCE) offers credit courses with approved university prefixes on an extension basis. Usually, a one-term, three-quarter-hour credit course offered through DCE will meet for 30 class hours, one night a week for 11 weeks. This format was used by C. I. NETWORK, and it proved a convenient system.

For several years the National Science Foundation (NSF) has sponsored summer institutes and conferences on university campuses to train teachers in computer technology. Most of these institutes are computer mathematics oriented and are excellent for math or science teachers. However, teachers in other curricular areas usually are not accepted. The great need for introductory, nontechnical courses in educational computer technology for all teachers is still largely unmet. At Oregon State University, however, NSF is sponsoring the development of such a course, packaged as a multimedia introduction to computer concepts, the educational uses of computers and the cultural implications of automation. When completed, the course will be available for dissemination to schools or colleges.

In C. I. NETWORK the first course offered for all teachers was in computer appreciation, an introduction to computers and data processing in education. Many teachers did not need to take further course work. However, teachers who planned to teach about computers, teach programming or use the computer as a problem solver or curriculum extender often elected to go on to the next offering, Introduction to Computer Programming. This can be a one- or two-quarter course. It seemed to be less harrowing if the content were taught in two separate courses: Machine and Assembly Language Programming and Macro-Language Programming (FORTRAN and BASIC). Teachers could skip the Machine and Assembly Language course if they planned to use only a Macro Language such as FORTRAN, BASIC,

ALGOL or COBOL for problem solving. The actual programming courses require access to a computer or terminal.

In addition to the three sequential classes mentioned above, C. I. NETWORK periodically offered one- or two-day seminars for teachers in a particular subject area. For instance, a Saturday seminar introduced mathematics teachers to BASIC and time sharing, and gave them a chance to experiment with applications from the classes they were teaching. A Teletype terminal gave access to a distant computer. Another half-day session for guidance counselors provided information about data processing jobs, careers and college and university offerings. A two-day "handson workshop" for all teachers was organized into large group lectures and small group laboratories, providing all participants experience in writing programs and using a computer or terminal. These activities can serve as "teasers" for the main event, the formal classes.

The shortage of appropriately trained teachers--indeed, the utter lack of such people--can be blamed in part on the colleges and universities. Not only are there no appropriate courses for undergraduates in most schools of education, but appropriate graduate level courses in any college are difficult to find. In most universities, both prospective and current teachers are shunted into the courses offered for professional programmer training or are given a half hearted "quickie" course in FORTRAN. Often these courses only discourage or divert teachers from studying computers again. The special needs of teachers are usually ignored or even rejected

as not being practical. The fact remains, however, teachers need to understand the why and how of computers if they are to be confident in teaching or using computers. More time spent on fundamentals and less on the complexities of a particular scientific programming language would provide more adequate preparation. In addition, teachers and administrators alike need concrete information to help them make the decisions they are increasingly called upon to make about computer instruction.

Certain topics should be explored in an introductory course to prepare teachers for decision making and planning a computer instruction program. These include:

Types of computer hardware available: suitability, cost, selection criteria

Some languages currently available: the best application of each one

Time sharing: costs, advantages and disadvantages

Published and audiovisual resources available

Teaching methods

The various educational uses of computers

Whenever possible, teachers should be given time to see, use and evaluate hardware, software and resource materials.

An introductory course in computer appreciation, then, should include the following elements:

Nature of a computer

Organization

Operation

System components

Use of machine level and Macro Languages in computer programming (introduction only, using the simplest and most straightforward languages available)

Educational uses of computers

Administrative record keeping and data processing

The computer as the object of instruction (computer appreciation and business or vocational training)

Mathematical and scientific problem solving

Computer extended instruction: examples in every curricular area

Computer prescribed curriculum

Computer assisted instruction

Understanding computer instruction methods, equipment, languages and materials (including programmable calculators, portable computers, time sharing terminals and various input/output devices).

Social and cultural implications of the automation age

Teachers ordinarily will not be able to write programs or use the computer effectively until they have further course work in programming.

Experience has shown that teachers who first take a programming course do not develop a comprehensive understanding of computers. This is particularly true if the programming course is FORTRAN. A knowledge of FORTRAN seldom includes an understanding of computers, their limitations, capabilities, uses, and--in particular--their most appropriate

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applications in education. In fact, the teacher who is knowledgable about FORTRAN has misplaced confidence and bravado. Since he usually is the only teacher in the district with any computer training, he often makes decisions affecting curriculum and budget.

LANGUAGES FOR COMPUTER INSTRUCTION

The selection of programming languages for instruction probably is more important than the selection of the hardware. The confusing potpourri of languages available often prompts a hasty decision to adopt the most familiar language or to select a computer first and then use the languages in the accompanying software package. However, use of the wrong language actually can hinder, rather than help, in the achievement of objectives.

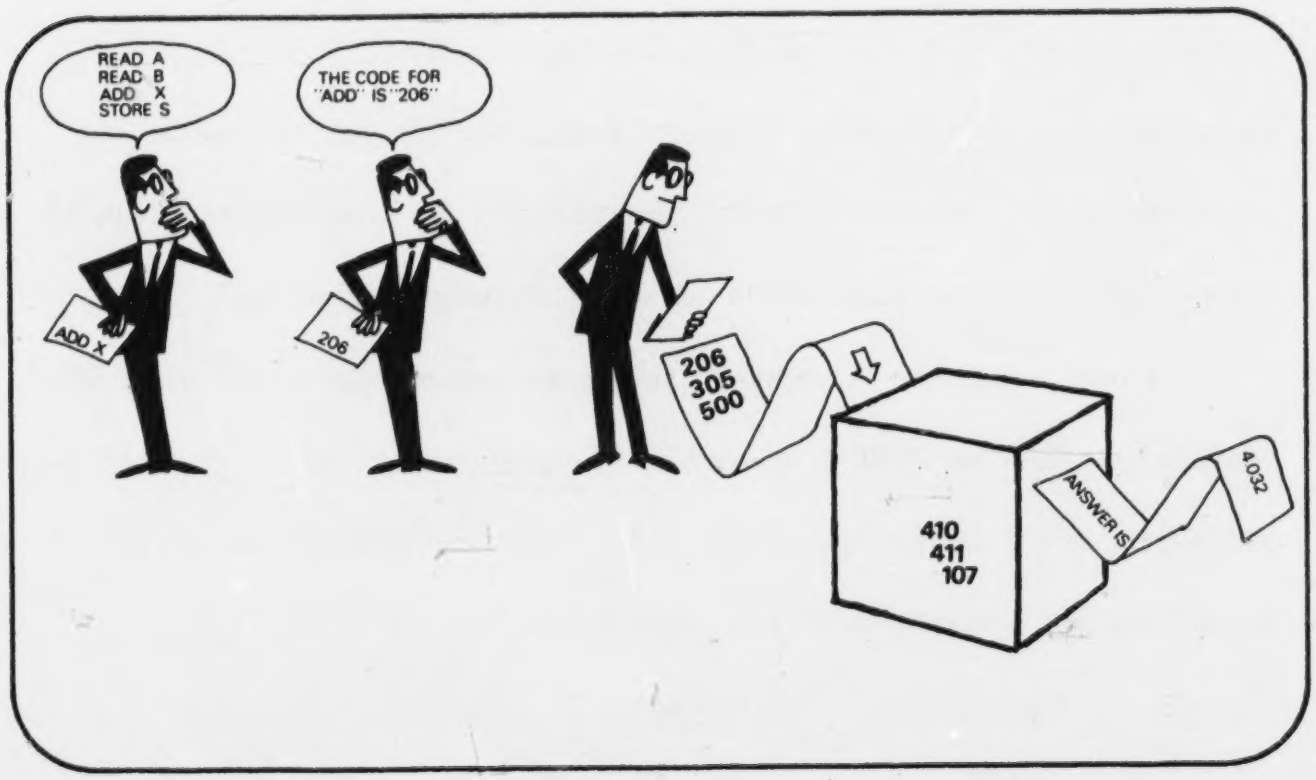
MACHINE LANGUAGE

In the early days of the computer age, all programming was done in what is referred to as "machine language." Machine language is the lowest level of programming language available, and the closest to the computer itself. Numerical codes are used for all instructions given to the computer, rather than words or other alphabetic symbols.

Every computer is wired to interpret and execute a set of simple operations, such as "add," "subtract," "store" and "read." Each of these operations has a unique numerical code. For instance, some of the operations for a hypothetical computer might be:

Operation	Code
Add	1
Subtract	2
Store	3
Read	4
Stop	5

For this computer to solve a problem, the programmer must prepare a detailed list of instructions using the set of operations supplied with the computer. He then would have to "code" each instruction, writing the appropriate numerical code for each operation and storing the entire list of numbers (which actually are codes for computer operations) in the computer memory. Once the list of instructions, called a "program," was stored in the computer memory, the computer could be told to execute the entire program. The computer would examine each instruction in turn and perform the indicated operation.



Computers, basically, understand only numbers. Therefore, the entire program must be put into memory in numerically coded form. This places the burden of translation on the human being, the programmer. He must translate all of his English language instructions into numbers which the computer is wired to interpret. There is a high possibility for error in coding, copying and entering the program, and the programming process can be very tedious if the problem to be solved is complex.

ASSEMBLY LANGUAGE

A programmer with writer's cramp probably realized, back in the early days of computing, the ability of the computer to manipulate symbols could be used to relieve some of the programmer's burden. It seemed logical that if a computer could be programmed, it could be programmed to do the tiresome "coding" of instructions like "add" and "store." So the next higher level of programming language developed was "assembly language." A programmer writing a program in an assembly language simply would plan and construct his list of instructions, using abbreviations rather than numeric codes for each operation. When the list of instructions was entered into the computer, a previously stored "assembly" program would examine each instruction and "look up" the appropriate code in a table stored in memory. This produced the ultimate machine language program,

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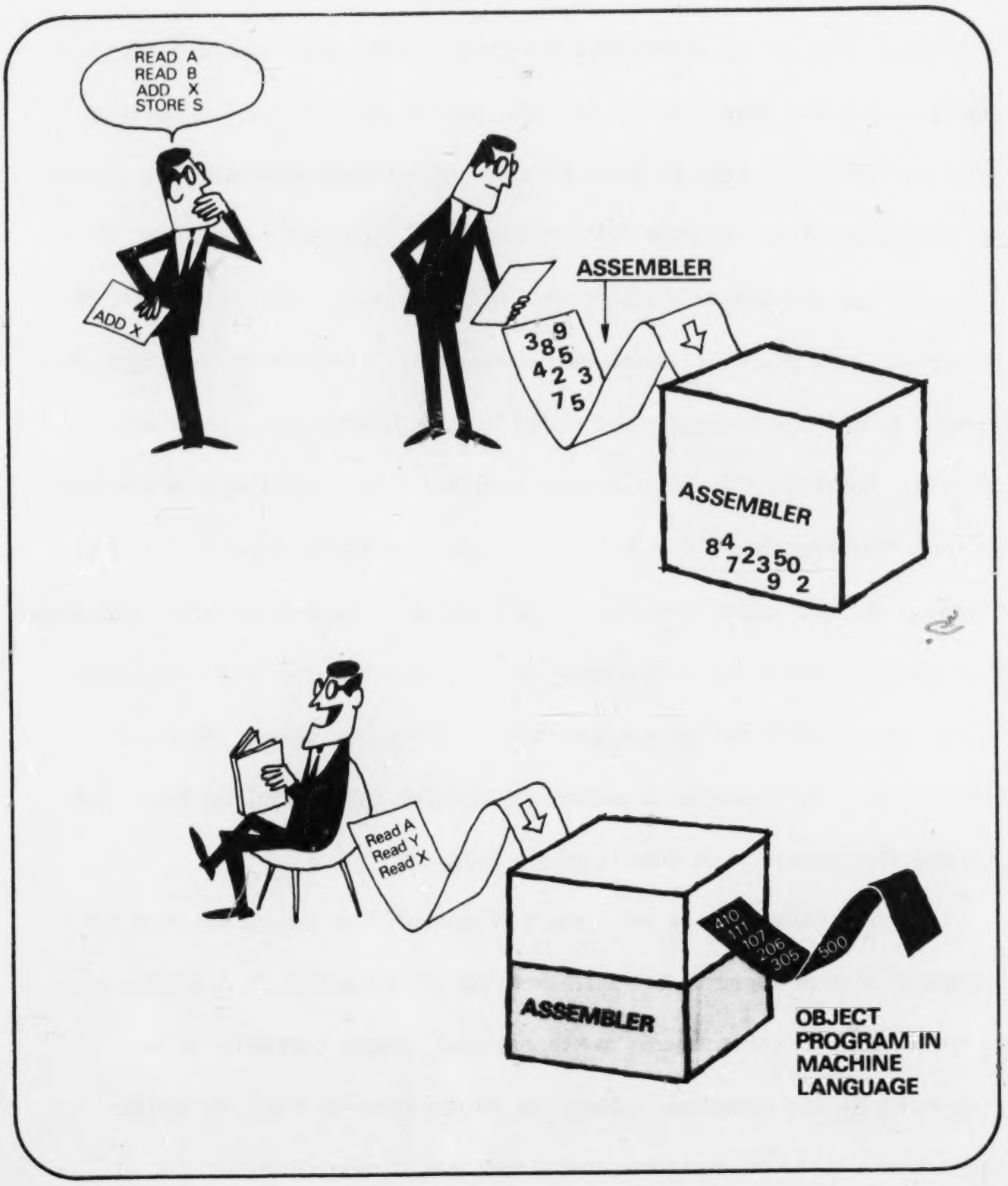
which then would be executed. The machine language program shown above, if written in assembly language, would appear as:

```
READ  X
READ  Y
ADD   A
SUB   B
STORE C
STOP
```

Since all programs executed by any computer must first be stored in the machine language, or numerically coded form, the above program would be translated by the assembler into:

```
410
411
107
206
305
500
```

The process of "assembling" a program written in the symbolic form is diagrammed on the next page.


READ A
READ B
ADD X
STORE S
ADD X
ASSEMBLER
ASSEMBLER
Read A
Read Y
Read X
ASSEMBLER
OBJECT PROGRAM IN MACHINE LANGUAGE

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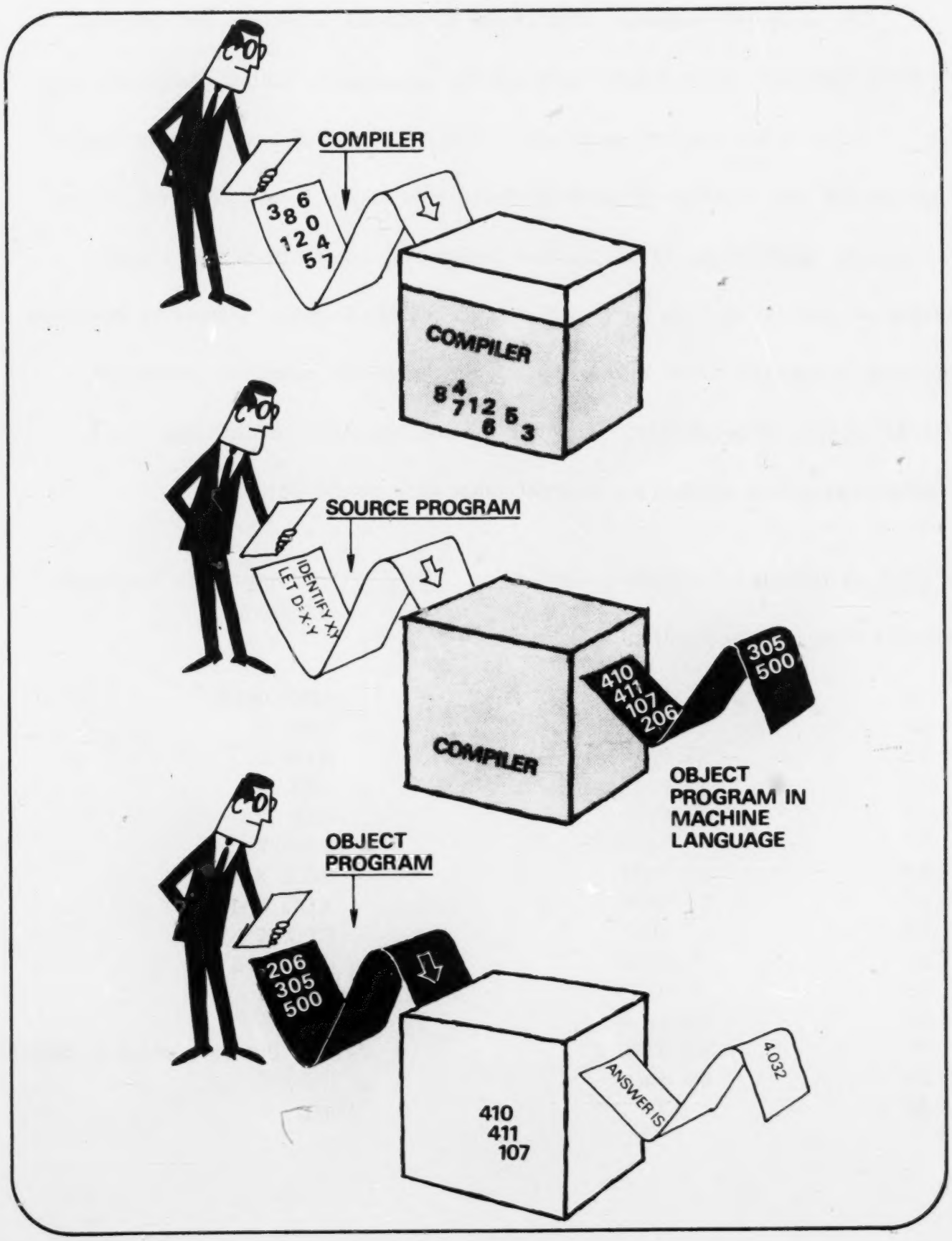
COMPILERS

Programmers soon realized, however, that only minor tasks had been taken over by the assembler program. They still had to write every single instruction themselves. In fact, just to perform the calculation "y = ax + b" could require from 9 to 30 instructions (depending on whether the computer came equipped with an automatic "multiply" operation; if not, a special set of steps to multiply two numbers would have to be part of the program to perform the above calculation). Whether the program was written in machine language and coded by the programmer, or written in assembly language and coded by the computer, the time spent on problem analysis was the same, and the same number of instructions had to be written. At this point, the super-translator was conceived: the "compiler." If a computer could be programmed to code instructions on a one-to-one basis, why could it not be programmed to accept an entire statement for "y = ax + b," analyze it according to some predetermined rules and produce the ultimate machine language program?

The development of the "macro language," or compiler, was the beginning of a new era in the still new age of computers. A programmer no longer had to painstakingly write out each single operation to be performed by the computer. Now, an entire formula could be written as one statement, to be computer translated into a corresponding list of operations.


COMPILER
COMPILER
SOURCE PROGRAM
IDENTIFY X,Y
LET D=X-Y
COMPILER
410
411
107
206
305
500
OBJECT PROGRAM IN MACHINE LANGUAGE
OBJECT PROGRAM
206
305
500
410
411
107
ANSWER IS
4032

The compiler language FORTRAN (FORmula TRANslation) was one of the first and still most widely used macro languages. Other languages soon were developed for special purposes. While FORTRAN was an excellent language for the solution of mathematical problems, it was not well suited to business applications involving few arithmetic calculations but a high volume of special format input and output. Thus COBOL (COmmon Business Oriented Language) came into being. Other popular compiler languages include ALGOL (ALGOrithmic Language), and recently, BASIC and PL/1.

A simple program written in several languages would be:

ECP-18 (a machine language program)

Memory cell	Instruction or data
10	07 0023
11	15 0026
12	14 0212
13	14 0215
14	07 0026
15	02 0100
16	16 0024
17	15 0026
20	17 0025
21	11 0012
22	00 0000
23	00 0000
24	00 0001
25	00 0012
26	X

ECP-18 (an assembly language program)

```
  /ORG 0010
   BRG C
   STO X
A  OIR 212
   OIR 215
   BRG X
   OAR X
   ADD C+1
   STO X
   SUB C+2
   JON A
   HLT
C/BLO 000000, 000001, 000012
X
 /END
```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A program to print a list of the first 10 digits (0-9):

FORTRAN (a macro or compiler language)	BASIC (a macro or compiler language, but "conversational" in nature)
X = 0	10 LET X = 0
6 PRINT (4,15) X	20 PRINT X
15 FORMAT (F1.0)	30 LET X = X + 1
X = X + 1	40 IF X<10 THEN 20
IF (X - 10) 6, 25, 25	50 END
25 STOP	

Note the computer for which the machine language program was written uses only "base 8" numerals; the digits 8 and 9 do not exist in base 8. Nearly all compilers (and some assemblers) will handle the conversion to base 10 automatically.

The most readily understood program of the four shown, and also the simplest to write, is the BASIC program. BASIC is a language representative of the recent trend toward "conversational" languages, which are similar to familiar English language and relatively free of special codes, format restrictions and control characters. Conversational languages such as BASIC are used most often at a remote terminal, usually a Teletype keyboard. FORTRAN is available now on some computers in conversational mode (notably QUIKTRAN), which means it can be used from a remote terminal and does not have the form and format requirements of a standard FORTRAN.

An even simpler version of the illustrated program can be written in either FORTRAN or BASIC, as shown below:

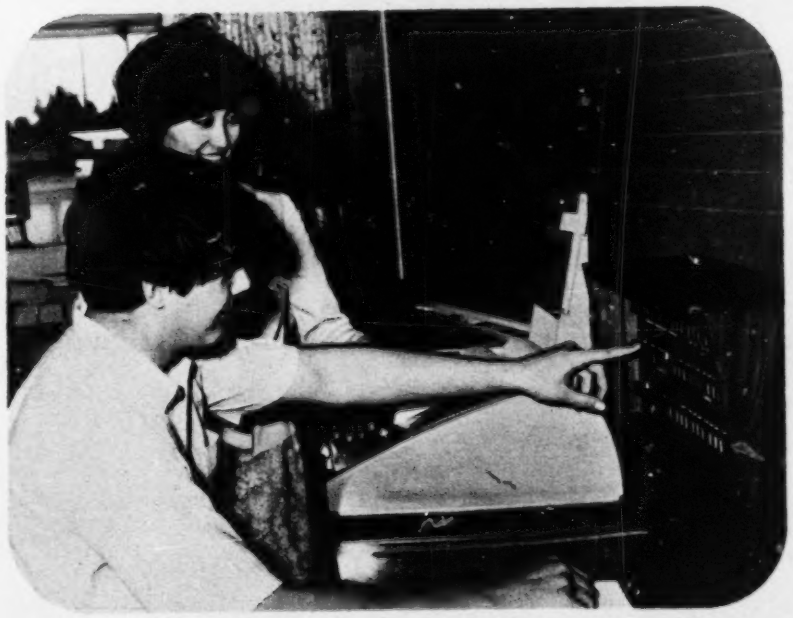
FORTRAN

```
   DO 6 N = 0,9
 6 PRINT (4,15) N
15 FORMAT (F1.0)
   STOP
```

BASIC

```
10 FOR X = 0 to 9
20 PRINT X
30 NEXT X
40 END
```

By comparing the 4-line BASIC program shown above to the 16-line machine language program which accomplishes the same result, it becomes easy to understand why much of today's routine programming is done in some high level language such as FORTRAN or BASIC. The use of a compiler does simplify problem solving. However, most of the realities of the computer are masked by the sophistication of the language. In fact, the more sophisticated the language, the farther removed is the user from the computer, and the less likely he is to understand anything about its true capabilities and limitations.



Students debugging a machine language program on the ECP-18 computer

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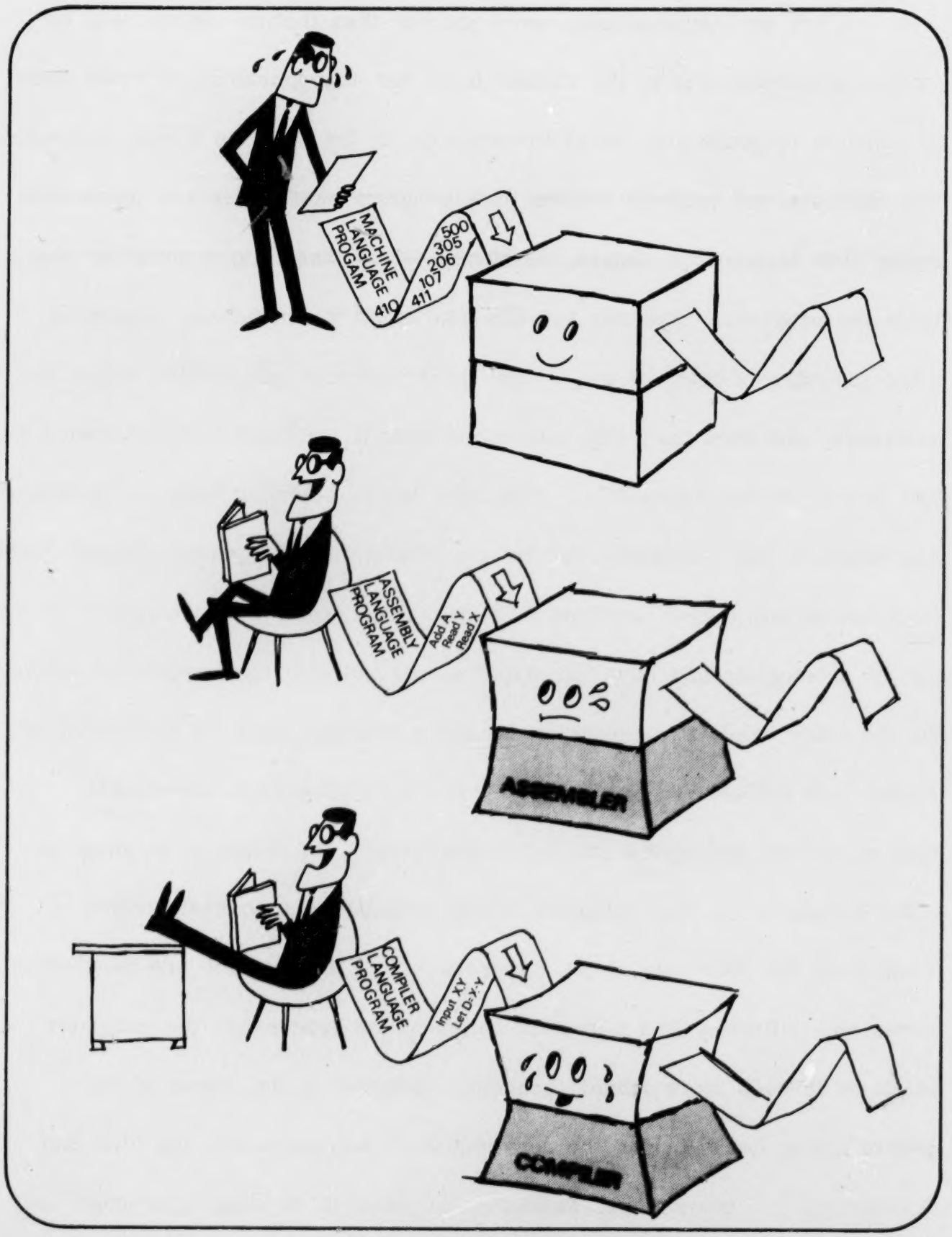

The programmer's task is simplified by using sophisticated languages which the computer must translate

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A few simple programs, even shorter than the one shown, can be extremely enlightening to the student if he has an opportunity to write them in machine language and, most importantly, to try them on a real computer. The numbers and symbols written on a program sheet often are more confusing than instructive, unless the student loads them into a computer and tests the program. Students actually can watch the mindless, sequential, blind following-of-instructions, watch the transfer of information within the computer, and then truly can understand what a computer can and cannot do and how it "solves problems." They see the relationship between hardware and software (the machinery and the programs). Later, when a higher level language is introduced, students fully appreciate what has been gained by the use of a compiler and they can visualize realistically the compilation process. On the other hand, if students are taught a language such as FORTRAN or BASIC, but not allowed to get their hands on a computer, unfortunate misconceptions and myths are only reinforced. The Teletype terminal is often thought of as "the computer," and students have no real picture of what is at the other end of the telephone line. If programs are punched in cards and delivered to a computer center to be processed, the computer itself is an even more remote concept. Because of the power of the programming language and the remoteness of the computer, the idea that "computers are mysterious, awesome, omnipotent, thinking creatures" only becomes more firmly established in the mind of the student.

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ORDER OF INSTRUCTION

Arguments have continued for years about the best time to introduce a study of machine language. It can occur after students have learned a high level language or before other instruction takes place. In the Computer Instruction NETWORK machine language was introduced first, followed by a brief exposure to assembly language and finally BASIC or FORTRAN. Control groups practiced the opposite order, but teachers of these classes soon expressed their preference for the machine language-to-compiler approach. The teachers observed that students who first learned a language such as BASIC or FORTRAN and were accustomed to the freedom of using such a language did not want to progress "backwards" into a machine level programming language. Machine language requires more effort to produce the same results and appears to be much more limited than the compiler language. Students saw no justifiable reason for studying it when higher languages were available. The real purpose behind such study--to develop an understanding of the true nature of the computer--was lost in the protest.

Some students became entranced with the intimate machine language approach to the computer and never came out of it. Every computer teacher recognizes the "computer whonk" who reports in before the janitors every morning and hides in a closet so he can spend the night with the computer. This student often prefers machine language over any other, and becomes over involved with elegant (but sometimes trivial) programs and button pushing. This can happen regardless of when machine language is introduced and is probably

an unavoidable consequence. Students experience a feeling of excitement and unusual power when they can communicate successfully with a machine and motivation is consistently high. It is natural for some students to get "hooked" by the computer and want to prolong the relationship.

Perhaps a solution to the dilemma of the order to be used is one which proved highly successful in some NETWORK schools. Students were given an "appetizer"--a brief demonstration of the power of the computer and introduction to programming in a language such as BASIC. Once their interest was stimulated, a closer examination of the computer was in order. At this point the teacher introduced fundamental computer concepts, including machine language programming. From there students progressed to the use of a more sophisticated language for problem solving and exploration.

SELECTING A LANGUAGE

The original objectives of the planners must provide the criteria for selection of a language. They must determine if the computer will be used for a mathematics laboratory, scientific problem solving, business education, prevocational training in programming and machine operation, or computer appreciation. The last two applications should include a study of machine language. Most computers available today boast complicated instruction repertoires and are not designed for instruction or ease of programming and operation. If such a computer is the only one available and fundamentals are to be taught, a subset of the machine language should be identified for

instruction. A teacher or other comparable person should be given time to specify this subset and to prepare appropriate teaching materials.

Barring this alternative, a simulated computer may be used. A teacher may contrive a "blackboard computer" with a limited number of memory cells and instructions, and may take the class through some simple programs in this way. A cardboard simulated computer called CARDIAC also is available. Motivation will not be as high without handson experience

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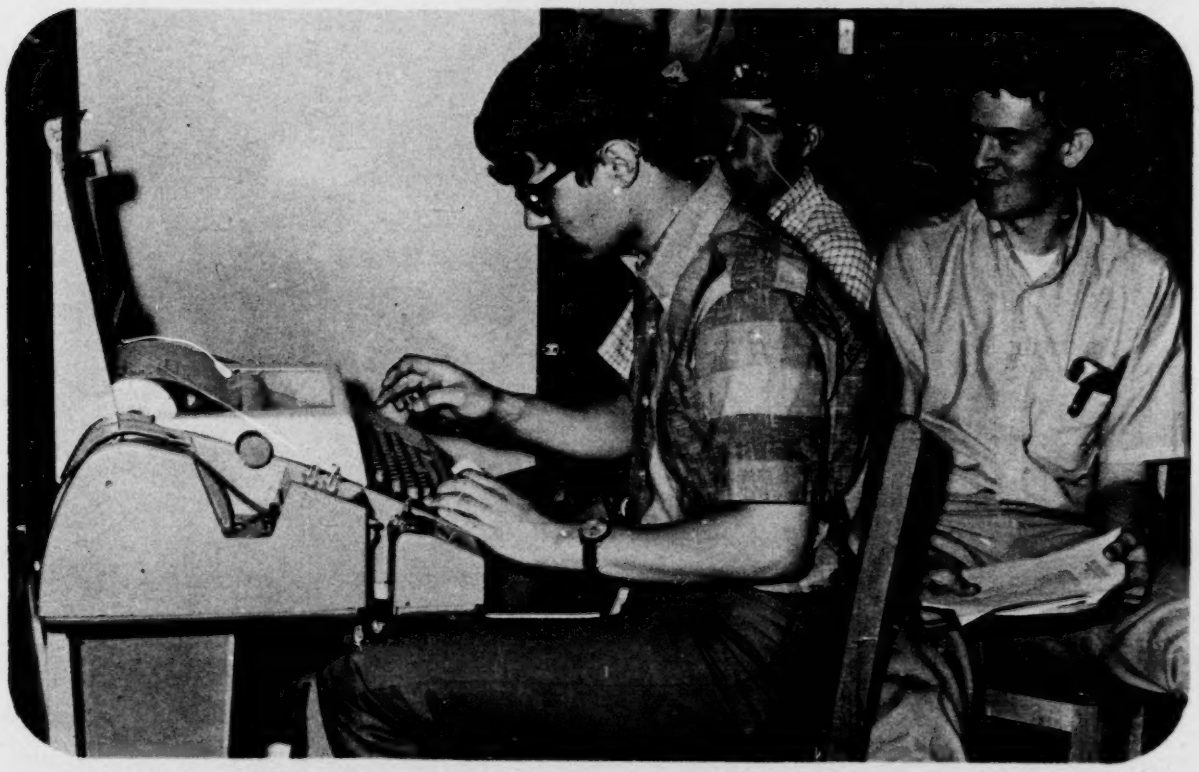
and understanding will necessarily be more limited. However, an imaginary computer might be preferable to immersing the entire class in the complexities of a machine language apparently designed to be impenetrable.

If the instructional program is heavily oriented toward vocational training, a student should have experience with programming languages from machine to assembly and compiler level. An understanding of machine language is a valuable prerequisite to the study of all higher level languages and greatly reduces the time required to learn them.

MATHEMATICS AND PROBLEM SOLVING

Many mathematics teachers believe the computer should be used only as a tool in their classes and never as the object of instruction. Used



A mathematics laboratory

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in this way, as a mathematics laboratory, the computer extends instruction in mathematics. Students may investigate mathematical concepts with the aid of the computer, may use it as a tool for previously impossible calculations, or the teacher may use it to demonstrate selected concepts. There is another benefit to be derived from the use of a computer as a mathematics laboratory, which is perhaps more to the point. Dr. Virginia T. Gilbert has stated three levels of understanding in mathematics. The first level is achieved when one hears a concept explained. The second comes in attempting to explain the concept to someone else. The third and highest level of understanding is gained in explaining the concept to a computer. This has been borne out in NETWORK classes. A correct result will be achieved only after a complete and logically organized program is developed. To instruct the computer on the logical method of solving a problem, the student must clearly understand the method himself. It is impossible for a student to follow the example given in his mathematics book in a "cookbook" manner in developing a general algorithm for a computer program. He must understand the concept, be prepared to consider all possible exceptions and know the parameters. He also must be aware of several different methods for solution, since the computer might operate more efficiently on an algorithm not best suited for pencil and paper solution.

Used in this way, the computer can assist in developing understanding of mathematical concepts, as well as in developing logical techniques for problem solving There are other, possibly more important, ways the computer can be

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used as a mathematics laboratory. At any rate, if mathematics and science teachers wish to make use of the computer as a tool for exploring and solving mathematical and scientific problems, they probably are not inclined to devote class time to any study of the computer itself. Whether or not they should is an often debated point. If social studies teachers or a team of teachers cannot or will not offer a computer appreciation course, the task often falls to the mathematics teacher who has shown the most interest and inclination toward "teaching computers" and sometimes he rebels with justification.

The task of choosing a language and a computer for problem solving becomes less formidable if one considers the objectives. The problem to be solved and the method of analyzing that problem are the important instructional objectives. As little time as possible should be spent in teaching or learning the minutiae of a computer language. For students to solve scientific problems of any meaningful complexity, they would have to learn enough machine language and programming techniques to qualify them as quite competent programmers. In addition, they would have to be well versed in the idiosyncrasies and unique characteristics of the particular machine they were using. The time spent in this activity necessarily would detract from the objective: to use the computer as a problem solving tool. In fact, students would often be more absorbed in manipulating the computer language than in solving the problem, and a proportionately small amount of time would be spent on the problem itself, as opposed to the writing of the program.

By the same token, however, available macro languages, or compilers, must be examined if they are to be used in problem solving. Most commonly used macro languages impose equally undesirable restrictions, although different from machine language. FORTRAN and ALGOL, for instance, require rote memorization of many otherwise meaningless symbols. In one inservice class an entire three-hour-session was devoted to demonstrating to teachers the many ways in which a slash (/) could be used and interpreted in a FORTRAN program. Although these languages are admittedly powerful in handling mathematical and scientific problems, much time must be devoted to details unrelated to the problem to be solved. One can get a feeling for this merely by examining the FORTRAN program on page 35 and comparing it to the one written in BASIC.

On the other hand, the newer conversational languages eliminate the need to learn much about a language other than a set of very simple instructions such as "PRINT" or "INPUT." There is no need to differentiate between real numbers and integers, no "special" but otherwise meaningless symbols required by the computer, and no complicated formatting for input and output. The need for rigorous format restrictions can be questioned, since a mathematical or scientific problem seldom requires an elegant input or output format. Often output consists of a single number of a simple list of numbers.

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Conversational languages, then, offer an ideal tool for problem solving. Some experts advocate teaching a programming language only to the extent it is needed to solve the problem at hand. The simpler the language to learn and use, and the closer it is to natural speech and thought, the better suited it is for problem solving.

It should be noted a simple language is not necessarily less "powerful" than a more complex language. BASIC is in many ways as powerful as, and in some ways more powerful than, FORTRAN. Certainly it is sufficient for most problems being explored by a high school mathematician. If the magnitude or format of a problem being solved exceeds the ability of the compiler to handle it, most time sharing systems have available a selection of languages of varying complexity and the user may switch to any other languages instantly. If this requires the student to learn the details of a new language, it is not as wearisome a task at this point. Fred Gruenberger has quoted a "5% Law" which states that "any new computer language may be learned in 5 percent of the time it took to learn the first." This was borne out in NETWORK classes.

The selection of a simple but powerful language for problem solving, then, usually means that a time sharing service must be acquired. That is, the school must lease from the telephone company a Teletype or other keyboard device connected to a telephone line, and sign a contract with a commercial or university time sharing system. This contract allows the

school, for a price, to dial the large, remote computer and enter programs from the terminal. They are run immediately and the results printed out in the classroom.

The computer prints results at a remote terminal

Most computers owned or leased by school districts do not have conversational languages available. In fact, the very definition of the word "conversational" implies some sort of interaction between user and computer. Certainly the motivational and reinforcement aspects of online communication make it far more desirable for problem solving, particularly where the student is exploring some problem with the goal of discovering relationships or mathematical concepts. It is discouraging to a student to submit a program which he is convinced is adequate, only to discover the next day or a few days later he has received from the computer a list of "error messages" or an obviously wrong answer.

BUSINESS EDUCATION

While the ideal mode for scientific problem solving seems to be the use of conversational languages at remote terminals, this may not be the ideal mode for instruction in a business education class. The objectives in an office practices class, for instance, may vary significantly from school to school. In one class, the teacher may wish to use the computer much as a mathematics teacher might, as a tool to aid in the solution of problems encountered in the class. However, he might be more interested in solving the problem in a way which is typical of methods in businesses. Students may be required to learn FORTRAN, since this is a commonly used language in business computer installations, and may keypunch their own programs before submitting them to the computer. Or, if the COBOL language were available,

it would be equally representative of a typical business installation. COBOL, in fact, is simpler to learn than FORTRAN, although more hardware is required to run COBOL programs than FORTRAN. COBOL makes use of magnetic tapes (often used for storing and retrieving "files") and other auxiliary storage and input-output devices which may be optional in a system which can run FORTRAN programs. Therefore, if a business education teacher wishes to teach the commonly used business language, COBOL, he must first make sure a system equipped to handle COBOL programs is available nearby. It is unlikely COBOL capability can be found in a time sharing system--at least not for remote terminal users. It may be used in a time sharing system for those "background" jobs which are run only at the computer center when the computer is not busy handling remote users. Since a COBOL program usually will require the mounting of a magnetic tape or disk, or several of them, a computer operator should be available to supervise the running of student programs.

INSTRUCTIONAL RESOURCES

When selecting a language for instruction, an important criterion is the availability of appropriate instructional resources. The availability may depend on the extent of its current usage for instructional purposes. New "conversational" languages are being announced regularly, and some commercial vendors of time sharing services will insist their new conversational language is so superior it would be folly to choose another. But the question must be asked: who else is using it? This is one time when being a "sheep"

rather than a leader has definite advantages. A language which has been used by many other schools has been thoroughly tested in an educational environment. Other schools have complained about undesirable characteristics of the language, and perhaps the language has improved accordingly. But most importantly, published texts will be available. Manufacturer's reference manuals are nearly impossible to use for instruction. Students who are accomplished programmers often can use these manuals for reference, but they are undecipherable for beginners and only discourage them. It is essential, then, to find other sources for the classroom texts and instructional materials. An unknown language may be a very good one, but associated teaching materials probably were developed by technicians who did not understand instruction or communication. The result is yet another incomprehensible reference manual. Languages such as FORTRAN, COBOL, ALGOL and BASIC have been in common use long enough that a number of commercial textbooks are available.

OTHER LANGUAGES

Besides the ubiquitous FORTRAN and BASIC, several other languages are frequently mentioned as good choices for instructional use. COBOL is relatively uncomplicated to learn and use, but requires a diversity of hardware usually found only in a business installation.

ALGOL (ALGOrithmic Language) is a more powerful and complex language than FORTRAN, BASIC or COBOL. Besides being a programming language and translator (or compiler), it also is designed as an internationally accepted procedure for designing mathematical, engineering and scientific problems. ALGOL is available on some systems in conversational mode, along with BASIC and FORTRAN. If a teacher or student wishes to use the unique characteristics of ALGOL, he may learn the language with relative ease after having used BASIC. It is much easier to learn more complex languages if one has first become familiar with the basic concepts of computers and programming using a simpler language.

QUIKTRAN is a version of FORTRAN, modified for conversational use with remote terminals. It is similar to BASIC in this mode, but is encumbered by more special meaning symbols and terminal commands. While QUIKTRAN may be used for online program construction and debugging, it also may be used in a "batch processing mode." In this mode, programs are processed offline at a time when the system is not busy with conversational operations. There is no one-for-one communication between the user

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and the system. The statements are collected from the terminal and saved on an auxiliary disk storage device for later processing.

Programming Language/One (PL/1) was introduced with IBM's System/360 computers in 1964. PL/1 narrowed the gap between the computer needs of commercial and scientific users. The language can be used for many applications in both areas, including real time processing, systems programming, Teleprocessing and command control. PL/1 is capable of handling the most complex computing problems. Thus it is equipped with an almost endless list of possible commands and special characters. The modular design makes it possible to teach only a part of the language to beginners, permitting them to write programs. On the other hand, the advanced programmer can take almost unlimited advantage of the computer's versatility as the need arises.

Because of its complexity, however, special control characters and commands must be used to program from a terminal. The language is highly flexible and powerful for the professional programmer, but was not designed for instruction. Postsecondary vocational schools and data processing schools, nonetheless, tend to choose PL/1 as one of the languages to be taught because of the pervasive influence of IBM and their 360 computers.

In the December 1968 issue of Datamation magazine, however, the editor quotes an independent survey which found only 1 percent of all U.S. installations were programming in PL/1. This indicates somewhat less

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than "universal acceptance" to date of the language which was deliberately designed as a "universal" language. In a comparative language study recently done by Logicon for the Air Force, PL/1 was the unanimous choice of professional programmers for their own use. At the same time, however, there was almost complete agreement that COBOL was more appropriate for the nonprofessional in the business area and FORTRAN for "other" nonprofessionals. The programs compared in the study included "interactive programming" (development of an online system), simulation and gaming, and scientific problems. Use of a programming language in an educational environment was not considered in the study, so the results do not necessarily indicate that FORTRAN is the ideal language for nonprofessional problem solvers in the classroom.

C. I. NETWORK LANGUAGE SELECTION

Computer Instruction NETWORK curricula included, in most cases, a brief study of machine language programming with handson operation of the computer by students. After each student had attained a minimum understanding of computers, a time sharing terminal was made available and students learned to program in BASIC.

One of the small computers used for classroom instruction in machine language was the ECP-18, an instructional computer with a limited memory and no compiler language. The other was the PDP-8/S, which does have FORTRAN available. However, the steps required to compile (translate)

a program and the time involved made FORTRAN impractical for classroom use on the PDP-8/S. In 1968, however, Digital Equipment Corporation introduced a compiler called FOCAL, which allowed the user to enter a program written in FOCAL and to have the program instantly compiled and executed with no intermediate steps. That is, compilation took place internally and the resulting machine language program was automatically stored and made ready to run. In operation, then, FOCAL on the PDP-8/S was nearly identical to BASIC on a time share terminal. The existence of FOCAL made it easier for NETWORK staff to write "CINET BASIC," or BASIC written for the PDP-8/S, using FOCAL subroutines. It was then possible for all NETWORK participants to continue to use the language (BASIC) they had learned and collected materials for, even without a remote terminal.

While the NETWORK planned to develop BASIC for use with the IBM 1130 in the Computemobile (the NETWORK's truck mounted unit), it primarily was used to run FORTRAN programs. The 1130 had online disk storage for the FORTRAN compiler, so the compilation process appeared to be as "instantaneous" as with CINET BASIC on the PDP-8/S. This "instant compilation" was vital if student programs were to be run during the class period. The only alternative was for students to submit their programs to a central computer for processing at a convenient time, with results returned to the class in a day or more.

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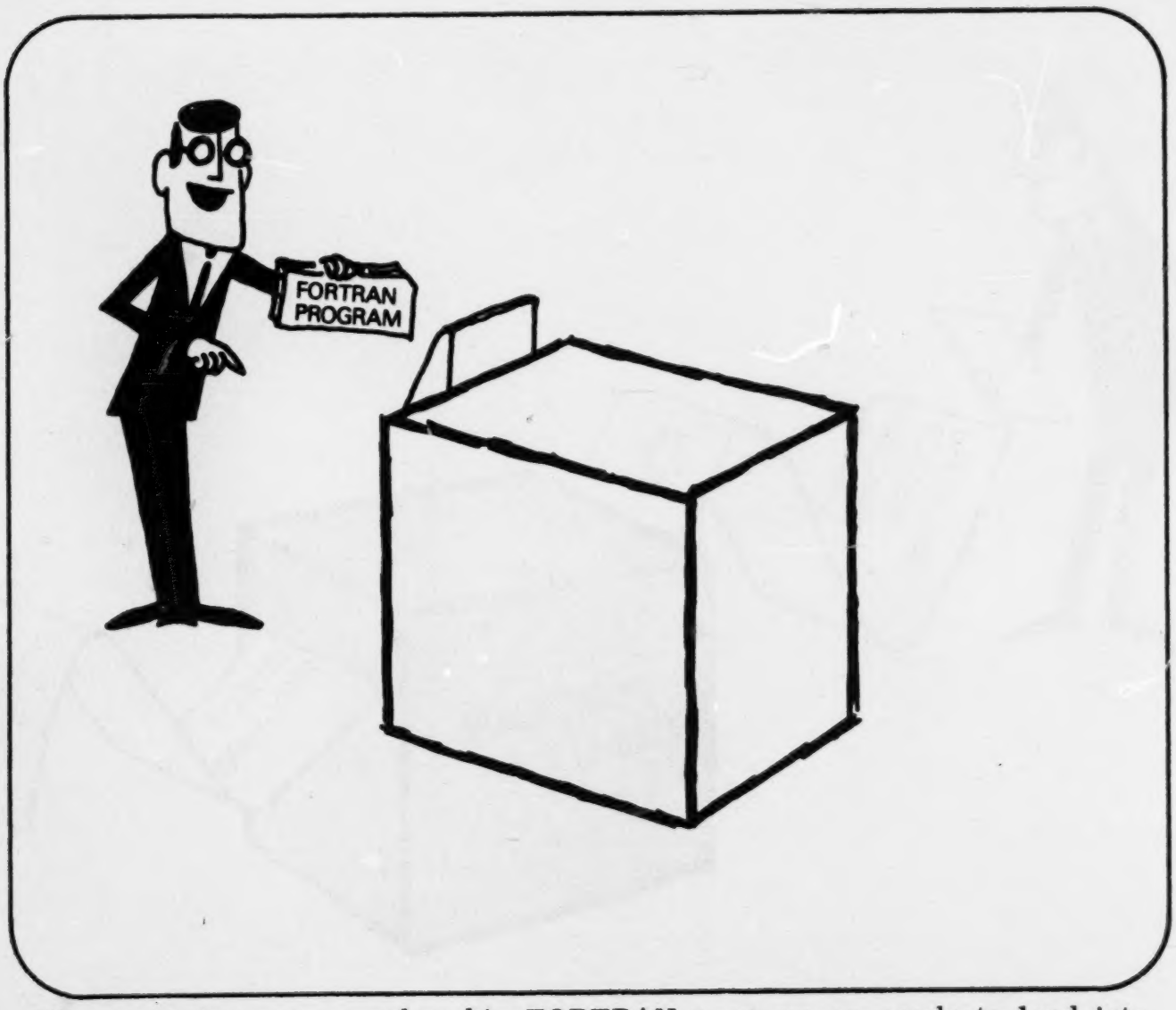
A word about compilation will clarify this. Typically, when a computer user writes a program in FORTRAN, he must prepare the "input media" for entering the program into the computer. This usually means he must keypunch a deck of cards with a FORTRAN statement on each card or punch a paper tape. Then he uses the deck of cards or roll of tape to "load" the information into the computer. He may skip a step by using the console keyboard or a remote terminal to enter the program directly.



The computer user punches his FORTRAN program on cards to load into the computer

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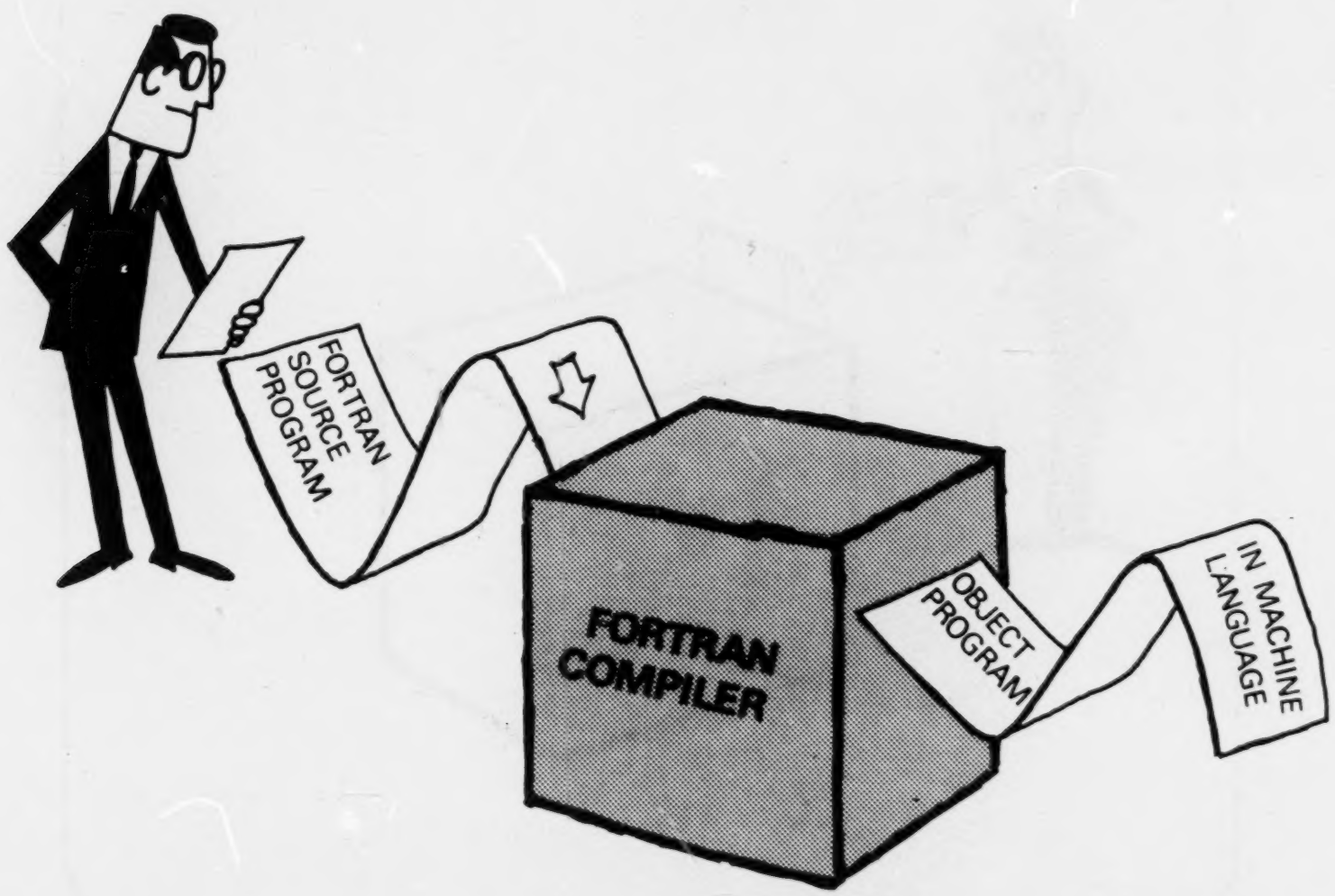
As the FORTRAN program, called the "source" program, is read into the computer, the compilation process begins. At this point the capacity of the computer's main storage and the availability of online auxiliary storage can make a crucial difference in compilation time. The compiler (or translator), which actually is a program, must be stored in memory before the incoming source program can be translated and the resultant machine language program produced.



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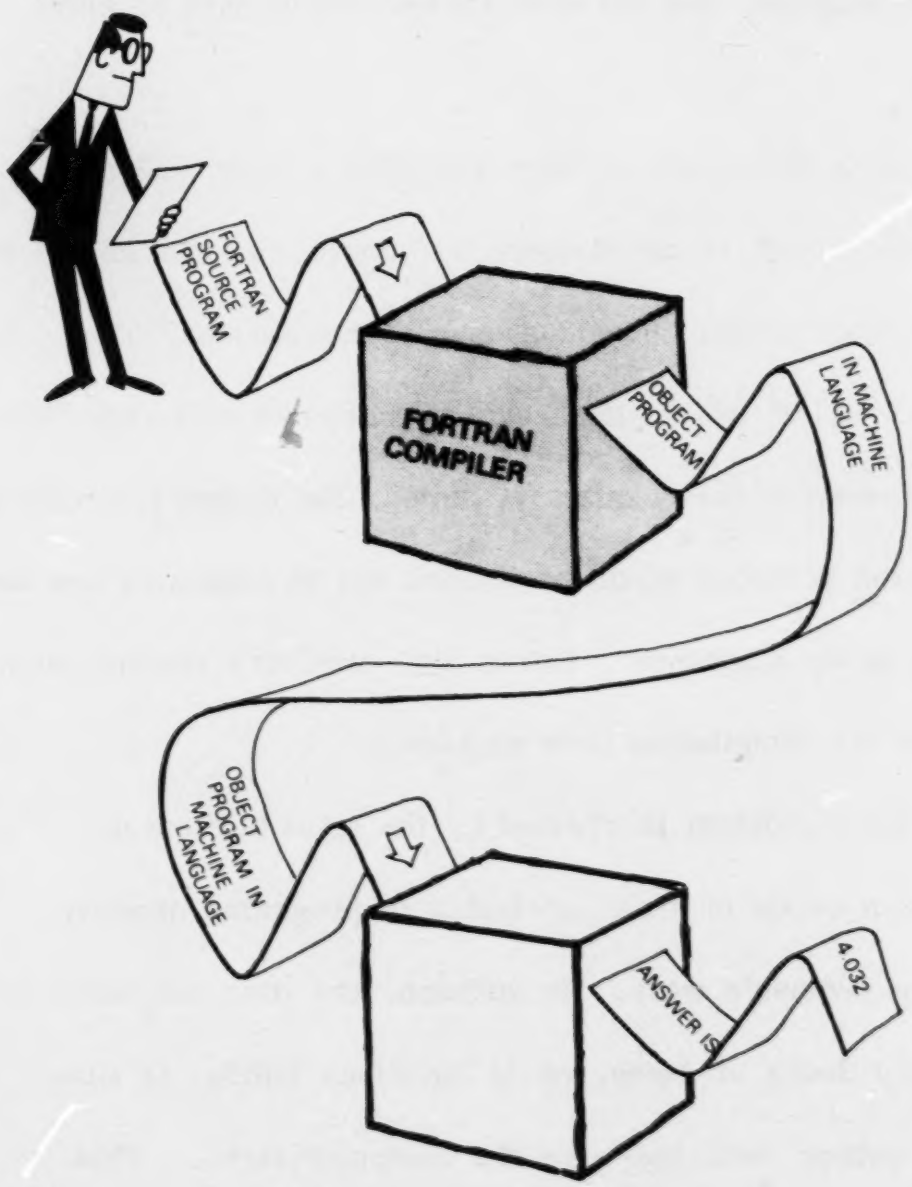
The PDP-8/S used in the NETWORK contains 4096 ("4K" in computerese) storage locations. Since most compilers or translators occupy more memory than this all by themselves, the PDP-8/S FORTRAN left no memory space for the compiled machine language program to be stored. Consequently, an intermediate tape called the "object tape" was punched in machine language by the computer, and the user was required to load the tape back into the computer, wiping out the compiler in the process.



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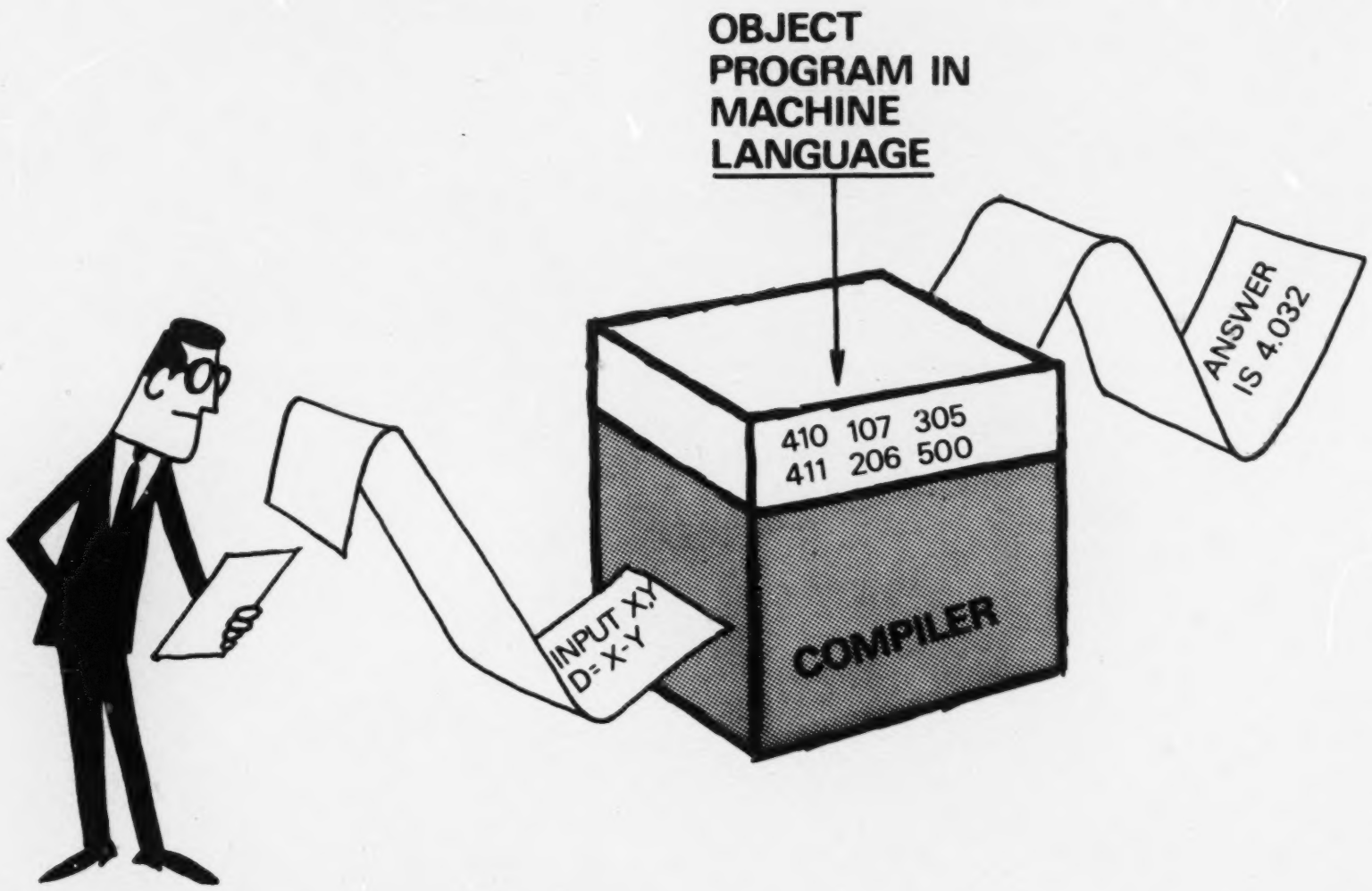
For a computer system using punched cards but with limited memory capacity, the procedure would be essentially the same. The compiler program would be loaded into the memory; the source deck would be read; the compiler program would translate the source program and punch an "object deck" of cards in machine language; the object deck (machine language program) would be read into memory, in the process erasing the compiler program; and, finally, the program would be run. All of this, even for a short program, could take from 10 to 30 minutes, and the next student would have to start with the first step again.

For this reason, it is necessary to have available a "load and go" compiler. It must not occupy all of the memory and must translate and store the machine language program without punching an object program. Thus, the compiler stays in memory at all times, and each student need only enter his own source program and observe the results. Granted, the memory remaining for student object programs probably would be limited but if programs are not lengthy or complex, this is no hindrance. Better yet, auxiliary storage such as a disk would eliminate all compilation time problems.

The other major time problem is created by the input bottleneck. Students punching their own cards or tape, or typing in programs directly, spend valuable time doing yeoman's work. In addition, the time consumed in simply reading in the card decks or tapes, or in laborious typing, is time better spent by students getting their hands on the computer itself. This aspect is discussed in more detail in the section on equipment.


OBJECT
PROGRAM IN
MACHINE
LANGUAGE
410 107 305
411 206 500
COMPILER
INPUT X,Y
D= X-Y
ANSWER
IS 4.032

EQUIPMENT FOR COMPUTER INSTRUCTION

The wonderland of computer hardware becomes more esoteric every day as "third generation" computers replace older transistorized models. Schools faced with decisions about lease or purchase of computing equipment often are overly concerned about "obsolescence" and possibly less concerned with suitability. In selecting a computer for instructional purposes, again the instructional objectives must determine the criteria.

A business or administrative computer system will be selected by quite different means for quite different reasons. For example, in an administrative system output likely will be copious and highly formatted. Few one-time programs will be run, as most applications will be standardized and programs run on a regular schedule. Large data files will be maintained on auxiliary storage. Handson operation of the machine will be discouraged as inefficient; in fact, probably only a few duly authorized computer operators will be allowed to touch the machine.

An instructional computer, however, should be used for handson operation by students, for the running of many one-time programs and for input and output of unsophisticated format. Large storage areas and data files probably will not be needed. The standards, then, are not as high as for a business system. The computer is now a laboratory tool, and costs cannot be reckoned by the same methods used for a "production" system.

The differences in objectives and application of the business system and the instructional program cause problems any time a school district administrative computer is used for instruction and running student programs. It is not economical or efficient, or even smart, to allow students to get their hands on a system carefully designed for optimum operation. If a student accidentally erases a single magnetic tape file or master disk, it is unlikely instruction will take place ever again in the computer center. In addition, instruction must take place during prime time, during the day shift when most of the computer's tasks are being accomplished. It does not seem wise to dedicate some of that costly time to running student programs, even when students are not allowed to do it themselves.

The purchase or lease of a low cost computer or terminal to be used as a laboratory tool probably will prove to be most effective in solving this conflict, as well as being more economical in the long run. Not only is the district computer larger and more expensive than it needs to be to meet the needs of the instructional program, but it simply is not designed for ease of instruction or for laboratory use.

The equipment configurations discussed here, then, will not be the type used for administrative data processing in school district offices. They will be more appropriate for instructional objectives.

INSTRUCTIONAL OBJECTIVES

Do you want to teach about computers to develop a basic understanding and appreciation of the computer and automation? To truly understand the computer, handson operation of a simple, but real, computer is a valuable assist. Such a simple computer, however, can give students too limited an idea of the power of an information system. A simple computer for handson operation can be supplemented by access to a large and sophisticated computer system via a remote terminal.

For this same objective, a low cost computer equipped with a conversational compiler such as BASIC can serve both purposes. It can provide for handson operation in machine language and problem solving in a high level language. However, some compromise must be made in both areas. Such computers are not designed specifically for ease of instruction, and a machine language subset would have to be identified. Operation of the computer itself may not be as simple as it would be on an instructional device. In addition, a small-to-medium-size computer on site cannot have the capacity or power of a large time shared system accessible from a terminal. For the stated objective, though, this small, low cost machine should be adequate.

If the objective is to provide a problem solving tool in a mathematics laboratory, the most powerful computer with the least to learn about programming and operation may be the answer. This seems to indicate a remote terminal with an easy-to-learn conversational language.

For business education, the equipment desired can vary depending upon the particular course being taught. Many times a course in data processing turns out to be the rudiments of operating unit record equipment; that is, machines which manipulate punched cards in some way. Unit record equipment can be used without a computer to sort, collate, merge, tabulate and otherwise use punched cards as input. Each individual card is considered as a single "record," and the data contained on the cards is processed in the sense that it is used to produce new data (new cards representing updated records).

The machinery needed to teach operation of unit record equipment can cost as much each month in lease costs as several remote terminals or a very adequate computer. Although tab operators, or operators of unit record equipment, are still being hired, most such data processing operations are now handled more efficiently by computer.

Another practice of questionable merit is the high school course in keypunch operation. In one high school four 9-week courses were offered each year in keypunching, with 30 girls in each class. That high school was turning out 120 keypunch operators a year in a town where the total demand for this skill probably never exceeds 10 keypunch operators a year. The managers of large computer systems often prefer to train their own keypunch operators and require only that the girl can type when hired. The increasing use of remote terminals and direct keyboard-to-magnetic-tape devices is decreasing the use of keypunches.

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If the business curriculum is committed to computer instruction, rather than the operation of peripheral devices, it may be wise periodically to use a larger computer system which is actually being used for business data processing. If a classroom computer or terminal is available, however, the same concepts of data representation, programming, systems analysis and computer operation can be taught. The business environment would be missing, but the concepts would not change significantly.

A program of prevocational training could utilize a classroom computer for practice in machine operation and programming in machine, assembly and compiler languages. In addition, vocational training in computers always should include as much experience as possible in a real world computer installation. Marc Brann, a teacher at Marconi Technical School in San Juan, California, for several years has taught a vocational course in computing for potential dropouts. His students attend the computer class all morning every day for a semester. The training includes programming and handson operation of a simple classroom computer, the ECP-18, and is supplemented by frequent visits to working computer installations in the Sacramento area. Later, students are placed with computer professionals for a period of apprenticeship. Mr. Brann has had many students with real "success stories," yet the computer he is using is in the low cost range, under $15,000.

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SELECTING A COMPUTER

The Computer Instruction NETWORK used a variety of computing equipment for a variety of objectives. These included small computer logic trainers, programmable calculator, two models of portable classroom computer, a larger computer mounted permanently in a van for school visits, and the use of a time sharing service with remote terminals. Advantages and disadvantages were inherent in the use of each type.

Trainers usually are designed for instruction in computer logic, the basic circuits used in digital computers. Logic trainers, or computer trainers, can vary in price and sophistication from under $100 to several thousand dollars. If a course includes a comprehensive study of the nature of the computer and how it operates, a trainer can be a very helpful laboratory device for student experiments. Computer logic usually would be introduced early in the course, before a study of computer programming. Experiments should be kept simple for average classes unless students are training for a vocation in electronics or computer maintenance. An electronics teacher might use a trainer to include a unit on computer logic in an existing electronics class and could progress to more complex experiments.

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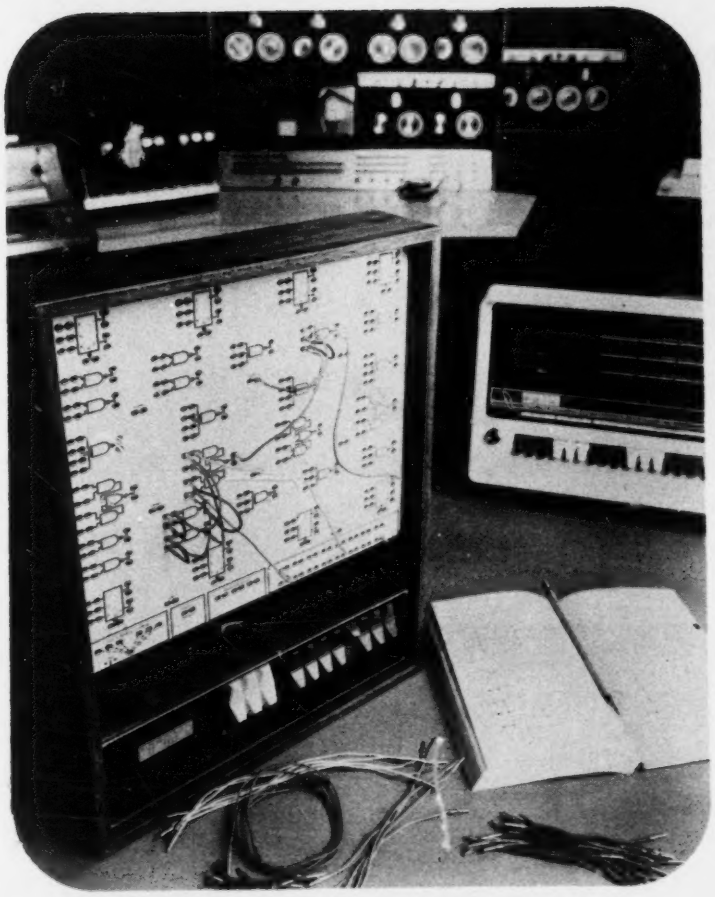
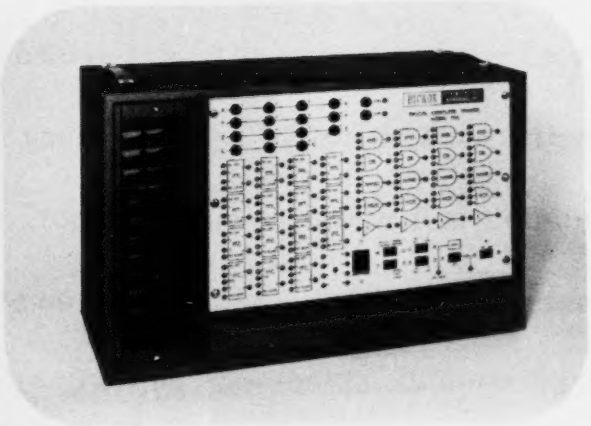


Logic trainers



Logic trainers

PROGRAMMABLE CALCULATORS

Programmable calculators are electronically similar in design and function to the ordinary desk top calculators familiar for years in many offices. However, some present day calculators have added features which place them in a pseudo-computer class. These machines, sometimes referred to as "desk top computers," are equipped with limited storage capability and may be programmed. A predetermined list of operations may be stored in the memory and executed automatically. For mathematical problem solving, calculators of this type are preferable in some cases to

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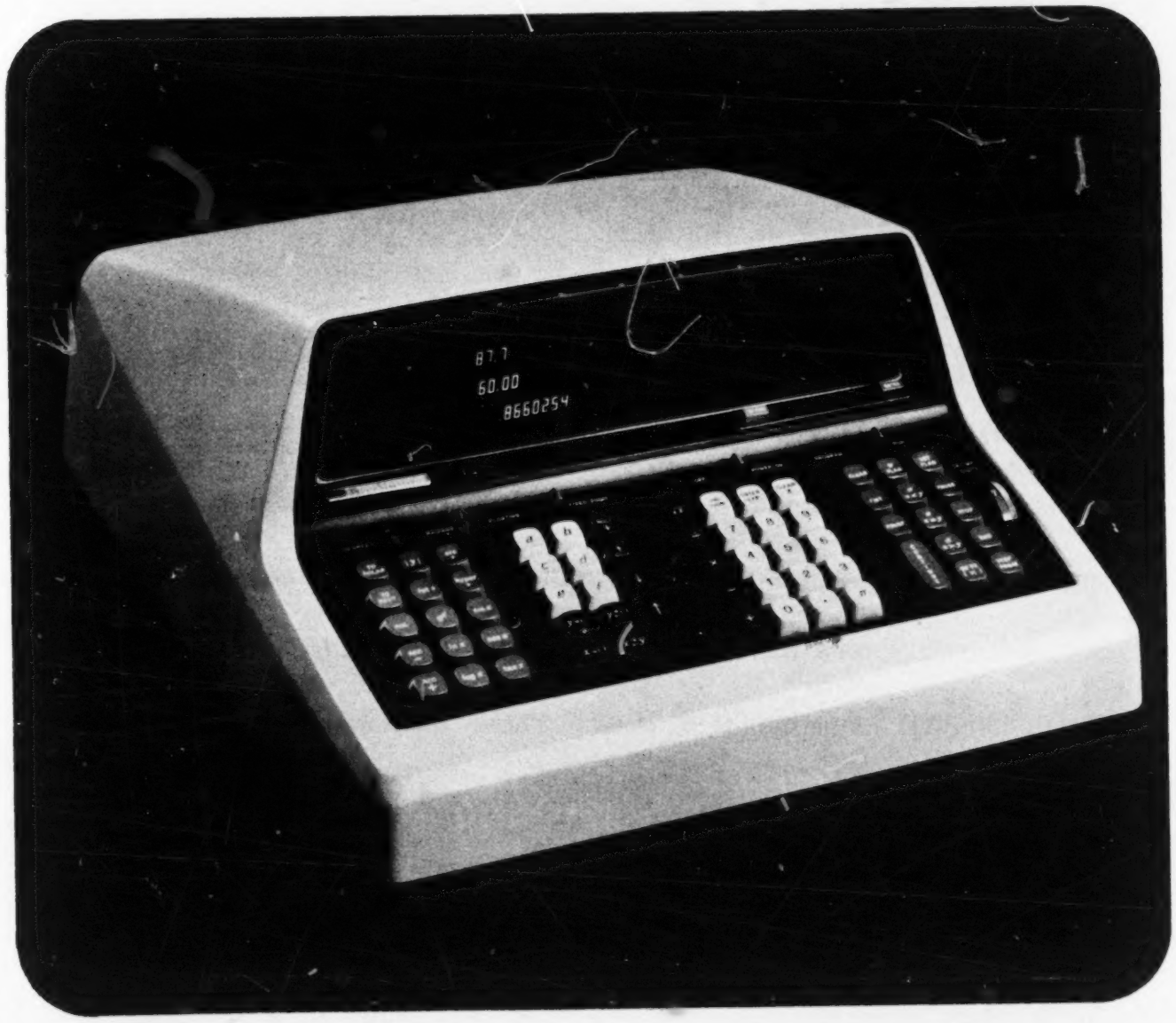
a real computer, as they are wired to perform automatically certain complex functions which would require many computer program steps (i.e., multiplication and division, square root, logarithmic functions, trigonometric functions and other special mathematical operations). The use of a programmable calculator for mathematical problem solving many times turns out to be less expensive than the use of a classroom computer or time sharing terminal.



A programmable calculator

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Some disadvantages of the programmable calculator for computer instruction are:

The internal structure of the memory is not typical of a digital computer. That is, instructions and data must occupy certain rigidly specified areas in memory and these areas cannot be expanded in size. In most computers, the memory is not defined in this way. Instructions and data can be stored anywhere. A program may consist of 10 instructions and 100 data, or 600 instructions and no data.

A calculator cannot be programmed to modify its own instruction, as can a computer.

Calculators handle only numeric information, while computers can be programmed to recognize, interpret and print alphabetic information. This may not be a severe limitation if students only wish to do arithmetic computation and do not need to label answers.

Although calculators have a number of automatic operations which cut down on the number of steps required in programming, the memory is still limited when compared to a digital computer.

In general, then, programmable calculators can be used very effectively in mathematics classes and can even be used for limited instruction in programming. It should be emphasized, however, the organization of such a calculator is not typical of a computer and neither are the input-output methods or devices.

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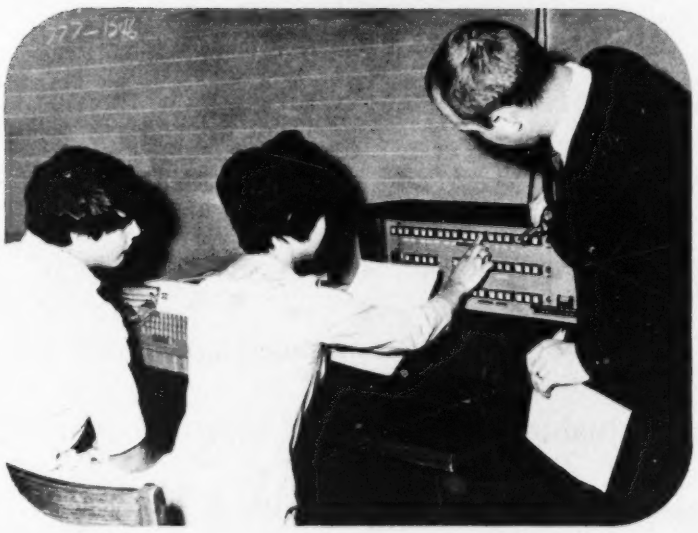
SMALL COMPUTERS

In the C. I. NETWORK computers with a small memory capacity and physical size were considered "small computers." Computers the size of a breadbox with 4096 storage locations may be scorned by some data processing professionals, but the fact remains such a computer is quite satisfactory for instruction. Since some 30 schools were to make use of the four small computers available in the NETWORK, it was imperative the machines be easily moved from school to school. Each of the four small computers (two PDP-8/S and two ECP-18) were supplied with a Teletype for input and output. These Teletypes, in addition to the keyboard, had a paper tape punch and reader. The classroom computer was available 24 hours a day--and some students arranged to keep it busy the entire 24 hours. As long as there was no limit to the hours available, students were encouraged to explore unique and challenging problems of their own invention.

Small computers do have some disadvantages. Limited memory size made it difficult or impossible to program some problems, particularly those involving large matrices. The use of Teletype input-output and handson use of a friendly computer were not typical of the equipment or operating methods found in large computer operations. The limited power of a small computer tended to limit students' understanding of the potential and diversity of application available in a large computer system.

Teachers in the NETWORK found the limitation on size of programs usually was not a significant problem. Even a matrix inversion could be performed if the size of the matrix was kept small, and the principles used in writing the program were exactly the same as if the matrix were much larger. Virtually any problem which could be solved on a large computer could be solved in a smaller simulation of the problem on a small computer. In fact, simplified illustrative examples of larger problems were preferred for educational purposes.

The PDP - 8/S computer



The ECP - 18 computer

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THE COMPUTEMOBILE

The Computemobile was put into operation by the C. I. NETWORK as an attempt to bring a computer laboratory to the students. The mobile computer was an IBM 1130 equipped with auxiliary disk storage. The 1130 was permanently installed in a van, which travelled regularly to NETWORK schools for student use. Whereas the smaller, portable computers were left in a school for several weeks and then removed, the Computemobile visited a particular school regularly for a complete semester or year, while still serving other schools.

The first year of operation the Computemobile was assigned to visit remote, rural schools. These schools (in Lincoln and Yamhill Counties) had no access to a computer in a business or university because of their remote locations. Long distance charges for time sharing were prohibitive. They wished to offer longer courses than the NETWORK could provide, as the portable computers were to be left in a school for only a few weeks. Thus the Computemobile provided a handson computer laboratory at the school two or three times a week for the duration of the course. It soon developed that, while the computer and disk offered no unusual maintenance problems, the van itself was showing the strain of the weekly 600-mile schedule. Van driver David Gillette, an accomplished computer programmer and experienced teacher, was spending valuable hours simply truck driving. The second year of operation a schedule was developed to provide these

The computemobile goes to school

Students learn to use the IBM 1130

Class ends for the day

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rural schools with a portable computer alternate months. By this time a load-and-go version of BASIC had been developed for the portable PDP-8/S computers. This meant students still had the use of a compiler language, even though they no longer were on the Computemobile schedule.

During the second year the Computemobile was tested in a new environment making short, daily trips between schools in Marion County. All of the schools visited were considered rural schools, but were much closer together than the remote schools served the first year. The Computemobile also was readily available for demonstrations, PTA talks, carnivals and short computer appreciation units.

HARDWARE SPECIFICATIONS

If the instructional objectives indicate a computer should be acquired for instructional purposes, the next step is to define its specifications. Before talking to manufacturers, the planning committee should have a fairly clear idea of the characteristics desired and should assign some priority to the specifications. For instance, is it more important that the machine language be simple and easy to learn or that the computer have a load-and-go compiler?

Although the specifications can become much more detailed, the planning committee should be able to define several basics.

Languages

All computers have a machine language and most have assembly languages. Most also will be supplied with a compiler or compilers. The name of the compiler language(s), or at least the necessary characteristics of the compiler, should be specified. One of these characteristics should limit total compile time for a single student program to a few minutes.

Speed

Any third generation computer with core memory will have more than adequate speed for instructional purposes. If the computer is a transistorized model, it probably still will be fast enough. If the memory is a drum or disk, the access time will be considerably slower than with core memory, but probably still will be within fairly reasonable limits; that is, even a second generation computer with magnetic drum memory will be slowed down by the speed of the input device.

Cost

Today, the cost of a third generation digital computer equipped with a compiler ranges from $8500 upward to infinity. A range of $10,000 to $25,000 is probably typical for a small computer. Additionally, the planning committee should insist on knowing exact costs for:

> Necessary auxiliary equipment (keypunch, Teletype, punched card reader, high speed paper tape reader, optical card reader, printer, auxiliary storage)

Installation of all equipment

Shipping and delivery charges

Maintenance contracts for all equipment, including auxiliary or "peripheral" equipment

Most small computers are equipped with Teletypes, which provide keyboard and paper tape input and output. It is desirable to have at least one extra Teletype for punching program tapes to avoid tying up the Teletype connected to the computer. A computer with a punched card reader as the input device requires one or more keypunch machines for punching student programs.

A high speed tape reader connected to a computer of this type will greatly improve throughput of student programs, as the Teletype tape reader is a comparatively slow device.

A computer smaller than 4K, although it probably would not provide a compiler, still may be valuable for basic instruction about computers; particularly if it is a simple machine and if a time sharing terminal is available for more sophisticated computing.

Larger computers have memories of 16K, 32K, 64K and upward, and the cost increases accordingly.

Other considerations which might be important to a school district acquiring a computer are:

Proximity of a maintenance facility

Power requirements

Portability

Instructional resources available

Training provided by the manufacturer

Expandibility (can the memory be increased later, and can remote terminals be added if desired)

Special environmental requirements, such as air conditioning

Number base used (base 18 is much simpler to teach than base 16, if machine language instruction is planned)

Delivery time

Once a preliminary list of specifications has been prepared, several manufacturers should be contacted and asked to send a representative. If bids must be taken, representatives of several companies should be consulted before asking for bids. They may be able to point out other considerations which should be included.

One word of caution: don't be too impressed by a "good deal." Some manufacturers are offering older machines at a substantial discount to schools. On the face of it, the discount appears to cut the price well below that of newer computers. However, the peripheral equipment, such as keypunch machines, line printer and disk drive, are not discounted at the same rate. By the time the user has assembled the equivalent of a similar but much newer system, he is paying almost the same price. If lease or purchase of a discounted system is contemplated, it would be wise to talk to someone who has used that computer to determine the equipment configuration which would meet the school's requirements. Then the manufacturer should be asked for a complete list of costs for this configuration. With the total figure in hand,

compare the proposed system with other available systems at a nearly equivalent price. Weigh the cost difference against the differences in age, reliability, speed and capability.

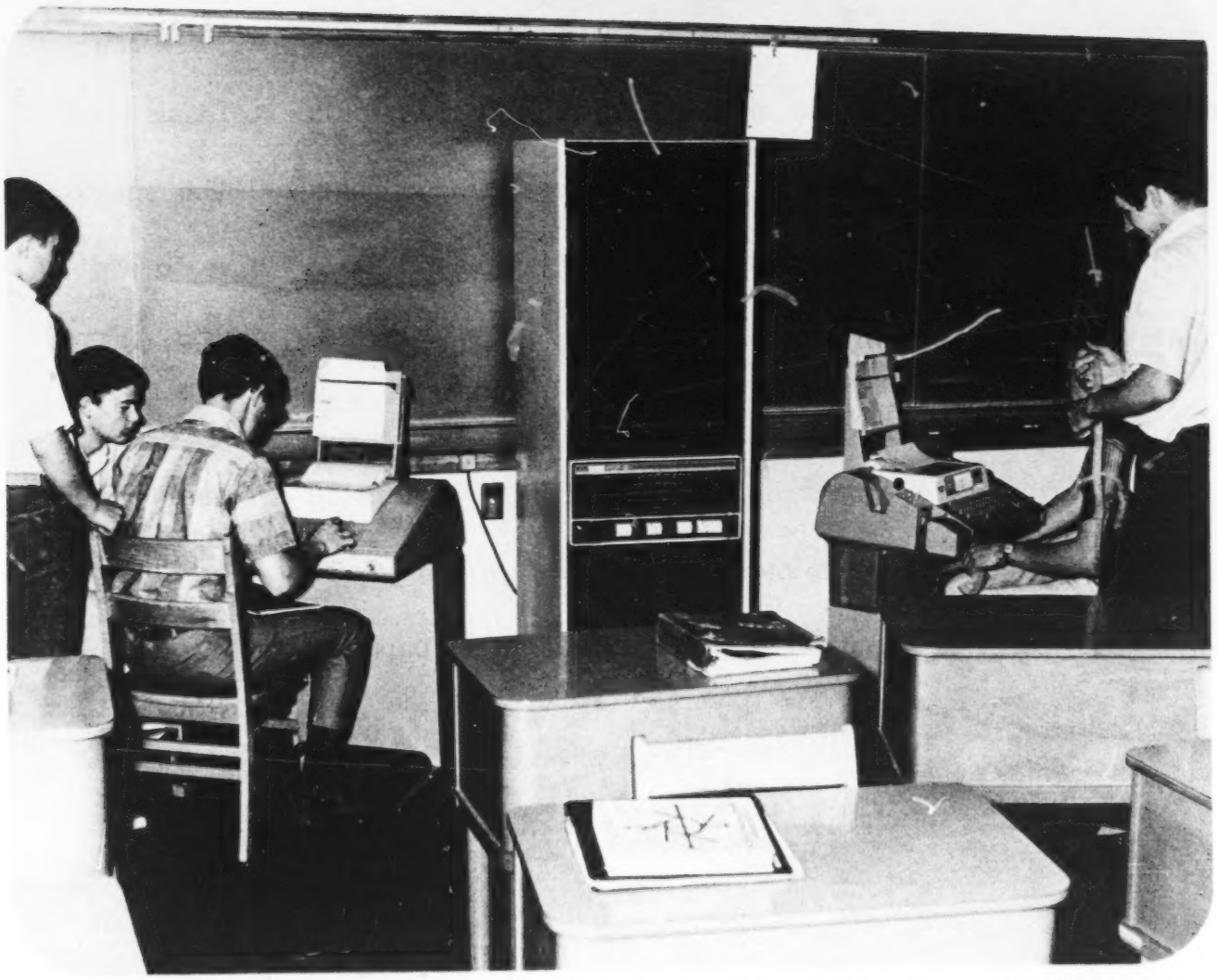
INPUT EQUIPMENT

Input equipment for classroom computers can prove to be the biggest bottleneck in getting student programs run during a class period. If, for example, a teletypewriter is supplied with the computer, students probably will use it to punch their program tapes, then load those tapes via the same teletypewriter. This means the computer will be tied up during the entire process. If an extra teletypewriter is available, program tapes can be punched offline, freeing the computer's teletypewriter. However, the speed of the teletypewriter, 10 characters per second, is relatively slow. A student program tape of 700 characters, not a very long program, will take over a minute to load into the computer. And a long program of 6,000 characters would load for 10 minutes. In a class of 30 students, this would mean that only a few students would be able to load and debug a program each hour. The added cost of a high speed tape reader would solve this problem, but students still would be required to spend time punching their own tapes.

Punched card readers, reading upward from 100 cards per minute, can speed up the loading process somewhat, but require keypunch machines be available for student use. The cost of a card reader is about five times that of a teletypewriter. Students still must keypunch their programs on cards.

A development which offers a promising first step toward the solution of the input bottleneck is the optical mark reader. These small tabletop readers will read marks made on a standard tab card similar to those used in a punched card reader. They also will read punched cards. The speed is about 10 times as fast as a teletypewriter. Students do not have to wait for their turn at a keyboard or keypunch to punch programs, but instead simply mark their cards with an ordinary pencil.

The ultimate solution for input of student programs in a classroom has not yet been produced economically. The ideal probably would be a reader which would accept as input an 8 1/2 by 11 sheet of paper with the program simply typed.



A PDP -8/I computer installed in the Salem School District. One Teletype serves as input-output for the 8/I and one is used as a remote terminal to G. E. Time-Sharing.

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An optical mark reader, capable of reading marked or punched cards

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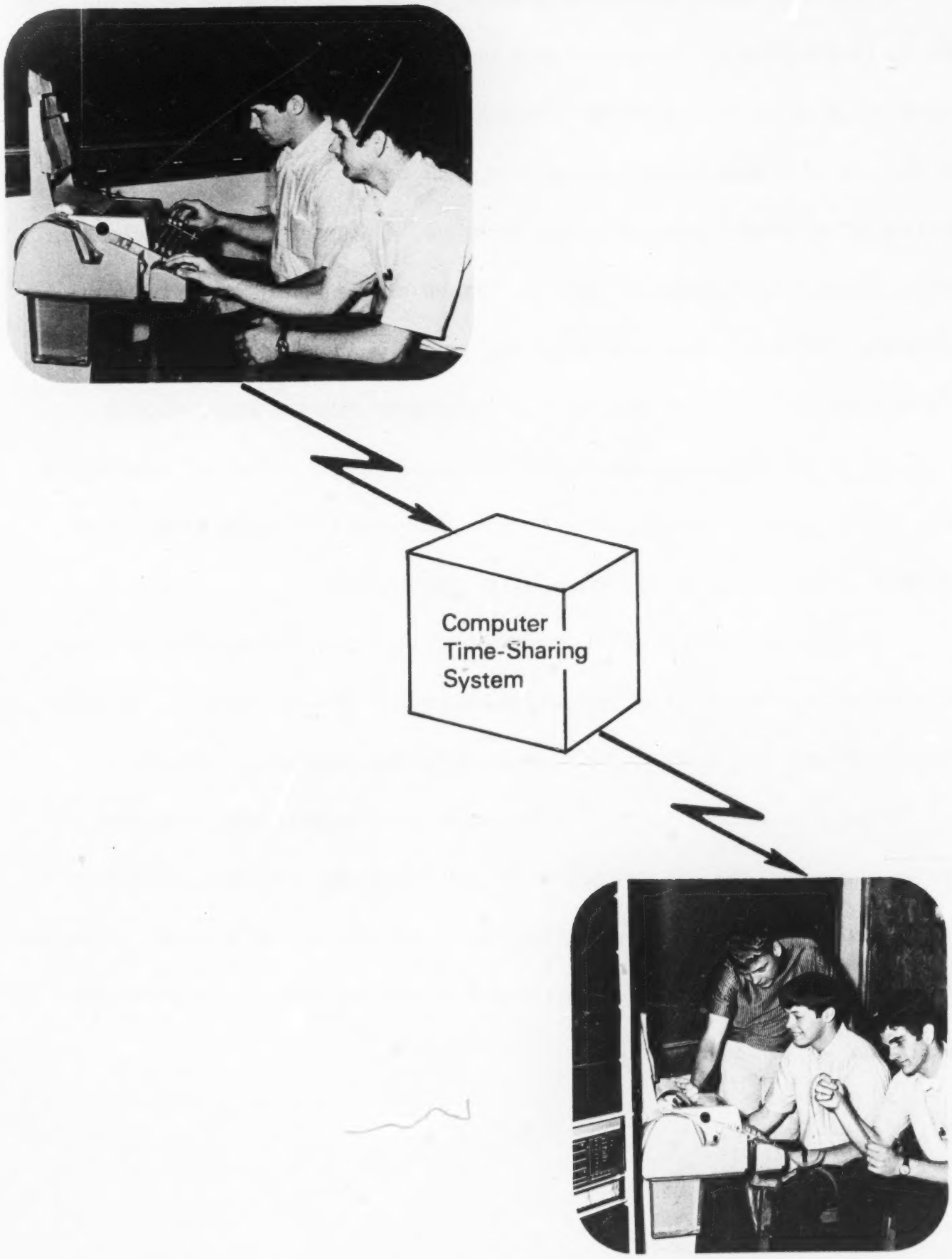
TIME SHARING

Time sharing is being used more widely by schools as commercial and university computer systems make services available. In such a system, a single, large, fast computer is able to accept input from dozens of remotely located terminals, all at the same time. These computers can operate in billionths or trillionths of a second, so are constantly "input-output bound." That is, human typists and mechanical input devices with their relatively slower speeds keep the computer waiting much of the time. Thus, it is possible, indeed practical, for a high speed computer to handle the input processing and output for many terminals at once, with no discernible lag in time for the user sitting at a terminal 25 miles away from the computer. To the user, it appears that the computer is dedicated to handling his unique problem.

A variation on the time sharing scheme, and a more inexpensive way to use a remote computer, allows the school user to enter a program or, more often, a series of programs, from the terminal. These programs then are recorded on an offline storage device, usually magnetic tape, and processed in a "batch" at a slow time, usually after midnight. The resulting output, then, is printed out at the school at a later time, often the next day. Alternatively, the output is run off on a high speed printer at the computer center and mailed to the school.



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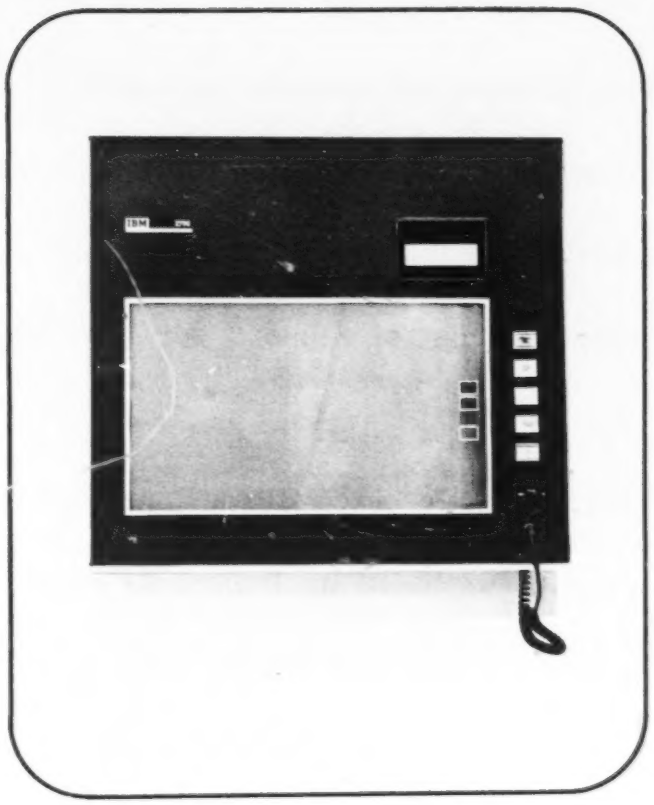
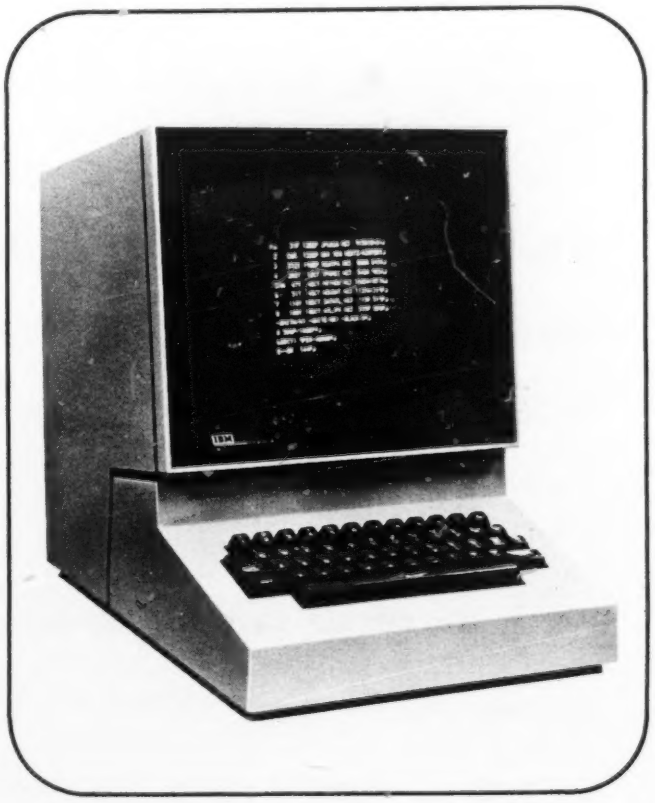
The units and courses established in most NETWORK schools provided for an introduction to computers with programming in machine language and handson operation of a portable computer. This introduction was followed by the use of a high level language--in most cases, BASIC--for problem solving at a remote terminal. The terminal, a standard ASR 33 Teletype, was connected to a telephone line and leased on a monthly basis from the telephone company. The simplicity and power of the BASIC language allowed students to solve complex problems with relative ease, without worrying about storage requirements or compile time. The full capabilities of a large, modern day computer system thus could be made available to students and teachers in a corner of the classroom.

If computer appreciation is an objective of the instructional program, then the exclusive use of a time shared terminal is a drawback. Students' misconceptions are likely to be reinforced by the enigmatic, seemingly omnipotent terminal. The remote computer is a vaguely comprehended device, and the language appears to be one which the computer mysteriously but immediately "understands." Only the study and use of a simple computer, even if it is a model computer developed on the blackboard, helps dispel the mythology of the computer.





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Another drawback in using time sharing can be the cost. This cost is coming down daily, as more and more commercial systems increase competition and improve the quality of time sharing services. However, the 24-hour-a-day availability of a classroom computer at no increase in cost might be a preferred alternative to the current cost of $10-$20 per hour for use of a time shared system.

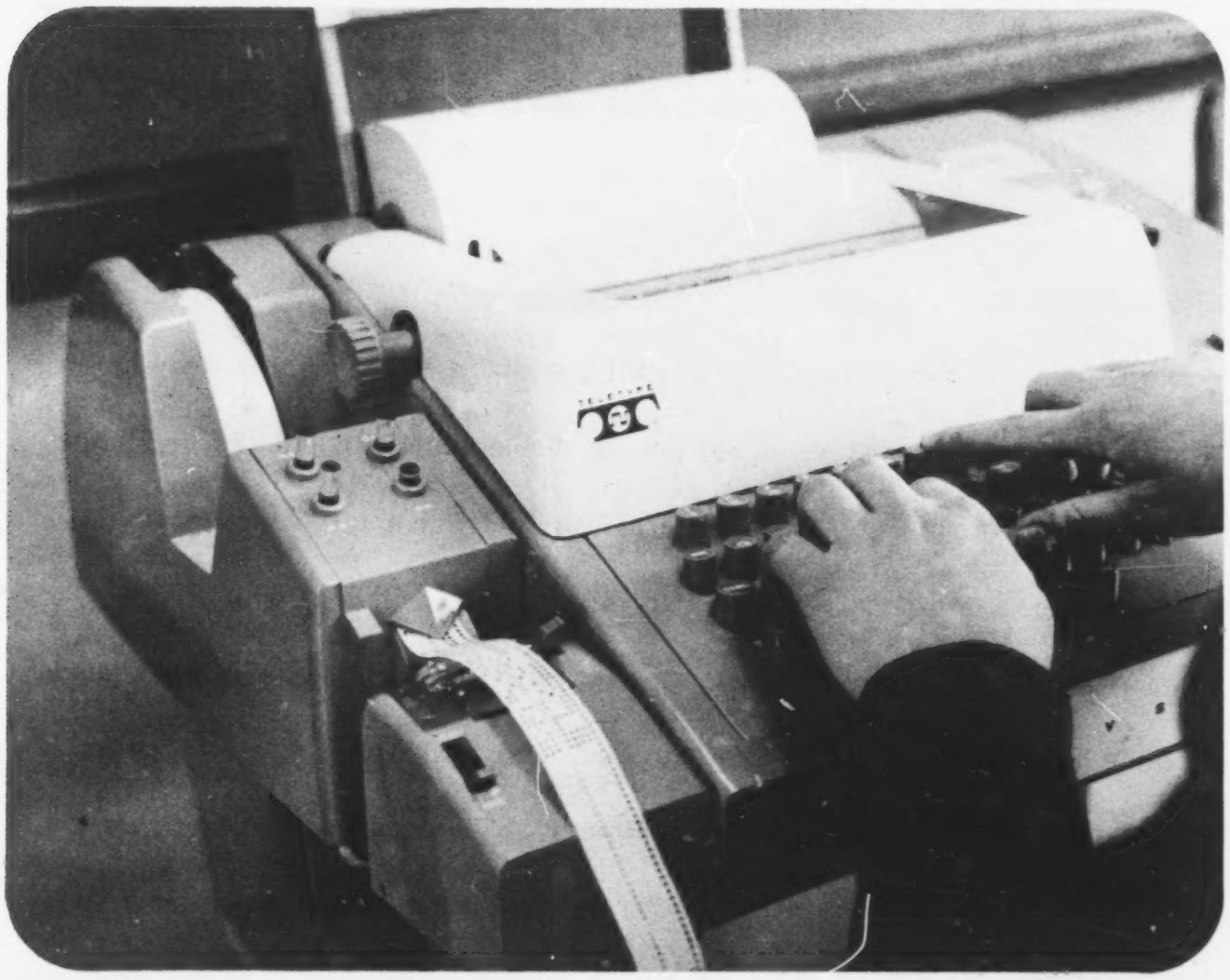
A wise approach to the use of programmable calculators, small computers, and time shared terminals is one suggested by Robert Albrecht, Senior Consultant at Portola Institute in Menlo Park, California. All three types of hardware would be available in the school, and students would be issued "scrip" at the beginning of the computer course. They would be expected to pay for the use of any piece of hardware at predetermined rates, using this phony money. Lowest rates would be for use of the calculator, highest rates for the terminal. This system would require the students to analyze their problems to decide on the most economical tool to be used. In some cases, a slide rule or pencil and paper might be the least expensive!

TERMINALS

Terminals available on time sharing systems can include keyboards, cathode ray tubes and plotters. While most systems will handle only keyboards, punched paper tape and/or punched cards can be used as input media with some terminals. The use of paper tape or cards can greatly reduce terminal time and resultant cost, since the device can be operated

for input at speeds a human operator could not sustain. Terminals also can vary in their input and output speeds and in their ability to handle upper and lower case. For most instructional uses the extra cost for the upper-lower case feature cannot be justified.

The teletypewriter probably is the most used terminal for instructional applications, and it also is the least expensive. The Teletype Model ASR 33 is equipped with paper tape punch and reader, and can be purchased from



A Teletype Model ASR33

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Teletype Corporation or leased from the telephone company. However, any terminal used for time sharing must be connected to the computer by a communications line. If the teletypewriter is leased from the telephone company, the telephone line is a part of the monthly lease cost. If, however, the teletypewriter has been purchased, it must be supplied with an acoustic coupler which will allow the use of any ordinary telephone to connect the teletypewriter to the time shared computer. Some time sharing services provide for leasing a portable teletypewriter with an acoustic coupler. This unit can be carried from room to room and used in any location where there is a telephone.

COMMUNICATIONS LINES

Communications lines are a vital part of a time sharing system. Without them, remote users could not be connected online to the computer. Two broad categories of service are available from a telephone company--dialup services, which are similar in operation to a home or business telephone, and private line services. Private line services are lines made available for the exclusive use of the customer and are available at all times for use as required by that customer.

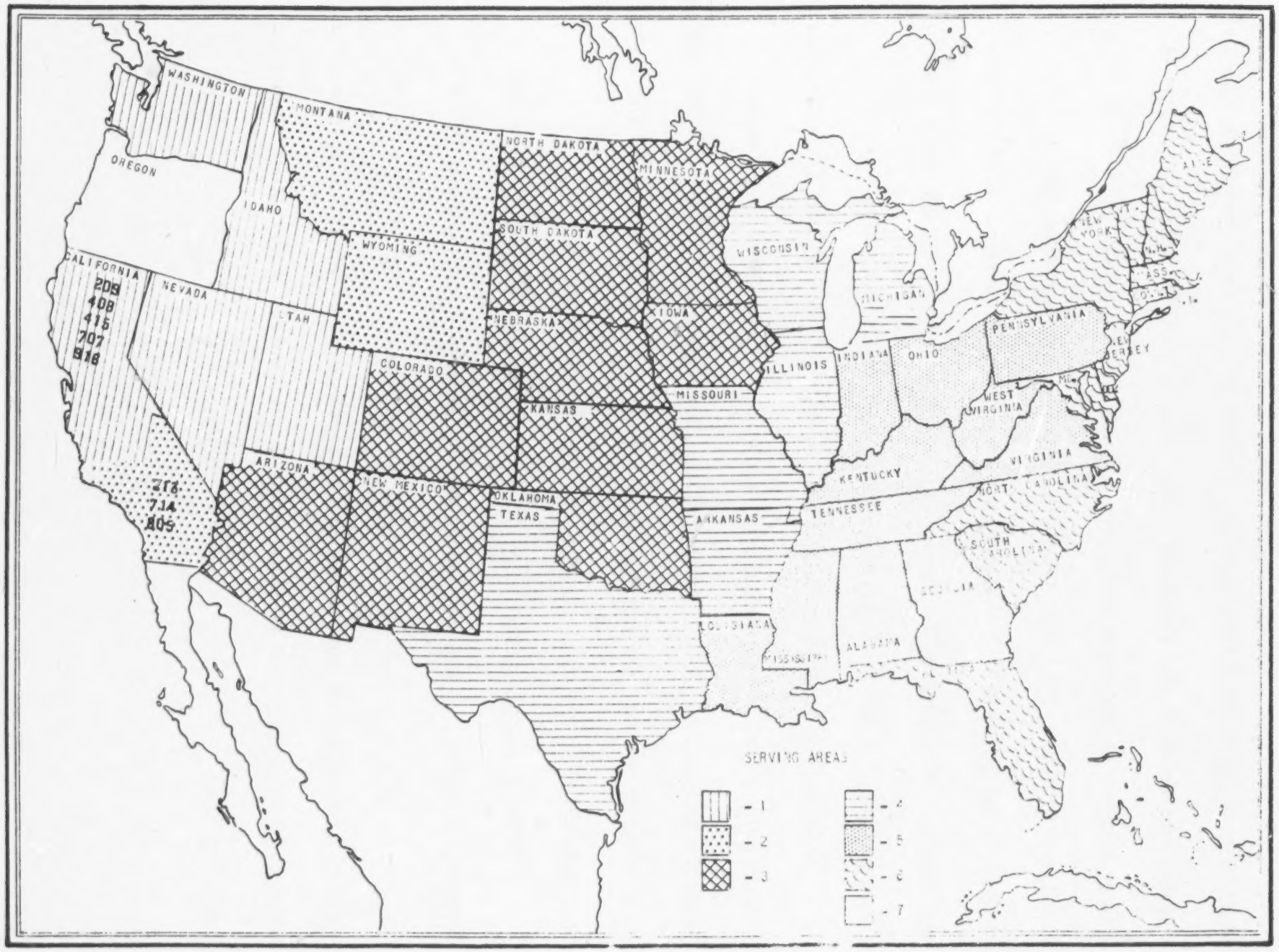
Three services are available in the dialup category. The first is DATA-PHONE service, which is a fairly recent offering of the Bell System. This service uses the regular telephone network alternately for data and voice transmission purposes. A unit of equipment known as a data set

converts the electrical impulses generated by the terminal device into tones which are suitable for transmission, and reconverts the tones back into the original impulses at the receiving end. DATA-PHONE sets are compatible with a number of business machines and terminals, including several models of teletypewriter. The data sets can transmit messages at speeds from 75 B. P. S. to 2000 B. P. S. (Bits Per Second--a bit being a single binary character). The slowest transmission speed is approximately equivalent to the speed of a Model 33 Teletype, about 100 words per minute.

The second dialup service used by the NETWORK was Teletypewriter Exchange or TWX. Approximately 60,000 teletypewriters are presently using TWX service. TWX transmission speed is about 100 words per minute, or 10 characters per second. A faster line is not necessary, as 100 words per minute is the maximum speed of the teletypewriter.

Wide Area Telephone Service (WATS) is the third type of dialup service available. Calls are made on the regular long distance network, but are limited to a selected area of the country. This service can be outward (you can call out but no one can call you) or inward (you can receive but not place calls), and is charged at a set monthly rate rather than by individual call.

WIDE AREA TELEPHONE SERVICE



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If a school district is using a time shared computer in the same city, DATA-PHONE service is the best of the three. No charge is made for local calls, other than the regular monthly rate. TWX, on the other hand, charges the monthly rate plus a charge for every local and long distance call. WATS is practical only when a large volume of long distance calls are made regularly.

The cost of time sharing will increase if a district must make long distance calls to reach the computer. If this is the case, any of the three dialup services would suffice. However, the monthly charge for a WATS line is considerably more than the basic rate for DATA-PHONE or TWX and would be practical only when the number and length of calls exceeded the charge for an outward WATS line.

Private line services are available at a higher cost than dialup services and transmit at a much higher speed, higher in fact than is required for most school time sharing applications.

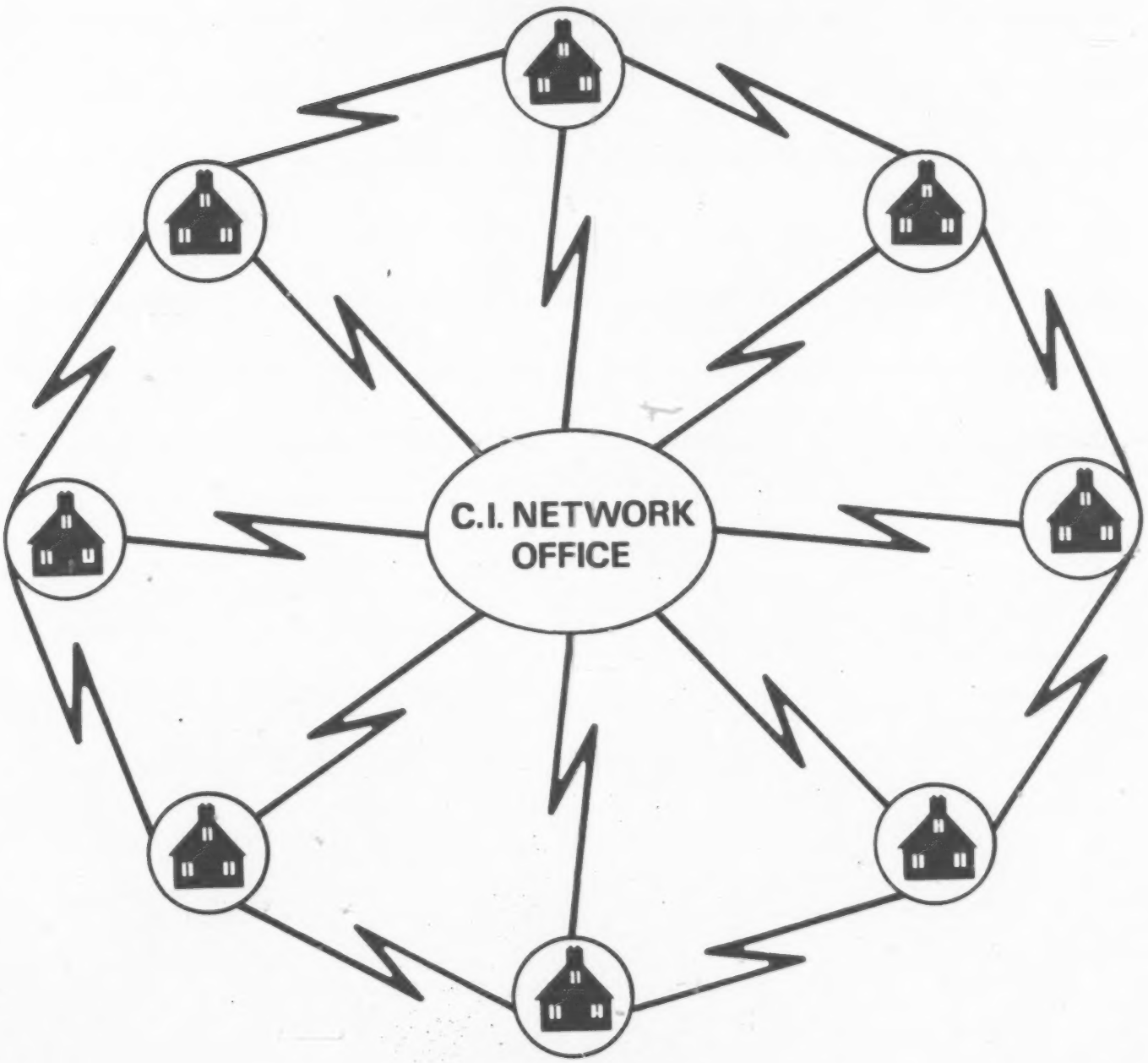
THE NETWORK CONCEPT

In the Computer Instruction NETWORK, time sharing was only one of the many uses for a standard teletypewriter. Since each of the four portable computers had a teletypewriter with keyboard and paper tape input-output, the teletypewriter terminals installed for time sharing also could be used to punch paper tapes for the portable computers. The extra teletypewriter effectively doubled the throughput on these smaller machines, as a student using the

computer would usually prevent the computer's own Teletype from being used to punch paper tapes.

Since the IBM 1130 installed in the Computemobile was equipped with paper tape input and output, the teletypewriters in the schools could be used to prepare paper tapes prior to the arrival of the van. This offline tape punching capability is even more essential for a mobile computer than for a computer which remains in the classroom.

A particular advantage of having teletypewriters and telephone lines installed in participating NETWORK schools was the communications capability provided by TWX service. Not only was every school connected to every other school via telephone line, but each teacher could reach the NETWORK office by simply dialing the number on his teletypewriter. During the first uncertain year, this proved to be a remarkable source of aid and comfort for teachers, and a method for the NETWORK staff to send important messages to participants. Some days the teletypewriter in the office would "turn on" every few minutes with a question or an urgent plea for help from a teacher. Often, the question could be answered quickly and easily. Sometimes a maintenance man would be dispatched. Other times a staff member would go to the school to work with the teacher or solve a computer or curriculum problem. This means of instant communication probably made the difference between success and failure in the first crucial year. Too often in a pilot program the teacher is trained, equipped and given a friendly shove, never to be heard from again. In computer instruction, perhaps more than



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anything else, the novice teacher needs continuing consultant help, assistance and assurance from experienced and qualified people. The communication line brings such assistance directly into the classroom at the moment when the problem is encountered.

Students soon discovered a fourth use for the teletypewriter and TWX lines. When two schools were alternating use of the same portable computer, a month at a time in each school, students organized a "remote programming" pool. As soon as the computer would be transferred to school B, students in school A would begin to transmit programs to volunteers in school B, via the teletypewriter paper tape reader and telephone line. The school B volunteers would try the program on the computer and type results (or comments about the absence of results) back to the original student. Those participating in this sharing program soon developed better skills and techniques for communicating.

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COSTS OF COMPUTER INSTRUCTION

If a short unit in computer appreciation is incorporated into an existing class, the cost for teacher time, materials and equipment is negligible. If, however, a unit or course(s) of any length is established, certain costs can be expected for teacher training, released time for teachers to plan the course and develop materials, resource and library materials, student texts, computing equipment, communications costs, supplies for the computer and maintenance.

As in the development of any pilot course, teachers should be trained and given time to plan and prepare preferably during the summer months. During the first year of operation, the teachers involved also should be given released time to continue developing materials and testing computer programs.

The usual costs for resource books, periodicals, films and student texts should be expected for a computer course. If a classroom computer or terminal is to be used, the manufacturer can quote an expected budget figure for supplies such as Teletype paper, paper tape, punched cards and programming forms. The major part of the cost, however, will be in the lease or purchase of equipment.

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TRAINERS

Training devices can be found which sell for as little as $4.95. Some of the inexpensive, simple trainers do little more than show the operation of a binary "flip flop," and some must be self-assembled. Some are made of flimsy plastic and seldom operate after the first feeble attempt. Since a trainer might be designed to teach digital logic or number systems, or simulate completely all of the actual functions of a digital computer, the price can range upwards to as high as $6,000. Some small computers are called trainers by those manufacturers who are selling a larger computer. Usually, if the price is over $6,000 and the word "trainer" does not appear in its name, the device can be considered to be a computer. This is rather a superfluous test, but is a fast way to make an initial distinction. The average price for a computer trainer is $150 to $500. A digital logic trainer might sell for as little as $140 or as much as $1500. Students in an electronics class might be persuaded to build a logic trainer for much less, if they were provided with specifications and the necessary components.

PROGRAMMABLE CALCULATORS

The price of a programmable calculator depends upon the number and sophistication of its builtin arithmetic functions, the sophistication of the input and output, and the size and nature of its memory. Every major manufacturer of calculators has announced a calculator "with a memory."

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Purchase prices range from about $1,250 to $5,000, and options can include such sophistications as remote control keyboards for "multiple station applications," an optical mark reader or punched card reader for input, printout or cathode ray tube display for output, expandable memory and hard wired or programmed subroutines.

SMALL COMPUTERS

As the miniaturization of computer circuits increases the speed of computers, the physical size and cost decrease. The use of "integrated circuits" makes it possible to cut both manufacturing and maintenance costs. A typical example of the recent trend to more compact, faster, low cost computers is the PDP-8 line manufactured by Digital Equipment Corporation. Two years ago the PDP-8, a relatively small but fast computer, was selling for about $18,000. Soon a little brother, the PDP-8/S was introduced, 13 times slower but $8,000 cheaper at $10,250. Last year, DEC impacted their own PDP-8 and 8/S market by announcing the PDP-8/I and the PDP-8/L, each the same speed as the original PDP-8 (13 times faster than the 8/S), each using integrated circuits, and selling for $12,500 and $8,700, respectively. Although both the 8/I and the 8/L have a basic 4096-word memory, the 8/I can be expanded and even used with multiple terminals. This decrease in cost, while increasing the speed and reliability of the machine, is typical of the trend. However, this should not prevent educators from committing themselves to a particular machine for fear it

will be replaced by one better or faster. The NETWORK's PDP-8/S computers have not been obsoleted and are still as useable and appropriate as ever.

A real computer with at least 4096 words of storage (or "4K") can start at less than $5,000. In fact, a 4K computer with teletypewriter input-output can cost from $6,000 to $25,000, depending on the manufacturer and factors such as speed, expandability and capacity of the individual storage cells. For instance, a "word," or a single storage cell, can vary from 8 binary digits in length up to 24 or 32 binary digits. It would be wise to check the true storage capacity of a "4K" computer. If the word length is only 8 binary digits the true capacity is about half that of most 4K computers.

If a school district is serious about building a curriculum in computers and using computers to extend the curriculum in many other areas, the computer acquired should be expandable. That is, the district should be able to add additional memory and additional remote keyboards at a later time to permit more students in more classrooms to make use of the single computer. Alternatively, if the computer is not to be expanded, remote terminals can connect students to a commercial time sharing service or university.

Expanding the memory and remote keyboard capability of a machine will naturally expand the cost. The cost of a basic 4K computer with a single keyboard might be between $10,000 and $15,000 while the same

system equipped to handle eight remote keyboards would cost at least $50,000 not counting the cost of the eight additional keyboard units.

TELETYPEWRITERS

Model 33 Teletypes with paper tape attachments can be purchased for about $675 from the Teletype Corporation. If the teletypewriter is equipped with an acoustic coupler, the cost will be about $600 more, which is the average cost of a coupler. If, in addition, the teletypewriter is attached to a cart on wheels, the entire device would sell for about $2,000. This $2,000 teletypewriter, then, could be used with any ordinary telephone to dial a time sharing computer system. Many time sharing services will lease this portable terminal for about $125 a month.

If a school district purchases teletypewriters to use for offline tape punching, budgetary provision should be made for maintenance. Since the Teletype Corporation at this time does not have a service organization, it would be up to the district to find a person qualified to do teletypewriter repairs. The average monthly cost for such maintenance is difficult to predict, as some teletypewriters (like some automobiles) may run relatively maintenance free for thousands of hours of use, while others may need to be replaced after 100 hours of use. In the NETWORK, two teletypewriters were purchased. When heavily used the monthly cost for maintenance over a year of operation averaged about $15 each.

While the telephone company will lease Teletypes and provide all maintenance, they are prohibited by the FCC from leasing a Teletype without a telephone line, simply as a tape punching device.

TIME SHARING

Determining the true cost of using a time sharing service requires determination and persistence. If only one commercial time sharing service is available, count your blessings. If there are several, a total approximate cost figure for one hour of online use of the system should be obtained from each vendor. A separate "connect time" charge may be made for the time the terminal is connected online to the computer system via telephone line. In addition, there probably will be a charge for "CPU time," or the time that the central processing unit of the computer is actually engaged in processing of the user's program. Other charges may be made for the amount of storage used in the operation of the user's program and the amount of storage used for "saving" programs or data to permit a customer to call them out again at a later time. A number of other special charges may exist. For example, some systems have an established order of priorities. By paying a little more, a customer can be assured of having his programs attended to sooner than other users waiting at terminals. Most systems have a minimum monthly contract charge, and some will provide unlimited use for a fixed monthly charge.

If costs of various services do not need to be compared, a salesman can provide an average total cost per hour of connect time, which will

include CPU, storage and any necessary options, The ratio of CPU time to connect time will be lower for students than for most other users, as students will tend to write shorter programs, at least in the beginning. Some programs will run in "zero second," as the CPU time is computed to the nearest fraction of a second.

Although the cost for time sharing services is decreasing daily, an hourly cost today probably would be between $8 and $12 for instructional use. It is unlikely there will be much need for additional or permanent storage, so the major cost will be for connect time and CPU time.

In addition to the hourly cost, add costs for initiation of service--in some cases $100. If a terminal is to be leased from the company, include that cost. All of these costs will be payable to the time sharing service.

The costs for communications lines and probably terminals must be added to the time sharing costs. These charges will be paid to the telephone company. Even if the terminal is to be purchased or leased from the time sharing service, a communications line still must be acquired. The only exception would be if a portable terminal equipped with acoustic coupler is used with an existing telephone.

COMMUNICATIONS

The dialup services mentioned in the equipment section are billed as indicated on the next page.

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DATA-PHONE service

Data set	$25.00 a month	$25 installation
ASR 33 Teletype	$40.00 a month	$25 installation
Telephone line	$13.50 a month	$10 installation
Total monthly charge	$78.50	$60 installation (a one-time charge)

Long distance calls are billed at the usual rate.

TWX service

Basic service	$45.00 a month	
ASR 33 Teletype	$15.00 a month	
Total monthly charge	$60.00	$50 installation (a one-time charge)

Long distance calls are billed at the usual rate, and there is a charge for local calls as well: about 15¢ for five minutes.

WATS

Interstate WATS

The country is divided into six "zones" for WATS billing purposes. The telephone company will provide information on the states included in each zone.

The rates given are for interstate service only. Intrastate WATS is governed by local Public Utility Commissions, and the rates may vary.

Rates shown are the same whether the service is "outward" (calls may be made but not received) or "inward" (calls may be received only).

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Unlimited service allows an unlimited number of calls to be made each month within the zone charge. Measured service limits the calls to 10 hours per month per line. All use exceeding the 10-hour limit is billed at the hourly rate shown.

	Unlimited service	Measured service	"Extra hours" charge
Zone 1	$ 900/month	$220/month	$16.50/hour
Zones 1-2	$1300	$260	$20.50
Zones 1-3	$1750	$310	$23.50
Zones 1-4	$1950	$335	$25.50
Zones 1-5	$2200	$360	$28.00
Zones 1-6	$2275	$375	$29.50

Intrastate WATS

In Oregon, intrastate WATS is $575 a month. Measured WATS (15 hours per month) is $210 a month, with a $12 charge for each additional hour. If the time shared computer being used is in the same state, but cannot be reached by making a local call, intrastate WATS may be more economical than paying for each long distance call. Salem schools in the NETWORK placed calls to Portland for time sharing at about $6 per hour for long distance charges. At this rate close to 100 online hours per month would be the crossover point at which WATS would become less expensive than DATA-PHONE or TWX service. This would be between four and five online hours each school day, considerably more than the schools were using.

The installation charge for a WATS line is $10. The above rates are for the line only and do not include lease of a Teletype. The

Teletype lease would be approximately $65 per month additional, although this rate may vary from state to state.

Private Lines

Private lines are dedicated, point-to-point lines. They are billed (in Oregon) at about $3 per mile per month, plus about $10 per month connection charge at each end of the line.

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Allen, Paul III. Exploring the Computer. Reading, Mass.: Addison-Wesley Publishing Co., 1967.

A programmed text giving general information about computers, their makeup and applications. A good review of this book by a sixth-grade child was published in Datamation, which attests to its readability.

American Federation of Information Processing Societies. The Quiet Revolution: Computers Come of Age. New York, N.Y.: The Federation.

Barnett, Leo and Lou Ellen Davis. Careers in Computer Programming. New York, N.Y.: Henry Z. Walck, Inc., 1967.

Campbell, Robert. "How the Computer Gets the Answer." Life. Reprint No. 33, 1967.

A primer for the layman on computer components, organization and operation, with some comments on man-machine interface. Contains excellent photographic illustrations and employs an interesting "model train" to show how an addition problem is handled by a computer. Can be ordered from Life Educational Reprints for a fee.

Charp, Sylvia. Computers in General Education. Harrisburg, Pa.: Pennsylvania Department of Public Instruction, 1967.

An introductory pamphlet which defines computers, discusses their development and introduces flowcharting and coding. It contains several good flowchart examples.

Darnowski, Vincent S. Computers--Theory and Uses. Washington, D.C.: National Science Teachers Association, 1964.

As a general information unit for junior high and older students, the booklet discusses the development, components, operation and use of computers. It contains a section on programming and a discussion comparing analog and digital computers. Self-tests, questions and activities follow each section. Classroom sets are available. The Teachers' Guide is a useful book whether you use

the class text or not. More than half the book is an annotated list of books, films, games and articles, while the rest contains suggestions for each chapter and a test.

Darnowski, Vincent S. A Teacher's Guide to Computers--Theory and Uses. Washington, D.C.: National Science Teachers Association, 1964.

Desmonde, William H. Computers and their Uses. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.

A general introductory book, including information on most phases of data processing. It is mostly non-technical and readable by a non-science oriented person. Also included are two chapters on the social roles and implications of computers. Of interest to teachers might be the sets of review questions at the end of the book, one for each chapter.

Fahnestock, James D. Computers and How They Work. South Brunswick, N.J.: A. S. Barnes and Co., Inc., 1966.

An older reference, but still good for those items included. The book is relatively easy to read and much of it can be read by a non-science oriented reader. This book has many useful illustrations. No information is given about compiler languages, but it does have chapters on analog computers, basic logic circuits and memories.

Gielow, Fred C., Jr. Introducing--The Computer. White Plains, N.Y.: IBM Corporation.

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McCracken, Daniel D. Should You Go into Electronic Computer Programming? New York, N.Y.: New York Life Insurance Company.

National Cash Register Company. Electronic Data Processing: Written for the Layman. Dayton, Ohio: The Company.

Three pamphlets introducing data processing from a business viewpoint. Book I, "What is Data Processing?" sketches all phases of E.D.P.

Book II, "What is Binary Arithmetic?" includes subtraction by complementary addition and examples of computer memory. Book III, "What Is a Computer?" discusses hardware. They can be used separately. Classroom sets available or can be obtained through local NCR representatives.

Programming: Words that Move Machines. White Plains, N.Y.: IBM Corporation.

Say Something in Computerese. Minneapolis, Minn.: Honeywell, Inc., 1965.

You and the Computer. New York, N.Y.: General Electric Company, 1965.

A short pamphlet concerning computer operation, programming, I/O devices and applications, suitable for use as an introduction or overview. Contains some good illustrations. Available free from GE.

COMPUTER APPLICATIONS AND SOCIAL IMPLICATIONS

Amber, George H. and Paul S. Amber. Anatomy of Automation. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.

Arnold, Pauline and Percival White. The Automation Age. Pound Ridge, N.Y.: Holiday House, 1963.

A general introduction to automation, readable by junior high students. It contains good sections on applications in various areas of endeavor and the social effects, especially unemployment. Information current to 1963.

Association for Supervision and Curriculum Development. Humanizing Education: The Person in the Process. Washington, D.C.: The Association, a Department of the National Education Association, 1967.

"Automation and the Decline and Fall of Work." Senior Scholastic. 91:6, October 26, 1967.

Bluemle, Andrew. Automation. New York, N.Y.: World Publishing Company, 1963.

This short, easily read book gives an introduction to automation and its social challenge. It can be read easily by junior high

students. The illustrations are good; and information is current to 1963.

Bowen, Charles R. and Swayne Orton. Automation and Your Future. Nashville, Tenn.: Methodist Board of Christian Social Concerns.

Bushnell, Don D. and Dwight W. Allen. The Computer in American Education. New York, N.Y.: John Wiley and Sons, Inc., 1967.

A collection of papers presented at an AEDS conference in November, 1965, at Stanford University. The book's four major divisions deal with (1) individualized instruction and social goals, (2) computers in instruction and research, (3) teaching the computer sciences and (4) information processing for education systems. It is assumed that readers have a working introduction to computers and their application to education. The book is a summary on the state of the art of such applications with the last chapter listing the conference recommendations. Included are comments on needed changes in pedagogy and administration for effective use of computers.

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Cherry, Colin. On Human Communication. Cambridge, Mass.: MIT Press, 1966.

Computer-Assisted Instruction Guide. Newburyport, Mass.: ENTELEK Inc., 1968.

Cordell, Christobel M. The Computer in Your Life. Portland, Maine: J. Waston Walch, 1967.

Evans, George W. II., Graham F. Wallace and George L. Sutherland. Simulation Using Digital Computers. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967.

This book is concerned with the simulation of systems by computer simulation models. It defines and introduces the concept of simulation, discusses computers and computing systems and their use as simulation tools, and presents examples of computer simulation in military medical evacuation, armed combat, war games and radar observation of space vehicles.

Feigenbaum, E. and J. Feldman. Computers and Thought. New York, N.Y.: McGraw-Hill, 1963.

Fink, Donald G. Computers and the Human Mind. New York, N.Y.: Doubleday and Co., Inc.

The two objectives of this book are to explain how computers work and to what extent computers are intelligent. It contains chapters on math, languages, flowcharts, programming, machine workings, brain-computer analogies and machine creativity. A good informational book for bright science oriented readers.

Gerard, Ralph W., editor. Computers and Education. New York, N.Y.: McGraw-Hill Book Co., 1967.

The format of this book is the same as that of the conference on which it reports. Each section begins with an address, then topics for discussion are suggested, after which the discussion takes place, followed by a summary. Three general areas are covered: CAI, library and administration. The library reference is one of few such sources this reviewer has found. The discussion sections make cumbersome reading. The report is oriented to higher education but has implications for other levels as well.

Glaser, Robert, editor. Teaching Machines and Programmed Learning, II. Washington, D.C.: Department of Audiovisual Instruction, National Education Association of the United States, 1965.

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Laird, Donald A. and Eleanor C. Laird. How to Get Along with Automation. New York, N.Y.: McGraw-Hill Co., 1964.

Loughary, John W. Man-Machine Systems in Education. New York, N.Y.: Harper and Row, Inc., 1966.

National School Public Relations Association. Computers: New Era for Education? Washington, D.C.: The Association, a Department of the National Education Association, 1968.

3565

Current developments in educational applications of the computer are discussed in this pamphlet. Included are the use and implications of CAI, computer instruction, computer counseling, paper marking and administration. Good updating for every teacher; fast reading.

National School Public Relations Association. Technology in Education. Washington, D.C.: The Association, a Department of the National Education Association, 1967.

A good pamphlet for updating teachers on the current status of educational technology. It is fast reading, with a good bibliography and is not just a listing of programs but a discussion of the technological implications in several areas.

Parkhill, Douglas F. The Challenge of the Computer Utility. Reading, Mass.: Addison-Wesley, Inc., 1966.

The computer utility discussed here is a general purpose public computer system in the same vein as power utilities and telephone utilities. The evolution, current status and future expectations of such computer utility systems are discussed along with a good chapter on time sharing technology.

Ross, Frank Jr. Automation, Servant to Man. New York, N.Y.: Lothrop, Lee and Shepard Co., Inc., 1965.

A general overview of the applications and implications of automation, written for young people. It is somewhat out of date, but gives an idea of the state of automation at the end of the last decade.

Seligman, Ben S. Most Notorious Victory. New York, N.Y.: Free Press, 1966.

The author surveys the history of modern technology including the development of computers, then discusses some applications and their social effects and the solutions proposed by government, labor and others. It is well researched and extensively documented, making a good source book. The author does not attempt to offer solutions to the problems of automation. Rather, he seeks to alert people to be concerned about the social consequences of automation and to stimulate readers to avoid the "Notorious Victory" of machines over men and assert human control.

Singh, Jagjit. Great Ideas in Information Theory, Language and Cybernetics. New York, N.Y.: Dover Publications, 1966.

Star, Jack. "The Computer Data Bank: Will It Kill Your Freedom?" Look, June 25, 1968.

Thomas, Shirley. Computers--Their History, Present Applications and Future. New York, N.Y.: Holt, Rinehart and Winston, Inc., 1965.

von Neumann, John. The Computer and the Brain. New Haven, Conn.: Yale University Press, 1958.

Westin, Alan F. Privacy and Freedom. New York, N.Y.: Atheneum, 1968.

A rational, scholarly, well-documented analysis of the problems involved in preserving individual privacy. One virtue of the book is that it is not an arm-waving exposition, but attempts to provide a rational foundation for the defense of personal privacy. The four parts of the book are The Functions of Privacy and Surveillance in Society, New Tools for Invading Society, American Society's Struggle for Controls and Five Case Studies and Policy Choices for the 1970's.

Wiener, Norbert. The Human Use of Human Beings. New York, N.Y.: Avon Book Co., 1967.

Ziegler, James R. Time-Sharing Data Processing Systems. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967.

BUSINESS ORIENTED

American Institute of Certified Public Accountants. New Techniques for Business Planning, Systems and Control. New York, N.Y.: The Institute, 1967.

Awad, Elias M. Automatic Data Processing, Principles and Procedures. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966.

Awad, Elias M. Business Data Processing. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965.

Burck, Gilbert. The Computer Age and Its Potential for Management. New York, N.Y.: Harper and Row, Inc., 1965.

Cashman, Thomas J. and William J. Keys. Basic Projects in Data Processing. Anaheim, Calif.: Anaheim Publishing Co., 1967.

Cashman, Thomas J. Practical Projects in Data Processing. Anaheim, Calif.: Anaheim Publishing Company, 1967.

Cashman, Thomas J. Review Manual for Certificate in Data Processing. Anaheim, Calif.: Anaheim Publishing Company, 1965.

Chicago Board of Education. Curriculum Guide for Introduction to Data Processing, Grades 11-12. Chicago, Ill.: The Board, 1967.

Data Processing Management Association. Principles of Automatic Data Processing. Park Ridge, Ill.: The Association, 1965.

Elliot, C. Orville and Robert S. Wasley. Business Information Processing Systems. Homewood, Ill.: Irwin Company.

Freeman, Hanna and Hahn. Study Guides and Working Papers for Accounting 10/12, Parts I & II. New York, N.Y.: McGraw-Hill Company, 1968.

Gentle, Edgar C., Jr. Data Communications in Business: An Introduction. New York, N.Y.: American Telephone and Telegraph Co., 1965.

Gibson, E. Dana. An Introduction to Automated Data Processing. Elmhurst, Ill.: The Business Press, 1966.

Gregory, Robert H. and Richard L. Van Horn. Business Data Processing and Programming. Belmont, Calif.: Wadsworth Publishing Co., Inc., 1963.

Gregory, Robert H. and Richard L. Van Horn. Automatic Data Processing Systems, Principles and Procedures. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1956.

Haga, Enoch. Understanding Automation. Elmhurst, Ill.: The Business Press, 1965.

This is a book written specifically for teachers with the objectives of educating about general principles and giving assistance in the teaching of them. The first third of the book covers history, digital and analog principles, and the business of data processing. A useful historical time chart is in Chapter 1. The rest of the book is concerned with automation in secondary and higher schools with suggested course and curriculum outlines for high schools, junior colleges and colleges. Most helpful are the sections on an "Automation Day," business games, films and hardware. The Student's Manual for the above book contains, for each chapter, a list of the main ideas, a sample test and lists of questions and activities, all of which would be useful models for courses.

Kahn, Gilbert, editor. Business Data Processing: Basic Principles and Applications. New York, N.Y.: McGraw-Hill Book Co., 1966.

Langenbach, Robert G. Introduction to Automated Data Processing. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968.

Martin, E. Wainright, Jr. Electronic Data Processing, An Introduction. Homewood, Ill.: Richard D. Irwin, Inc., 1965.

Rice, Harry G. and Jack W. Friedman, editors. Fundamentals of Electronic Data Processing. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1962.

Robichaud, Beryl. Understanding Modern Business Data Processing. New York, N.Y.: McGraw-Hill Book Co., 1966.

Roman, John C. The Business Curriculum. Burlingame, Calif.: Southwestern Publishing Co., 1966.

Saxon, James A. and Wesley W. Steyer. Basic Principles of Data Processing. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967.

Schmidt, Richard N. and William E. Meyers. Electronic Business Data Processing. New York, N.Y.: Holt, Rinehart and Winston, Inc., 1963.

Solomon, Irving I. and Laurance O. Weingart. Management Uses of the Computer. New York, N.Y.: The New American Library, 1966.

Van Ness, Robert G. Principles of Data Processing with Computers. Elmhurst, Ill.: The Business Press, 1966.

Van Ness, Robert G. Principles of Punched Card Data Processing, Secondary Schools Edition. Elmhurst, Ill.: The Business Press, 1965.

Van Ness, Robert G. Principles of Punched Card Data Processing, Student's Manual. Elmhurst, Ill.: The Business Press, 1967.

Wanous, S. J. and Edward E. Wanous. Automation Office Practice. Cincinnati, Ohio: Southwestern Publishing Co., 1966.

Wenner, James F. A High School Orientation Course in Data Processing, Grades 11-12. Burlingame, Calif.: Southwestern Publishing Co., 1966.

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MATHEMATICS ORIENTED

Arnold, B. H. Logic and Boolean Algebra. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1962.

Dorn, William S. and Herbert J. Greenberg. Mathematics and Computing: With FORTRAN Programming. New York, N.Y.: John Wiley & Sons, Inc., 1967.

A text for students with a background of two or three years of high school math. It is mainly a math text with computer programming viewed as a tool. It contains sections on linear equations and inequalities, iterative methods, infinite sums, Boolean algebra and probability. FORTRAN programming is introduced gradually, one full chapter is devoted to it and it is employed wherever the computer can be used to advantage. An excellent appendix discusses the relationships between monitors, compilers, assemblers and machine language. Annotated instructor's edition for the text includes the student's text with helpful comments, suggested quizzes, solutions to problems and quizzes and suggested references not in the student's text. Soon to be published is a new version of the book with BASIC programming.

Gruenberger, Fred and George Jaffray. Problems for Computer Solution. New York, N.Y.: John Wiley & Sons, Inc., 1965.

IBM Corporation. Computer Mathematics in Secondary Schools. Armonk, N.Y.: IBM Corp., 1966.

Jacobowitz, Henry. Computer Arithmetic. New York, N.Y.: John F. Rider, Inc., 1962.

This readable book is designed for instruction or review in basic arithmetical operations of number systems having applications in computers. Included are a survey of number systems, a detailed discussion of binary, octal, hexadecimal and ternary arithmetic and methods of conversion from one to another. Many examples are included and it could be a self-instruction manual. Two useful pages are given to illustrations of physical representation of binary data.

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Johnson, David C. CAMP (Computer Assisted Mathematics Program). Glenville, Ill.: Scott, Foresman and Co., 1969.

This is a set of texts for grades 7, 9 and 11. Chapter 1 is a good introduction to computers and flowcharting and is the same in all five books. Otherwise, each book in the set is different, dealing with the math topics at each level and employing the BASIC language. The texts are intended to teach math through computing and are a good source of ideas.

Johnson, Donovan A. and William H. Glenn. Understanding Numeration Systems. New York, N.Y.: McGraw-Hill Book Co., 1960.

National Council of Teachers of Mathematics. Careers in Mathematics. Washington, D.C.: The Council, 1962.

National Council of Teachers of Mathematics. Computer Oriented Mathematics, An Introduction for Teachers. Washington, D.C.: The Council, 1963.

National Council of Teachers of Mathematics. Formulas, Graphs and Patterns. Washington, D.C.: The Council, 1966.

Pennington, Ralph H. Introductory Computer Methods and Numerical Analysis. New York, N.Y.: Macmillan Co., 1965.

Price, Wilson T. and Merlin Miller. Elements of Data Processing Mathematics. New York, N.Y.: Holt, Rinehart and Winston, Inc., 1967.

Topics suitable for mathematics courses in data processing curricula are the aim of this text. Prerequisite for studying the first half of the book is one year of high school algebra; and many topics are from second year algebra. Proof is minimized and problem solving emphasized. Numerical methods and Boolean algebra are included as well as an interesting section on sets using decks of punched cards to illustrate set concepts.

Quayle, James B. General Electric Computer Time Sharing in the High School Mathematics Curriculum. Cleveland, Ohio: Cleveland Information Processing Center, General Electric, 1967.

Ralston, Anthony and Herbert S. Wilf, editors. Mathematical Methods for Digital Computers. New York, N.Y.: John Wiley & Sons, Inc., 1967.

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School Mathematics Study Group. Algorithms, Computation and Mathematics, Student Text. Palo Alto, Calif.: The Study Group, 1966.

School Mathematics Study Group. Algorithms, Computation and Mathematics, Student Text--FORTRAN Supplement. Palo Alto, Calif.: The Study Group, 1966.

School Mathematics Study Group. Algorithms, Computation and Mathematics, Student Text--ALGOL Supplement. Palo Alto, Calif.: The Study Group, 1966.

PROGRAMMING AND SYSTEMS ANALYSIS

ACM Professional Development Seminar. Information: Its Storage, Retrieval and Management. Philadelphia, Pa.: Auerbach Corp.

Anderson, Decima M. Basic Computer Programming. New York, N.Y.: Meredith Publishing Co., 1964.

Andree, Richard V. Computer Programming and Related Mathematics. New York, N.Y.: John Wiley & Sons, Inc., 1966.

Becker, Joseph and R. M. Hayes. Information Storage and Retrieval: Tools, Elements, Theories. New York, N.Y.: John Wiley & Sons, Inc., 1967.

Cutler, Donald I. Introduction to Computer Programming. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964.

An elementary text for students with a math background of a year of high school algebra, and with no access to a computer. After discussing number systems and a good chapter on flow charting, the author describes a hypothetical high-level language. The author assumes that the transfer to an actual machine and language will be relatively simple.

Farina, Mario V. Programming in BASIC. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968.

Flores, Ivan. Computer Programming. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966.

Flores, Ivan. Computer Software. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965.

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Hagg, James N. Comprehensive FORTRAN Programming. New York, N.Y.: Hayden Book Co., 1968.

Hull, T. E. Introduction to Computing. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1966.

In general the book deals with algorithms, their translation and use by computers and how computer logic affects problem solving. Chapters 5-10 contain a good description of FORTRAN IV as used with algorithms. The final third of the book is concerned with applications. It is not a book for beginners; and a reader should be familiar with college level math.

Hare, Van Court, Jr. Systems Analysis: A Diagnostic Approach. New York, N.Y.: Harcourt, Brace and World, Inc., 1967.

Kemeny, John G. and Thomas E. Kurtz. BASIC Programming. New York, N.Y.: John Wiley & Sons, Inc., 1967.

Laurie, Edward J. Computers and Computer Languages. Cincinnati, Ohio: Southwestern Publishing Co., 1966.

After the beginning general chapters in computers, punched cards and programming, this book takes up the IBM 1620 and 1401 computers. This is followed by discussions of SPS, FORTRAN, AUTOCODER, COBOL and the IBM 1130, finishing with some applications and comments on the future. It is intended as a text, but would also be a good classroom reference. The first three languages are compared by using the same sample problem to introduce them. Study guides for this book contain sets of objective questions and lists of important terms and concepts for each chapter.

Lecht, Charles Philip. The Programmers' ALGOL. New York, N.Y.: McGraw-Hill Book Co., 1967.

Luftig, Milton. Computer Programmer. New York, N.Y.: Arco Publishing Co., 1966.

McCracken, D. D. A Guide to FORTRAN IV Programming. New York, N.Y.: John Wiley & Sons, Inc., 1965.

Meadow, Charles T. The Analysis of Information Systems. New York, N.Y.: John Wiley & Sons, Inc., 1967.

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Murphy, John S. Basics of Digital Computer Programming. New York, N.Y.: John F. Rider Co., 1967.

This book was written to provide the basic framework for learning computer programming. It attempts to distill that part of the programming background which is fundamental and common to all computers. It is recommended for preliminary study before approaching the study of a specific machine or programming language. The book is also intended for those who need a basic understanding of programming even though they may never need to practice the art.

Nathan, Robert and Elizabeth Hanes. Computer Programming Handbook: Guide for Beginners. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1961.

National Council of Teachers of Mathematics. Computer Facilities for Mathematics Instruction. Washington, D.C.: The Council, 1967.

Sharpe, William F. BASIC: An Introduction to Computer Programming Using the BASIC Language. New York, N.Y.: The Free Press, 1967.

The first half of the book describes BASIC and its use and contains a set of problems and solutions for each chapter. The last half has four appendices, two explaining the Dartmouth and University of Washington systems, one containing a short library of BASIC programs and one being a summary of the language. Some previous knowledge of flowcharting would be helpful to a reader since there is none included. The problems and library programs are generally oriented to economics and the social sciences rather than physical sciences.

Smith, Robert E. The Bases of FORTRAN. Minneapolis, Minn.: Control Data Institute, 1967.

Stark, Peter A. Digital Computer Programming. New York, N.Y.: Macmillan Company, 1967.

A text for the beginning programmer, including real problems presolved on a computer, and requiring little emphasis on mathematical abilities. Section 1 contains general information about computers and a chapter on flowcharting. Other sections are on machine, symbolic and problem oriented languages (especially FORTRAN) and programming and mathematical techniques. Worked examples are given complete with computer printout.

Wilson, Ira G. and Marthann E. Wilson. Information, Computers and System Design. New York, N.Y.: John Wiley & Sons, Inc., 1967.

SCIENCE AND TECHNICAL

Alcosser, Edward. How to Build a Working Digital Computer. New York, N.Y.: Hayden Book Co., 1967.

This is written for students with little or no computer background, but who are interested in the working of as well as programming of computers. It discusses each component of a computer, then gives construction details, resulting finally in a manually-operated digital computer that will demonstrate and perform fundamental computer operations. Included is a section on programming this machine.

Alt, F. and M. Rubinoff, editors. Advances in Computers. New York, N.Y.: Academic Press, 1967.

Bartee, Thomas C. Digital Computer Fundamentals. New York, N.Y.: McGraw-Hill Book Co., 1966.

Bartee, Thomas C. Digital Computer Fundamentals, Laboratory Manual. Cambridge, Mass.: Hickok Teaching Systems, Inc., 1964.

Benrey, Ronald. Understanding Digital Computers. New York, N.Y.: John F. Rider Publishers, Inc., 1964.

Some electronics background is helpful but not necessary for reading this book. It gives a general coverage of programming, number systems, logical design, circuitry and memory division. It is similar to the Siegel book by the same title in the information presented and in the profusion of useful illustrations and figures. Especially helpful are the machine language programming examples. Review questions follow each chapter and a glossary is included.

Bork, Alfred M. FORTRAN for Physics. Reading, Mass.: Addison-Wesley, 1967.

Burroughs Corporation. Digital Computer Principles. New York, N.Y.: McGraw-Hill Book Co., 1962.

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Davis, Gordon B. An Introduction to Electronic Computers. New York, N.Y.: McGraw-Hill Book Co., 1965.

Digital Equipment Corporation. Small Computer Handbook 1968. Maynard, Mass.: The Digital Equipment Corp., 1968.

Harcourt, J. C. We Built our own Computers. Cambridge, Mass.: The University Press, 1966.

Written by high school age boys for that level, the book is good for those who wish to do more with computers than just program. Several examples of simple machines are given with directions for construction using inexpensive equipment, beginning with a matchbox computer and progressing to electrical ones. Sections include logic, binary arithmetic, analog computers and programming.

Ketchum, Donald J. Applications of Digital Logic. Farmingdale, N.J.: Buck Engineering Co., 1966.

Klerer, Melvin and Granino A. Korn. Digital Computer User's Handbook. New York, N.Y.: John F. Rider Publisher, 1967.

Murphy, John S. Basics of Digital Computers, Vol. 2 and 3. New York, N.Y.: McGraw-Hill Book Co., 1958.

Siegel, Paul. Understanding Digital Computers. New York, N.Y.: John F. Wiley & Sons, Inc., 1961.

This book, for readers with technical or scientific background or interests, presents the principles of computers in three sections. Section I includes logic and arithmetic with good tables and illustrations. Section II is concerned with the mechanical and electrical components. Section III discusses the functional units with a final chapter on a specimen computer. Each chapter has a concise summary and vocabulary list with a glossary at the end of the book.

Wiener, Norbert. Cybernetics, or Control and Communication in the Animal and Machine. Cambridge, Mass.: MIT Press, 1965.

MISCELLANEOUS

Finerman, Aaron and Lee Revens, editors. Comprehensive Bibliography of Computing Literature, 1967. New York, N.Y.: Association for Computing Machinery, 1968.

Holmes, James F. Data Transmission and Data Processing Dictionary. New York, N.Y.: John F. Rider Publisher, 1966.

Horn, Jack. Computer and Data Processing Dictionary and Guide. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968.

FILMS

America on the Edge of Abundance. 60 min., 16 mm, sound, b & w. Audiovisual Section, Oregon State System of Higher Education, Portland, Oregon, 1965.

Summarizes some problems in American society brought on by automation, especially those of abundance and waste, and unemployment and the right to consume. The historical aspects of the work ethic are considered. Contains commentary by various experts on the above problems and on the future capabilities of computers.

Area of Action. 29 min., 16 mm, sound, color. IBM, Armonk, N.Y., 1960.

This film discusses EDP in industries of several countries: Australia--wood production; Taiwan--sugar processing; India--jute fiber quality control; Japan--Noritake dinnerware and Tokyo--banking; Thailand--statistical data for U.N. reports. Interesting, but does not show much software or hardware.

Automation. Reel 1--37 min., Reel 2--23 min., Reel 3--25 min., 16 mm, sound, b & w. Audiovisual Section, Division of Continuing Education, Oregon State University, Corvallis, Ore., 1957.

Narrated by Edward R. Murrow, the film explores the effects of automation in many industries. Although a decade old, many points are pertinent today. Takes more than one class period, but continuity is not harmed by a break between reels. Reel 1: Comments by Walter Reuther and John Diebold. Discusses development of automation from James Watt on. Examples shown: aircraft production, auto engines, steel, air traffic control, cancer detection. Reel 2: Comments at a union meeting on the effect of automation on workers, and their solutions. Comments by T. J. Watson, President of IBM. Examples shown: telephones, light bulb production, bakery, home freezer-stove combination. Reel 3: Comments by Walter Reuther

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and an MIT professor. Interesting points: We need a clarification of values. We should share abundance rather than divide scarcity. Automation is an intellectual revolution. Increasing the speed of communication doesn't improve that which is communicated.

Automation: The Next Revolution. 30 min., 16 mm, sound, b & w. Audiovisual Section, Division of Continuing Education, Oregon State University, Corvallis, Ore., 1966.

Good discussion starter. Includes comments by business and labor leaders on their views of the problems of automation, and some examples of automation such as shipping company and bottling plant. Comments by Willard Wirtz and Bayard Rustin are interesting and provocative. Some questions considered: Is there always a place in society for a man who can earn his way? Do events force businessmen to automation? Should the rate of introduction of machines be such as to protect existing workers? Should we separate pay from work? The narrator's final comment is that the problems will be solved by inventiveness, courage and kindness, which machines do not possess.

Class of 01: The College of Tomorrow. 25 min., 16 mm, sound, color. McGraw-Hill Book Co., New York, N.Y., 1967.

Narrated by Walter Cronkite, this film summarizes the new educational technology, with commentary on the future outlook from Harold Howe and Fred Heckinger. A couple of interesting points: "Technology will become not only an adjunct but a necessity," and "Teachers will 'teach' less so that learners can learn more." Some items shown are the multi-media center at Pennsylvania State, the use of a learning package with tapes, slides, films, etc., for individual study, and a demonstration of a lab experiment conducted by computer and displayed on a video screen (an application of PLATO--Programmed Logic for Automatic Teaching Operation).

Communications Explosion. 29 min., 16 mm, sound, color. Marion County, Oregon, Intermediate Education District, Salem, Ore., 1967.

Narrated by Walter Cronkite. Not entirely devoted to computers, the film does show their application and importance to communication. Orbiting satellites are discussed by Arthur C. Clark, one of the originators of the synchronous satellite concept. An interesting point was that improved communications could reduce the need for business travel. Other interviewers are John R. Pierce on laser transmission and John Diebold on self-edited news reports and

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man-machine interface. Some topics included: conversations with computers through terminals, oral conversation with a computer, computer generated voice.

Computer Programming. 33 min., 16 mm, sound, b & w. System Development Corp., Santa Monica, Calif., 1958.

Although it is an old film, it is still worthwhile and it is preceeded by a leader which updates it somewhat. The programmer's task is described. A brief discussion of real-time is followed by a sample problem--the avoidance of objects in space by a space vehicle. A definition of a program is given, as well as a discussion of procedures prior to writing a program, including flowcharts with decisions and loops. Also shown are the relationship between flowchart and program and the processes of testing and debugging. All of these are with reference to the sample problem. The programmer is shown as a member of a team, coordinating his part with the larger problem.

The Computer Revolution. 22 min., 16 mm, sound, color. CBS Television Network, New York, N.Y., 1966.

Narrated by Walter Cronkite, taken from "21st Century" on CBS-TV. This is a fast-paced film introducing the viewer to computer applications in the following areas: newspapers, air traffic control, hospital information, space flight control, police work, graphic display, voice simulation, chess, national data bank and time sharing. Some comment is made on possible safeguards for privacy. A good introductory film, it does not go into detail on any one application.

Computer Technique for Animated Movies. 17 min., 16 mm, no sound, b & w. Pacific Northwest Bell Co., Portland, Ore.

A slowly paced film with no sound. It describes the process of producing an animated film. The desired animation is programmed using a language developed for the purpose, and the program is fed to a computer which produces a control tape. The tape then is used to control film motion in the camera and produces the visual display on a video tube, at which the camera is aimed. This film is made by the technique it illustrates. An added section shows an optical paradox filmed this way.

Computers and Human Behavior. 30 min., 16 mm, sound, b & w. Audiovisual Section, Division of Continuing Education, Oregon State System of Higher Education, Portland, Ore., 1963.

Research in mental processes is discussed by staff members of Carnegie Institute of Technology. Computer-produced patterns on a cathode ray tube are used in depth perception studies and computer music for auditory perception. Computer uses in psychology for analysis of data and production of effects are discussed. Included is a fairly clear presentation of the concept of binary information. The use of a computer to simulate the learning of matched pairs of nonsense syllables is demonstrated. Also discussed is GPS, General Problem Solver, a program to simulate human problem solving in copying patterns by operating under a set of rules.

Computers and the Mind of Man. 30 min., 16 mm, sound, b & w. Audiovisual Section, Oregon State System of Higher Education, Portland, Ore., 1962.

An introduction to computers. It explains how a computer processes a large amount of data in a short time, comparing its capacity for arithmetic with that of man. Ideas discussed are the computer revolution, man-machine relationship and the relations of the symbolic world of mathematics to the real world of objects and events.

Electronic Computers and Applied Mathematics. 23 min., 16 mm, sound, b & w. Audiovisual Section, Oregon State System of Higher Education, Portland, Ore., 1961.

This film contains very little of either electronics or applied mathematics, contrary to the title. It is, however, a good introduction to computers and binary numeration. Five basic computer units are discussed and illustrated. A brief history of computing devices from pebbles to ENIAC is given. The discussion of binary arithmetic includes a good coverage of place value in both binary and decimal systems. Both card and tape input are illustrated, as well as core, drum and disc storage devices. Personnel involved in preparing a problem for computer solution are identified as they work on a business problem. Some application mentioned are inventory control, test scoring, medical research, chemical refinery, air traffic control and others. A good elementary film for introduction or review.

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1999 (House of Tomorrow). 35 min., 16 mm, sound, color. Philco-Ford Corp., Dearborn, Mich., 1960.

Sponsored by Philco-Ford, the film has some commercial aspects. It shows a family of three and how their life might be lived in 1999, including education, health, recreation, occupation and home life. Emphasizes the technological inventions which serve the people.

Information Machine. 10 min., 16 mm, sound, color. IBM, Armonk, N.Y.

Discusses the common characteristics of creative people in assimilating, relating and using factual data. Illustrates three general categories of computer use: as a control, as a function of design and as a simulation or model of real situations. Some discussion points: "Information properly handled can bring a new dimension to mankind," and "With the computer, as with any tool, the concept and direction come from man." An excellent introductory film, fast paced and amusing.

Inquiry. 17 min., 16 mm, sound, color. IBM, Armonk, N.Y.

Produced with the cooperation of the Air Force, this film illustrates the use of data processing by the Air Force for personnel, parts, cost analysis, food service, weather data and battle analysis. Not instructive about the hardware and software used, but it gives a general overview of the types of questions and answers involved in each area. A relatively unnecessary film for school use.

An Introduction to Feedback. 11 1/2 min., 16 mm, sound, color. IBM, Armonk, N.Y.

Discusses and illustrates, with humor "real-life" examples, the concept of feedback--the process of measuring, evaluating and correcting. James Watt's steam engine governor is shown as the classic example. The role of a computer in a feedback system is shown.

Machines that Think. 30 min., 16 mm, sound, b & w. Atomic Energy Commission, Argonne, Ill., 1964.

This is a tour of the computing facilities of the Argonne National Laboratories, guided by the director. Hardware shown are the

Control Data 3600 computer; Chloe, a device for scanning pictorial data and converting it for computer use; Phyllis, a device for handling experimental data. Scientific problems (such as chromosome analysis) are used to illustrate the applications of the hardware. The tour stops frequently for discussion and illustration of basic concepts. A possibly controversial point mentioned is that it is no more important to ask if a computer thinks than to ask if a bulldozer works. The use of a computer in an experiment in nuclear physics is shown in some detail, and games and strategy techniques are discussed. The narration is sometimes garbled and difficult to understand, but otherwise it is an excellent film.

Management of a Time Sharing System. 14 min., 16 mm, sound, b & w. System Development Corp., Santa Monica, Calif.

This film illustrates the management, operation and use of a time sharing system. Illustrated are the scheduling of access, user priorities and guaranteed use. The tasks and methods of the operator in coordinating system users is shown. An interesting sidelight is the use of a light pen with a cathode ray tube. Intended mainly for a semi-technical audience, not as good for general information as "Time Sharing on the Air" reviewed in this bibliography.

Mark of Man. 20 min., 16 mm, sound, color. Stromberg-Carlson, San Diego, Calif.

This film discusses the history of man's methods of recording information up to the present day. It briefly discusses the capabilities of a computer, then discusses the development and operation of the shaped-beam tube in which an electron beam is shaped so that characters are displayed on the tube face. This tube is used in the SC 4020, the workings and capabilities of which are shown. It is used with a computer to handle and display output. Some applications shown: rocket path, machine tool path control, PERT charts, curve fitting and map drawing.

Memory Devices. 28 min., 16 mm, sound, color. Western Electric Corp., Portland, Ore., 1960.

Discusses most storage devices, introduced by pictures of a mechanical mouse which "learns" to negotiate a maze. Discusses the following topics: bits, representation of binary data, addressing, sequential and random access, punched cards, paper tape, relays, magnetic tape, drum, core, ferrite sheet, "twister" memory, barrier grid tube and "flying spot" store. An interesting technical film for students with a science background, very instructive.

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Of Men and Machines. 30 min., 16 mm, sound, b & w. Audiovisual Section, Division of Continuing Education, Oregon State System of Higher Education, Portland, Ore., 1962.

This film discusses the job of engineering psychologists in attempting to discover how man-machine communication and compatability can be improved. An example shown is the study of aircraft instrumentation in terms of reading and reaction times. The computer is used to predict and provide information enough in advance to allow reaction time. This film does not show enough computer applications to make it worth the viewing time for a class concerned with computers.

Once upon a Punched Card. 10 min., 16 mm, sound, color. IBM, Armonk, N.Y., 1964.

Using examples of business applications, the film discusses the importance of punched card processing to the improvement of effeciency. Included are accounting, inventory, invoices, management reports. Basic hardware shown: punch, sorter, accounting machine.

One Step Behind--One Step Ahead. 28 min., 16 mm, sound, color. System Development Corporation, Santa Monica, Calif., 1965.

The film shows the use of NYSIIS, New York State Identification and Intelligence System. A couple who rob a drug store are followed from the crime through arrest, trial, sentencing, jail and parole, all of which are aided by NYSIIS. Since different agencies are involved, the film has some bearing on the use of a data bank of personal information and its advantages for consolidation of data storage. Mostly interesting, but has a couple of sections of dry commentary read by state officials, thankfully alleviated by Jack Webb's narration.

Programming Languages. 5 min., 16 mm, sound, color. System Development Corp., Santa Monica, Calif.

The film is in animated cartoon form, somewhat amusing. It discusses the necessity for and development of programming languages. The last part comments briefly on JOVIAL, a language developed by SDC. Could be used to introduce a programming course or unit, but is not particularly instructive.

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The Remarkable Schoolhouse. 28 min., 16 mm, sound, color. McGraw-Hill Book Co., New York, N.Y., 1967.

This film summarizes the new experiments in education. The Brentwood school in Palo Alto, Calif., is visited. There, terminals connected to a computer are used for Computer Assisted Instruction in reading and math. Daniel Bell of Columbia University comments on the types of learning suited to computer assisted instruction. Patrick Suppes comments on impersonalization and individual instruction, and Robert Hutchins talks about the danger of overemphasis on technology. Other schools visited are Granada School in Corte Madera, Calif., and Nova High School in Florida. Also illustrated is an application of games to teaching history.

School Information Center. 11 min., 16 mm, sound, color. IBM, Armonk, N.Y., 1963.

The film contains discussions of areas of application of data processing in schools. Included are student records, such as individual cumulative files, report cards, schedules and class listings. Census, counselor's back-up information and school district business applications are also covered.

Systems. 15 min., 16 mm, sound, color. IBM, Armonk, N.Y.

Discusses the importance of the systems approach to business and industry. An airline reservation system is examined, and other applications included are oil refining, paper production, rocket launch and department stores.

"Thinking" Machines. 18 min., 16 mm, sound, color. Audiovisual Section, Division of Continuing Education, Oregon State System of Higher Education, Portland, Ore.

Machine learning is illustrated by an experiment using a computer controlled mechanical mouse in a maze. The "mouse" is shown learning new paths by trial and error as the maze is changed. A chess-playing program on an IBM 704 is demonstrated, as well as machine recognition of visual patterns. Differences between computers and human brains are discussed and an artificial neuron is demonstrated.

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Time Sharing on the Air. 30 min., 16 mm, sound, b & w. System Development Corporation, Santa Monica, Calif., 1966.

The film demonstrates general principles of time-sharing systems by discussing the SDC system. It is a well done explanation, clear and straight forward. Time sharing is defined, along with a discussion of its value, the motivation for it and objections to time sharing in problem solving. Included is a tour of facilities, with different hardware units identified. The tour leader discusses the workings of a time sharing system using blackboard illustrations. Aircraft interception is used as an example to show how a user enters and uses the system. The TINT language is defined.

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ABSTRACT - Although vocational educators have increasingly realized that formal professional education should receive greater attention, they still tend to criticize present preservice and inservice professional education training programs. They complain that too many of these programs are verbal, abstract, and vague and that those attending these programs do not acquire the knowledge and sensitivity to understand classroom interaction. Two pilot studies may provide some insight toward improving instruction in vocational technical programs. Conducted at the University of Illinois, these two studies explored the potential of portable video venders and microteaching techniques as a means of improving instruction. However, there are many difficulties to overcome in getting these techniques accepted. (AUTHOR/JS)

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MICROTEACHING STUDIES IN VOCATIONAL-TECHNICAL EDUCATION

by Arye Perlberg

A paper presented as part of the symposium;
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MICROTEACHING STUDIES IN VOCATIONAL-TECHNICAL EDUCATION*

by Arye Perlberg, Teacher Training Department

INTRODUCTION

It has been traditional, not only in the United States, but all over the world, to slight the preservice and inservice development of pedagogical competence of vocational-technical teachers. There has been more emphasis on competence in technical skills and related theoretical subject matter. These were acquired primarily through occupational experience and some type of formal learning. Vocational-technical educators easily assumed that pedagogical skills would also be acquired through practical experience, trial and error.

In recent years, vocational-technical educators have increasingly realised that formal professional education should receive greater attention. However, they still tend to criticize present pre and inservice professional education training programs. The teaching of technical skills and related subject matter helped vocational technical educators to be appreciative of practical things. Many teachers have been skeptical about the value of many professional education programs in which they cannot see a direct connection between what is learned and its application to the teaching learning process in the classroom.

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* The studies reported in this paper were conducted while the author spent his sabbatical year as a visiting research associate professor at the University of Illinois, Urbana, Illinois. The author wishes to acknowledge the Department of Vocational and Technical Education, College of Education and the Illinois Board of Vocational Education and Rehabilitation for providing the opportunity and the funds to conduct these studies. He would also like to acknowledge the work of Prof. R. Tinkham, co-director, and R. Nelson, who collaborated with him in these studies.

Vocational technical teachers frequently complain that too many professional educational courses are verbal, abstract and vague. Too often teachers attending these courses do not acquire the knowledge and sensitivity to understand classroom interaction. Teachers are not well enough equipped with skills and behavior strategies to handle classroom situations. Those who want to improve instruction in vocational technical education are especially responsible for finding new models for pre and inservice professional training to motivate teachers to participate in such activities and facilitate improvement in the teaching process.

The following is an abridged report of two pilot studies[1;2] designed to explore the potential of portable video recorders and microteaching techniques to improve instruction in vocational technical programs. These studies are among the first conducted by vocational-technical educators on the use of these techniques and media.

The studies were conducted in the Department of Vocational-Technical Education, College of Education, at the University of Illinois, in Urbana and supported by a grant from the Research Coordinating Unit, Division of Vocational and Technical Education, Illinois, State Board of Vocational and Technical Education and Rehabilitation. The investigation has been conducted in two areas: (1) training and supervising student teachers in vocational technical education and (2) in service training programs in area vocational schools and the vocational technical program of Junior Colleges.

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1. PERLBERG, A., TINKHAM, T., AND NELSON, R. The Use of Video Tape Recorders and Microteaching Techniques to Improve Instruction in Vocational Technical Programs in Illinois.
   Part I - Student Teaching Study. Department of Vocational and Technical Education, College of Education, University of Illinois, Urbana, Illinois, 1968. (Mimeographed report.)
   Part II - Inservice STudy.

While working on these studies, the author directed another study in the Department of General Engineering, College of Engineering, University of Illinois.[3] Its purpose was to investigate some of the ways microteaching techniques and portable video recorders could improve instruction on the higher educational level. Since many of the problems of the effective use of these media and techniques are similar at all educational levels, the author relied on all these experiences for some of his conclusions.

THE PROBLEM

It is widely accepted that teacher education is a never-ending process, and that preservice training is only its first phase. Most student teachers and experienced teachers are aware of this notion and many agree. However, not enough has been done in their preservice education to motivate them to engage regularly in self-improvement activities, and far less has been done to equip them with skills and techniques of self-appraisal and self-understanding which must precede systematic self-improvement.

Microteaching techniques and protable video recorders have captured the attention of teacher educators in recent years and seem to offer very powerful techniques and media for self-confrontation and self-appraisal, and for improving teacher's classroom interaction.

The purpose of the studies was to explore some uses of microteaching techniques and video recordings in areas which were not explored or did not command enough attention at the time the study was conducted. For example, most experiments in microteaching techniques in preservice education focus on their uses at the teacher training institution rather than in the field. At the university of Illinois, where this study was

3. PERLBERG A. and O'BRYANT, D.C., Video Recordings and Microteaching Techniques to Improve Higher Education. Department of General Engineering College of Engineering, University of Illinois, Urbana, Illinois, 1968. (Mimeographed report.)

conducted, the College of Education has established a microteaching laboratory where student teachers had chances to practice and improve their teaching skills. The researchers suggested that it would help these student teachers greatly if their work with microteaching and video recorders in the College Technique Laboratory would be augmented by similar experiences during the student teaching period in the schools.

Moreover, the researchers assumed that the extension of self-confrontation and systematic self-appraisal from the microteaching laboratory to the actual field would lower the psychological barriers which deter teachers in the field from engaging in such activities and would increase the likelihood that the student teachers will continue in self-improvement activities in their future careers. The specific problems of motivating experienced teachers in vocational technical education for these improvement techniques was another area of investigation.

In both areas of investigation the researchers focused on the psychological administrative and technical factors which deter or enhance the use of the media and techniques. It is important to note that the coincidence of these two studies was not accidental. The student teaching period is a relatively short period of the academic school year. The researcher suggested that optimal use should be made of manpower and equipment to investigate ways of improving instruction. It must be admitted, however, that coupling these studies restricted the time and manpower for the inservice education study.

THE PURPOSES OF THE STUDIES

The Student Teaching Study

The purpose of this study was to validate the following hypotheses: (1) the augmentation of methods courses before the student teaching period with practice in the college microteaching laboratory with video recording would give students a realistic teaching experience, and ease the anxieties of their induction into student teaching; (2) the use of microteaching techniques and video recordings by the student teacher and cooperating teacher during this period would better prepare the student teacher for his role; (3) the use of video tape recordings and systematic observational techniques to analyze these tapes by the college supervisor would augment the limited number of visits to the student teacher, and (4) the critique of video recordings of the student teacher's classroom presentations by telephone conference with the student teacher and the cooperating teacher would improve the supervisory process.

The Inservice Education Study

The purpose of this study was to validate the following hypotheses: (1) A confrontation with his classroom behavior, as presented on video tape recordings, would increase the teacher's awareness of the need to modify certain behavioral patterns in the classroom and (2) a systematic analysis of the video tape recordings and the development of competence in specific teaching skills through microteaching techniques would facilitate this.

RESEARCH METHOD

Both of these pilot studies were designed to obtain qualitative data. The researchers assumed they should experiment intensively to deter-

mine problems inherent in the use of this media and technique. Such data would serve the design of the second phase of these studies which evaluates in quantitative measures, the effectiveness of these media and technique. It should be mentioned here that Phase II of the studies is already in process.[4] The finding of these studies and their implication as presented here should be viewed as tentative until further research data are attained to support them.

DESCRIPTION OF ACTIVITIES

The following are brief descriptions of the activities carried on. A more detailed description could be found in the final reports.

Student Teaching Study

In the academic year 1967, a Teaching Techniques Laboratory was established in the College of Education at the University of Illinois, where student teachers in all the areas of specialization improved their teaching techniques in addition to their regular studies in a methods course. The purpose of the Student Teaching study was to explore methods of supplementing student work in the Laboratory. College supervisors in the Department of Vocational and Technical Education, when visiting the students in schools, brought a portable video tape recorder. The classes which the supervisors attended were taped, and their discussions with the students and the cooperating teacher were based on feedback from the tape. In accordance with microteaching techniques, the analysis of the tape and proposals for change focused on a limited number of problems to be corrected. The portable video recorder and its accessories were left at

4. Phase II of these studies is conducted in the Department of Vocational and Technical Education, College of Education, University of Illinois, Urbana. It is directed by Dr. H. Sredel and Mr. R. Nelson.

the school and used by the student teachers and their cooperating teachers for mutual taping and self-analysis; here again emphasis was placed on the improvement of specific teaching skills.

The professor's three visit quota was inadequate for the supervisory process. The first and the last visit were devoted primarily to orientation and evaluation of the student respectively. In addition, the problem of locating adequate schools and cooperating teachers to supervise student teachers is especially acute in vocational technical education. The limited number of such schools near the University requires the placement of student teachers in schools which are far away from the University, and which require the supervisor to travel for many hours to visit a student. The few qualified university personnel and the distance of schools from the University ruled out more frequent visits. Therefore an arrangement was provided by which the student teacher mailed three of his taped lessons to the University, where they were analyzed by the professor and discussed with the student and cooperating teacher in a telephone conference. In addition, several tapes were selected as case studies for discussion purposes in the methods course.

Inservice Education Study

Teachers in two schools, an area vocational school and the occupational department of a Junior College, were chosen for experimentation. Vocational school teachers are commonly recruited from industry and do not have an academic education, whereas most Junior College Teachers have an academic degree in their field. Many teachers in both groups did not have formal pedagogical training. The potential of portable video recorders and micro-

teaching was introduced to the faculties in both schools. Volunteer participants were instructed in operating the equipment for taping and review, and the research staff worked with teachers individually. Micro-teaching techniques were used in analyzing tapes and modifying teaching behavior.

EQUIPMENT

To carry out this project, two sets of one-half inch video taping equipment were used, each consisting of two cameras, a recorder, a small TV Monitor, three microphones, and an amplifier-mixer which permitted more than one microphone to be used simultaneously. Two different units were designed and built to house the equipment and to transport it between the schools.

SELECTED FINDINGS

The following are several of the most important problem areas gleaned from the two projects. Space does not permit an elaborate discussion, and the reader is referred again to the final reports for a more comprehensive discussion.

Orientation of Participants and Facilitating Conditions to the Use of the Media and Technique

Proper orientation to the media and techniques and the facilitation of adequate conditions for its use seem to be cardinal to its effective introduction into any systems. Orientation and facilitation of conditions should touch upon the professional, psychological, technical and administrative facets involved. Let us examine some of these problems as they refer to different groups of participants involved.

Student Teachers Student teachers participating in this project were introduced to the study's purpose and procedures individually or through their method course. They had also an opportunity to teach several micro-lessons in the Teaching Technique Laboratory. The study results indicate that this preparation was not enough and that a more thorough knowledge of the media and technique and a more intensive, structural practice in the Teaching Technique Laboratory would facilitate more effective use during the student teaching period.

A more intensive preparation in this area may contribute also the general effectiveness of the student teaching period. It may ease many of the tensions inherent in student teaching. The student teacher arrives at the school, equipped not only with theory but also with practical experience in teaching, thus enhancing his status with the cooperating teacher and his students. He will be able to begin some teaching already during the first week. Having been exposed to critiques of his lessons by supervisors and students in the Teaching Techniques Laboratory, he will be more open to suggestions from the cooperating teacher and may actively criticize his instruction in order to maximize the effect of student teaching.

At present, the emphasis in student teachers' work in microteaching laboratories is on the acquisition or improvement of teaching skills. Self-confrontation is secondary and regarded only as a vehicle to achieve this purpose. However, if it is expected that student teachers will continue to engage in self-improvement processes during their long teaching career, it is essential to prepare them for this task, systematically increasing their ability to look at themselves.

Cooperating Teacher The Cooperating teachers were introduced to the project, its purpose and procedures during a one-day workshop. All expressed a desire to cooperate with the researchers in exploring the potential of the media and techniques in improving student teaching. Within the existing conditions, they have done their best. But this seems to be far from what they could do with optimal conditions.

Two conditions are essential for a more effective use of these media and techniques. The first is a training program to prepare cooperating teachers to supervise student teachers, with especially effective use of video tape recordings and microteaching techniques. The second condition is a favorable climate, adequate time and facilities, and incentives to pursue such activities.

The cooperating teachers were advised to be taped in their classrooms. The teachers were to analyze these tapes by themselves, with colleagues, or with student teachers. It was suggested that they use the tape as a model for the student teacher to study and perhaps imitate, and that taping and reviewing of tapes would set a good example and help them to pursue the activity with student teachers. They were also advised that the use of VTR's as feedback mechanisms would be helpful in their own self-improvement.

Some cooperating teachers followed this advice and indicated that, for the first time, they had the opportunity to see themselves as students saw them, and were often surprised at the tape's contents. But in most cases there were a variety of "obstacles" which prohibited them from self-taping and analysis. The cooperating teacher may have ambivalent feelings and anxieties about self-confrontation on tape. The schools lone experimenter

with these media and techniques may be reluctant to ask his colleagues to review tapes with him. Inviting the student teacher to review and analyze his classroom interaction may seem a threat to his authority as a supervisor.

In order to utilize them, the cooperating teacher must be fully acquainted with VTRs and MTTs. Such experience could be provided in a university workshop where participants could use a MIT laboratory and assume the role of learner, teacher, and supervisor. The program would include an overview of learning and teaching theory with special emphasis on research in feedback mechanisms and MTTs. The teachers would also be instructed in the operation of equipment to enable them to train others.

Another goal of the workshop is to enable the teacher to relax while being taped and criticized, and to be able to criticize his own tapes. He will have developed sensitivity to classroom interaction and the ability to apply research findings to the teaching-learning process.

The second factor which determines the success of the cooperating teacher is time and the incentives to engage in this work. In the present system, cooperating teachers have limited time to devote to the supervision and the guidance of the student teacher. Very seldom is the load of the teacher reduced when he accepts additional duty of supervision of student teachers. Some cooperating teachers have difficulty in finding time to discuss and evaluate the student teacher's experiences. It is often assumed that the student teacher will observe, listen and learn by osmosis.

The effective use of MTTs and VTRs does not necessarily make the job of the cooperating teacher easier; it requires him to devote extra time to

the supervisory process. Even when recorders are operated by students, the cooperating teacher still must assume the responsibility of the administration of taping. Most important, however, is the review and analysis of tapes. In some instances in this study, the student teacher was taped but there was no review and analysis of the tape. Due to the shortage of tapes, the cooperating teacher had to erase the recording without reviewing it, to keep the taping activities on schedule. This is a tremendous waste of time and effort and can cause scepticism toward project activities.

The problem of time is related to the absence of strong incentives for the cooperating teacher. He is assumed to gain status with the assignment of a student teacher who acts as an assistant in several of his classes. In addition, he is given a small compensation and free tuition at the University. In view of the amount of time involved, these incentives are not strong enough to stimulate many teachers to assume added responsibilities in supervision by using MTTs and VTRs.

If cooperating teachers are to use VTRs and MTTs intensively and effectively in student teaching, it is essential that they be given adequate time to engage in such activities and more attractive incentives to stimulate them to assume such a responsibility.

The Role of the College Supervisor The contribution of the college supervisor during the student teaching period is limited. Of his three visits to each assigned school, only one is devoted to analysis and critique of lessons by the student teacher. This is by no means adequate and does not reflect the status that student teaching has in teacher education.

In general, all college supervisors who participated in the study reacted enthusiastically to the possibilities of these media and techniques. They agreed to cooperate with the researchers, and expressed a desire to include all of their students in any future extension of the procedures followed in this study.

It should be noted, however, that only one of the college supervisors, the co-director, was actively involved in the study and was aware of the range of activities and responsibilities inherent in the use of such media and techniques. In the case of other supervisors, whose students participated in the study, the research staff assumed all responsibility for the technical aspects of taping and organization of student teachers' activities in the laboratory.

If the use of MTTs and VTRs by college progessors is to increase the value of the student teaching period, the professor must be aware of the shortcomings of the present system of teacher education, especially student teaching. He must realize that changes in the present system of methods courses and student teaching are required. There is danger of a pseudo-acceptance of these innovations. For example, superficial acquaintance with the media and techniques, through a lecture demonstration and a visit to a teaching technique laboratory in which each student teacher is taped once "to have a taste of it," may increase the student teacher's body of knowledge, but it is not likely to affect his teaching.

To effectively use MTTs and VTRs, professors of methods and supervisors of student teachers should participate in special workshops to teach them these innovations and the rationale for their instruction.

It is paramount that the college superviosr himself be taped and that he review the tape on his own, or preferably, with his colleague. In order to use such media effectively and to convey a feeling of confidence to the students, the college supervisor must have experienced the emotions of self-confrontation. In order to encourage students in analysis and critique, he must himself be open to analysis and critique. A parallel is the self-experience of analysis and therapy often used in the training of psychologists, psychiatrists and counselors.

Experimentation with supervisory telephone conferences based on tapes sent to the professor was limited due to lack of equipment. However, it seemed to be a worthwhile practice which should be expanded. When equipment is left at schools for long periods and especially when schools purchase their own equipment, it is assumed that many more tapes of student teacher activities, as well as those of the cooperating teacher, will be sent to the professor and critiques via telephone.

The use of MTTs and VTRs requires the devotion of additional time in student teacher supervision. In several instances, in the present study, the professor did not have time to review tapes. In order to take the full advantage of these innovations, the professor's travel time should be reduced. The use of graduate assistants as supervisors and the critique of tapes by telephone conference would also provide the professor with the additional time necessary.

Teachers' Attitude Toward the Media and Technique The following remarks are based on general impressions of the researchers and key people with whom they worked in each system. It was difficult, however, to determine

whether opinions expressed by the faculty were always related to a specific use of these media and techniques, which can seem to be a burden or threat, or were a reaction to administrators and university staff who intruded into the teacher's relatively quiet world by suggesting that improvement in teaching is needed.

It should be emphasized that the limitations of staff and equipment forced the researchers to restrain efforts in introducing these innovations. They did not want to interest too many teachers in the project and then frustrate them by not being able to involve them in intensive activities.

The reaction of the faculty to the rationale of the project was different in each of the school systems involved, and this seems to be due to the orientation method and the composition of the faculty. In one case, the presentation was made to a group of 15 teachers. In the discussion that followed, the faculty seemed reluctant to commit themselves to participation. Such public declaration may have been considered a sign of weakness, and admittance that the teacher's instruction needed improvement, or an irreversible commitment. However, after the meeting, several teachers expressed readiness to cooperate with the researchers.

In another case, the whole faculty of a junior college was introduced to the project in a general meeting. The college president wrote a letter encouraging teachers to read the descriptive material distributed beforehand and to attend the meeting. Favorable attitudes were expressed at the meeting, particularly by figures of authority in the college. The faculty was not then asked to make a commitment.

A second meeting was held later with the faculty of one department with whom the researchers intended to work. Most participants seemed

emotionally ready for this meeting and a significant number expressed interest in the project. Researchers felt acceptance of the idea but did not pressure faculty members to commit themselves. They were told, however, that staff and equipment limitations would not permit intensive work with all interested persons.

After completion of the project in the Department, coordinators felt that about one-third of the faculty was actively interested in activities, another third was passive and the remainder expressed some resentment and apprehension.

Generally speaking, the teachers who engaged in project activities recognized their importance. One should be cautious, however, about the reactions of teachers who were engaged in a limited number of taping sessions. Their attitudes may change when they are involved more intensively.

Some of the teachers participating in the project expressed ambivalent feelings toward the proposed activities. They agreed theoretically that there was need for continual improvement and that activities to improve instruction on a regular basis were desirable. Moreover, there was probably some inducement in the possibility of seeing oneself on a television screen minutes after being taped. The experience with this innovation seems to have a special appeal for some of them. One teacher, when asked about the uniqueness of video taping as compared with audio taping, said, "After all, humans like monkeys, are fascinated when looking at themselves."

On the other hand, the same teachers may have been anxious about facing themselves and reluctant to accept what they saw. They may have been apprehensive about developing dissatisfactions with their behavior. Moreover, even when they overcame these hurdles, they feared that this feedback would be used administratively to their disadvantage.

Avoidance Mechanisms Verbal expression of willingness to cooperate in the experiment may be only one side of the ambivalent feeling toward actual participation. When the teacher's anxieties overrun his logical readiness, he may employ overt and covert mechanisms to avoid self-confrontation. This phenomenon was evident in several ways.

Usually equipment was left in schools for a few days. Teachers who were familiar with the operation of the equipment were advised to experiment with taping of classes or of role-playing situations. They were allowed to erase any tape, or analyze the tapes with the project staff. The researchers hoped that the fascination of seeing themselves on tape would encourage faculty experimentation with the equipment. A number of the instructors did take advantage of the availability of equipment and tape themselves. However, the researcher's expectations proved to be too optimistic.

Difficulties in scheduling taping activities provided an opportunity to avoid being taped, and analyzed. The researchers were aware of numerous problems in the area of administration and logistics, but it is essential to recognize that teachers sometimes used these difficulties as avoidance mechanisms.

In other cases, teachers preferred not to be taped because the nature of the lesson or subject matter did not lend itself to taping or because "there is no adequate time to prepare a lesson that is good enough for taping." These statements indicate the deep anxiety with which these teachers viewed the taping procedures. It seemed that some teachers had been less concerned about how the lesson was presented to the students,

but when it had to be taped, they became aware of its quality.

Some tried to avoid the self-confrontation entirely, even though they could view the tapes privately. Others preferred to view themselves only with a consultant. Teachers were advised that immediate review was most desirable; few did it. Many did not see the tape until a week later, during their analysis session with the researcher. There were sometimes legitimate logistic or technical difficulties which prevented immediate reviewing. In other cases there were definite avoidance mechanisms.

Improving Instruction and Teachers' Load Intellectual and emotional eagerness to use these media and techniques is not enough. The teachers must have the time, energy, and supportive conditions to pursue modification of classroom interaction. The teacher's heavy teaching load and his involvement in school or other activities were in some cases, great obstacles to participation in activities. The magnitude of these obstacles is increased when coupled with anxieties about these media and techniques.

Intensive participation requires the teacher to prepare new teaching strategies after each review of tape. Changes in teaching techniques may require changes in lesson content, formulation of new questions and the preparation of audio-visual aids. However, it is unrealistic to expect teachers with approximately 20 contact hours a week to devote much time to them.

Teachers who are willing to engage in intensive work should be released from some of their teaching and other duties, to enable them to devote time and energy to teaching improvement activities. The fact that the school considered it important, worthy of release from some of their duties,

might motivate them to contribute more of their own time. Moreover, it would indicate to them and to the rest of the faculty the school's sincere interest in improvement of instruction.

It would seem that intensive work with a small group of teachers which could produce visible results is preferable to somewhat superficial activities with a large number of teachers. Intensive work and successful modification would serve as an incentive to other teachers to participate in such work.

The Involvement of University Consultant and Local Personnel Most of the activities in this study were designed to be carried out by the researchers. It was planned, however, that some activities, such as experimentation with the operation of equipment and self-taping for self-analysis, would be executed by the teachers alone.

Experience in this project has shown that most teachers were not ready to work on it on their own. Equipment left in the schools often was not used for several days. It was necessary to inform participants of the high cost of the equipment and staff and the need to intensify activities so that staff and equipment could be used to the maximum. However, when taping activities were incomplete, visits by the research staff had to be cancelled.

At present, most projects dealing with the use of video recordings and microteaching techniques in inservice education are in the research stage and are directed by university and research institute personnel. Such personnel is limited and costly. The most logical solution to this problem would be the use of these media and techniques by local school

personnel. During the initial stages of the program educational consultants would be available to help set up procedures.

Local school personnel should be assigned to these activities as part of their school load. The actual time needed would depend upon the range of activities. This should, however, be determined before the project begins.

Special training of personnel is needed to administer the activities in each school. The operation of equipment is quite easy. Those responsible for the inservice program must be able to motivate teachers to participate in self-improvement and to help them through the review of tapes and microteaching practices. Such personnel would have to be sensitized to teaching problems and modification of teaching behavior; training in introspection is also essential.

The real problem, however, is to get faculty to accept one of their colleagues for criticizing their tapes and directing behavior modification. Those who administer local inservice training programs are aware that "there is no prophet in his own town." Teachers, in general, prefer "outsiders" to their own colleagues as lecturers and consultants on general educational problems. It is, therefore, safe to assume that they would also have strong feelings about the review of tapes of themselves and advice in the modification of their behavior. Although a colleague might succeed in persuading teachers to attend a lecture or a workshop, he might find it difficult to stimulate teachers who try to avoid being taped.

School personnel selected for using video recordings and microteaching techniques should be known for the quality of their teaching. They should

be sensitive to problems of human relations and accepted by their colleagues as individuals in whom one can confide.

CONCLUDING REMARKS

The basic assumption underlying the projects reported here was that video recordings and microteaching techniques could provide a powerful tool in modifying teachers' behavior and improving classroom interaction. Several factors led the investigators to this assumption. First, there is ample research evidence in learning theory and* behavioral science in general, and in particular areas such as programmed learning, computor assisted instruction, interaction analysis, counseling, individual and group therapy, and sensitivity training. This evidence indicates that feedback given to a person on his present behavior plays a significant rôle in modifying his behavior. (cognitive, attitudinal, and motoric). Second, the accuracy, authenticity and immediacy of this feedback may reduce his resistance and use of defense mechanism to avoid behavioral changes. Third, research and experience in the above mentioned areas, and in other disciplines such as system engineering, indicate that a system approach such as microteaching (breaking a complex activity into elements, involvement, practice and active participation) increases effective learning. Fourth, initial results of research projects on the use of video recordings and microteaching techniques supports the underlying assumption of this project.

Accepting the basic premises about the potential of this media and techniques the investigation worked primarily to determine optimal

* For sources to support these assumptions see the comprehensive bibliography in the final reports of the studies discussed in this paper.

conditions for their use by teachers. At present, most studies in this area are conducted in laboratory conditions in universities and research institutes, where most of the activities are supposed to be controlled by the researcher. Even when research in this area is directed to inservice education activities, there is always the danger of a strong "halo" effect which influences the results.

The real problem is whether teachers will use these media and technique in regular self-improvement activities, without being involved in specific research projects, and free from the impact of highly motivated researchers. Just because video recordings and microteaching techniques seem to be a powerful tool in behavior modification, the danger of rejection or pseudo-acceptance by teachers, increases. There is a danger that without proper training in the effective use of these media and technique, even highly motivated teachers will view it as another "gimmick" in education and will "enjoy" seeing themselves on television without taking full advantage of self-confrontation.

Experiences in these studies suggest that video recordings and microteaching techniques, if properly introduced, can play an important role in improving instruction. The recent establishment of microteaching or teaching techniques' laboratories is a most important facet of many teacher education programs. The laboratory is their first experience in their induction to the media, technique and its potential. But to make this media and technique a tool for future regular self-improvement of teaching, student teachers must have learned in their method courses and microteaching laboratory that their experiences are but a beginning. In the laboratory, greater emphasis must be put on making them feel comfortable

in self-confrontation processes.

Of greater importance, however, is the next step, the student teaching period in the field. In the college, experiences in the laboratory are controlled and required, a fact that helps many to overcome psychological difficulties and resistance. A much greater degree of independence is given to the student during student teaching, and his voluntary intensive involvement with this media and technique may determine its future use. It is important that student teachers should have satisfactory and rewarding experiences, and should develop positive attitudes toward the media and technique at the beginning of their careers. The role of college supervisors and cooperating teachers in helping the student teacher to achieve these goals cannot be over-emphasized.

Finally the effective use of this media and technique by experienced teachers as part of inservice education program requires special conditions. Self-confrontation and behavior modification are difficult for the student teacher. This is even truer for the experienced teacher. Realizing the many difficulties and removing obstacles is prerequisite to its introduction as an effective tool to improve teaching.

VT 012 156
Brennan, Margaret Jane, And Others
Report of the Preparation of Teacher-Aides for Vocational Home Economics Education Project.

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ABSTRACT - Twenty paraprofessionals were selected for a 4-week workshop designed to train vocational home economics teacher-aides to perform non-teaching tasks and duties, thus allowing teachers to provide individualized instruction, make better use of resources, and plan more effectively. Typical classroom procedures, demonstrations, field trips, and speakers were used, and both group and individual evaluation were made at mid-point and at the conclusion. The workshop brought out the value of preservice training experiences for the aides, but the lack of followup in job placement for the trainees was a weakness of the workshop. It was recommended that there be some provision for job placement and job orientation, and home economics teachers need to know how to use aides effectively. Several project materials are appended. (SB)

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Report of the Preparation of Teacher-Aides for Vocational Home Economics Education Project

June 29 - July 24, 1970

Workshop Sponsored Jointly by the
Vocational Division of the State Department of Education
and
Department of Home Economics of Western Michigan University

1970

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REPORT OF THE PREPARATION OF TEACHER-AIDES FOR VOCATIONAL HOME ECONOMICS EDUCATION PROJECT

June 29-July 24, 1970

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Workshop sponsored jointly by the Vocational Division of the State Department of Education and Department of Home Economics of Western Michigan University.
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Preparation of Teacher-Aides for Vocational Home Economics Education

OVERVIEW OF THE PROJECT

Vocational teachers in the area of vocational education programs in the secondary and post secondary schools spend too much time on non-professional tasks and duties which are realistically not a part of the teaching process.

Teacher-Aides or para-professionals are non-certified persons who perform certain duties and services for schools, under the supervision of a certified teacher. Twenty of these individuals were selected from thirty-seven applicants on the basis of their ability to function effectively in the school situation. The program was four weeks in length (20 days or 140 hours), June 29 through July 24, 1970.

Western Michigan University, Kalamazoo Michigan, is a vocationally approved institution with a faculty who demonstrated interest in the training of Teacher-Aides.

THE PROJECT

It is herein proposed by the Department of Home Economics, Western Michigan University, that this training program be developed to train vocational Home Economic Teacher-Aides. When trained, these auxiliary teachers will enable the teacher to be more effective by allowing the teacher to (1) provide individualized instruction, (2) make better use of resources, and (3) plan more effectively.

The objectives were as follows:

1. To select, prepare, and place Teacher-Aides in Home Economics Education.
2. To increase the individualization of instruction.
3. To prepare Teacher-Aides through the following essential knowledge and competence:

Ability to carry out responsibilities

Ability to follow instructions

Skill in communications with students

Willingness to be part of a team

Pride and professionalism on the job

Knowledge of routines and procedures

Understanding of job safety

Housekeeping ability

Production of teaching materials

Skill in use of equipment

4. To follow up and evaluate the trainees on the job in terms of the competencies.

SUMMARY OF PROCEDURE

The program was four weeks in length (20 days or 140 hours) June 29 through July 24, 1970. Typical classroom procedures were explored with students preparing written exercises in ways they could aid the teacher. A part of each day was used for demonstrations. Field trips, speakers, and other typical classroom experiences pertinent to the instruction were also used. Constant group evaluation and discussion helped the individual in understanding herself in relation to others and realizing her potential as a classroom aide. The importance of each girl was stressed and development of self confidence was very important.

Observations of the group in action were made by two consultants. Both group and individual evaluations were made at mid point and at the conclusion. A certificate was awarded to the twenty aides who satisfactorily completed the program.

SUMMARY OF OUTCOMES AND FINDINGS AND RECOMMENDATIONS

Outcomes and Findings

This workshop brought out the value of a preservice training experience for the aides. A competent experienced home economics teacher as the instructor was used to provide meaningful, practical classroom situations similar to those typical in a high school home economics class. The workshop was structured by the instructor to show the aides what assistance was necessary and to help each aide know about her talents and how she could use them effectively in assisting the learner and the teacher. All types of audio-visual aids, multi-media of many kinds and numerous resources were used to illustrate the key concepts of home economics. The importance of the individual and the well-being of families was constantly in focus as the central theme of the teacher's goals in each area of home economics.

Effective human relations was emphasized and opportunity for increased effectiveness in assisting teachers in the classroom setting was underscored. The lack of follow-up in provision of jobs for the trainees was a weakness brought out by the workshop enrollees.

Recommendations and Follow-up

1. It is recommended that some provision is needed for job placement and further counseling as orientation and adjustment on the job.

2. There appears to be a needed briefing or introduction for home economics teachers as to how to use aides effectively for strengthening their program and providing mutually satisfying experiences to both aide and teacher. (The value of such a meeting was pointed out by the experimental coffee hour for home economics teachers attending a curriculum workshop and the trainees.)

3. Counseling was an important part of the success of the workshop and was time consuming. Adequate provision for this needs to be built into the program to provide for it. (Each enrollee needed reassurance and support, particularly those who had failed to find job satisfaction up to this time.)

II BACKGROUND INFORMATION ON TRAINING TEACHER-AIDES

Factors Contributing to Effective Teaching Using Teacher-Aides in Other Areas

Factors contributing to effective teaching using Teacher-Aides in other areas are legion. Teaching is changing to keep abreast with learning theories and with innovative practices. Programmed instruction for individuals means classrooms which will require additional personnel. Small group and large group instruction provides larger work loads for teachers. As each new program emerges or curriculum changes take place, there must be more testing, and more evaluation. These changes result in more records, conferences, teacher prepared instructional materials and well organized lessons. Clearly, teachers and pupils each need help. Teacher-Aides, both paid and volunteer, have been found to be helpful. Wright (3:6) states:

> "Every aide can and will give worthwhile assistance to the teacher if properly approached and prepared."

This preparation requires that planning is necessary for effective use of the Teacher-Aide. The Teacher-Aide's use is limited only by the use of the teacher's imagination in both instructional and noninstructional roles. A plan for training aides before they are introduced in the classroom has certain advantages which Wright (3:8) indicates:

1. Giving prospective Teacher-Aides an overview of child development and growth together with new curriculum content and concerns.

2. Acquainting participants with the various kinds of instructional, noninstructional, and semi-instructional school-connected jobs.

3. Providing lecture-discussion-demonstration workshops on specific topics such as subject areas, human relations, or new programs.

4. Bringing school people and aides together in an informal atmosphere to discuss mutual problems and concerns from which paid and volunteer plans of action can evolve.

5. Providing a forum for mutually rewarding discussions about practical and theoretical child rearing, moral and spiritual values, child-parent and child-teacher relationships, and peer group relations.

6. Becoming acquainted with new educational materials, technology, and media being used in today's schools.

7. Understanding the significance of the dimensions that can be brought to the teaching-learning-growing process by other specialists and scholars such as psychologists, psychiatrists, pediatricians, socialogists, economists, etc.

8. Learning about the resources and help that can be given by community agencies, area colleges and universities, and other groups.

Learning about the content and skills required in the discipline might be an additional advantage. To know what home economics is and what it does could be taught briefly in a preservice training program.

On the job training, a second plan, might offer helpful problems which are recognized. Motivation is greater when trainees are aware of problems needing solving.

A combination of preservice and inservice preparation for the aides and the teachers is ideal.

Volunteer aides have been used in classrooms at the elementary level for many years. Such sources as married women, retired teachers, mothers and fathers have been used as successful volunteer aides.

Bay City, Michigan has established a program to resolve the housekeeping and secretarial problems of their teachers. New York City has used volunteer aides extensively throughout the program developed by Margaret Jamer. (1) Many phases of education have been implemented as a result. Pupil to adult contacts have strengthened relationships and renewed feelings of self-worth in young people. More enrichment for average and above average learners has been another important duty the Teacher-Aide provides. Use of supplementary material, individual help and attention, drill when needed--all have been

effectively used when the ratio of children to adults has been decreased.

Teacher-Aides can be a vital part of the process of education provided they are guided, supervised, and trained in their role in the classroom.

Limitation of Accumulated Research in Use of Teacher-Aides in Home Economics

The Fennville Program

Michigan Teacher-Aide programs in home economics are unknown to the writers except for one experimental program which was done in Fennville. Mrs. Ruth Knoll, a Fennville High School home economics teacher, in cooperation with the Vocational Education Division of the Michigan Department of Education and Central Michigan University conducted such a program in 1957-59. In this study, it was hoped that a way could be found to offer home economics to more students, particularly younger girls.

The goals they wanted to accomplish, as stated by Mrs. Knoll were: (10) 1) To determine whether a Teacher-Aide would help them to reach more pupils with good teaching standards; 2) To complete units involving skills more quickly, making it possible to broaden our treatment of child care and home improvement; 3) To provide more time for home visits and teacher-pupil conferences; 4) To include the eighth grade in the homemaking program; 5) To start an FHA chapter ; 6) To utilize two rooms to provide a greater amount of supervised homemaking activity.

The accomplishments of the program were clearly visible at the end of the first year, although not what had been anticipated. More students were involved in home economics classes and FHA activities, contacts with the community by both teacher and pupils had increased, both hightened parental satisfaction, and more support and continued interest from the Board of Education were evident.

Nutrition Aides in Cooperative Extension Program

Aides have been used in the Cooperative Extension Expanded Nutrition Program in Michigan to help low-income families improve their diets. Aides meet with the families on a one-to-one basis, but move them into group teaching situation as rapidly as possible.

Aides are trained by the local Extension Home Economist. Family Life Specialists from Michigan State University, other Extension staff members and local resource people supplement the training. A formal training period of two or three weeks is conducted before Aides visit families. Thereafter, approximately one day a week is devoted to on-the-job training.

Fifteen basic lessons in Food and Nutrition provide Aides with the information they need to begin to help families improve their diets. Lessons in human relations, services of related agencies, home management, family life and other related areas are supplied each week depending upon needs.

Current needs in Teaching Home Economics in Secondary Schools

Education with a job orientation and education for family living for Vocational Home Economics of the 70's will require well qualified teachers in the classrooms. Conceivably the increased interest in both aspects of home economics may provide educational ladders and job lattices for many persons. Current educational trends for programmed instruction, concept loops and instructional modules as well as learning packets will provide opportunities for divergent thinking by both pupils and teachers. Educational trends toward instructional teams headed by a master teacher, who is aided by assistants with less education but who possess skills and knowledge needed for their future may be just the answer to making education relevant.

The Teacher-Aide who is competently prepared, may be a part of this team. Such an aide can relieve the teacher of many of the classroom routines, establish good rapport with pupils, provide additional support and extend the value of what is taught to the pupil and the home, and help with the interpretation of the school in the community.

Men and women have important roles in today's home and work world. "Roles are changing" it is often said. Curriculum development for these persons requires multiple competencies. Often it is more efficient to use a team-approach involving different disciplines and persons with various levels of training. in nursing, some jobs previously assigned to the Registered Nurse are done as well by the aide or Practical Nurse. The result is that the Registered Nurse has more time to do those jobs which require proficiency and judgment for which her education and teaching have prepared her. Teachers too should place more emphasis on meeting the needs of special groups--the disadvantaged, the handicapped or the academically able, as well as the average and the normal. Meeting the needs of these learners is a big task for one person.

Those involved in teaching home economics to today's and tomorrow's youth will need to do more than just serve additional people. Time honored goals must be relevant in today's world for today's families if these goals are going to be achieved, as stated in the following: (14:29)

> "Not just more, but different and better, vocational-technical education will be required for the achievement of these goals. New resources are available for accomplishing this task, and they must be used wisely. The task demands reforms and sharp departures from the past, not so much in goals as in the means of attaining them.

Directions for Future Studies in Preparation of Teacher-Aides in Home Economics

Home Economics Aides may be available from several additional sources.

1) Drop-outs who have had some college work but were married and stopped their formal education. These people might become interested and as a result reapply to complete their undergraduate programs and become Home Economics teachers. They would have the advantage of maturity, knowing how to relate to youth and practical experience of managing a home and raising a family.

2) Adult education programs might recruit volunteer aides for home economics classes and train them to be useful assistants and resource persons. The type of program might be organized somewhat like the Grey Ladies who work in the hospitals under supervision and provide additional services. Another approach might be to select capable persons with desirable personal traits and set up a formal training class on a part-time basis (as in any adult education program). When the basics have been presented, these persons might have an internship with an experienced teacher for a specified time. When a certain standard of competency has been met, the enrollees could be certified.

Still another source of aides might be through either Future Homemakers Association or Future Teachers Association following participation under the direction of the home economics teacher. These girls could be placed in a co-op program where they would work on a part-time basis under the supervision

of both teacher and coordinator. Ideally part of each day would provide classroom learning of techniques, discussion of problems and alternative solutions and outcomes along with the actual experience. Such a program might lead into Teacher Education and be a means of interesting able students to major in Home Economics Education.

Participation in home economics classrooms by Home Economics Education students during the freshmen or sohpomore year would be valuable to both the student and to the teacher if enough safequards were built into the program to provide meaningful experiences in strong programs with supervision by capable teachers. Such teachers might be eager for assistance and regard the students as junior partners and fellow workers.

The above mentioned sources are but a few of those available. Program possibilities are limited only by the imagination and resourcefulness of the planner. Different plans may be workable in various situations. Sharing program outcomes can provide means of profiting from results of others and thus save time.

III PROCEDURE

Selecting The Teacher-Aide Participants

Contacting the Vocational Directors

The selection of participants was relatively easy because it was decided to use both interest in the project and ability to be helpful in the classroom as the criteria. All vocational directors in Michigan were contacted by letter. Each was asked to submit names of persons to whom applications could be sent. A small number of home economics teachers and others were also contacted.

Letters to the Prospective Aides

Application and form letters explaining the workshop were sent to those (Exhibit A) persons indicated by teachers and directors. Each person was asked to say whether or not they would be able to participate between June 29 and July 24 in the workshop which was being planned. From the affirmative replies received, twenty-one persons and two alternatives were selected on the basis of the above criteria and from throughout the state by the coordinator and director. Letters of acceptance or letters of regret were sent to all persons who had previously applied. (Exhibit B and Exhibit C)

Description of the Training Program

Daily Routine

The workshop met daily from 9:30-3:30 for four weeks. As a part of the training program, thirty minutes time for personal conferences with the instructor was also included. Each enrollee received a packet including a time schedule for the first day, a tentative plan for the workshop and a calendar with space for daily notations. Class activities and group plans were noted daily on a prominently displayed large calendar. Included also were guidelines for use of aides in the classroom. (Exhibit D)

The noon lunch was prepared as part of the program. After the first day's lunch, pairs of volunteers planned and prepared lunch each day. A treasurer was selected by the group and lunch money was collected. Each pair planned, shopped, prepared and served the daily lunch to the group. Clean-up was a time when everyone helped, so class time was not wasted. For many who were on limited budgets this meal became the main one for the day. Through the lunch activity they learned about the amount of money spent, discovered which lunches were the most costly and least filling and enjoyed working together in the laboratory and the sociability of eating together.

The course was planned to help the trainees recognize their skills, develop self confidence, to have the opportunity to perfect new skills, and to learn to recognize and identify the needs of the teaching situation to which they would be relating on the job.

Structuring the Learning Experience

Since the role of the Teacher-Aide is to help the teacher with the non-teaching areas, it seemed necessary to impress upon them the difference between well-planned instruction and incidental learning. They learned that well-planned instruction is based, one learning on another. Sample lessons were taught by the instructor which pointed up the need for consistent, well documented reasons for each step. For example: a stuffed meat loaf recipe was demonstrated. The use of tools properly named and used in a manner to eliminate hand contact consistent with sanitation methods was shown. The principles of preparation were covered during the demonstration along with the techniques of good workmanship. Since the loaf was stored overnight before cooking, the dressing was cooled before rolling in the meat, to comply with

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sanitation needs. The finished product was used for lunch to emphasize the management principles of using materials wisely. One of the trainees worked with the teacher in preparation for the demonstration. She prepared copies of the recipe for class distribution, bought the groceries, and set up the demonstration area for the teacher.

> Specian states: (11:346) There are certain built in fears and anxieties that adults have undergoing training, among them are: fear that they will be unable to learn, worry about their ability to please the instructor, fear of unsympathetic treatment by the instructor, fear of how they will appear to others in the class, dislike of going back to school, and the belief that they really have nothing to offer.

The training sessions were informal and were not like the traditional concept of school to help overcome feelings of inadequacy. If desired results were not forthcoming, the group discussed the situation, analyzed the problem, and the possible reasons for lack of progress. As a group, they learned to accept each other's differences and to recognize each one's strengths. For many, learning to follow through with a logical pattern of thought with the help of the teacher was a new and rewarding experience.

Field Trips as a Means of Learning

A field trip to the Home Service Department of Consumers Power Company provided an opportunity for them to observe a competent demonstrator and to learn more about appliances and their care. The Upjohn Company field trip afforded exposure to another community resource as used by classroom teachers and provided another interesting experience for the aides.

Use of Consultants During the Workshop

Consultants were used in the classroom. Mr. Don Campbell, head of

the Science Department for the Portage Public Schools spent an afternoon with the group. He was well versed in the use of paraprofessionals in the classrooms. Through discussion, the trainees drew upon many similarities in the needs of both the home economics and science areas and recognized differences. He especially stressed the need for professional ethics and the responsibility of any adult in the classroom and how aides worked to help teachers in the science areas.

Miss Marguerite Lofink, State Home Economics Consultant, Michigan Education Department, visited the workshop during the third week. She advised the group of the interest from the State Department and helped them with a presentation being prepared by the aides for a workshop group of teachers. The aides entertained her at a luncheon they prepared and served with special care in her honor. Afterward, in their program they presented the main things they were learning about the role of the aide.

Mrs. Ruth Knoll, Fennville Home Economics teacher, visited another day. She attended the program the aides presented for the home economics teachers. This was done for a group of home economics teachers participating in a curriculum workshop at the College. The skit used provided an opportunity for all to take part and the preparation served as a part of the understanding of the aide's position in the classroom and pointed up the need for mutual respect and good communication channels. After the presentation and lunch, Mrs. Knoll observed a student demonstration and took part in discussion of this and the evaluation of the contact with the teacher.

Home Economics Teachers and Aides Get Acquainted

Other contacts the participants had with home economics teachers were excellent because of the use of facilities in the Home Economics Department of the University and provided a unique experience. There were

daily contacts in the dormitories and halls, with both graduate students (bona fide teachers) and undergraduates. These contacts gave the aides the chance to tell the teachers about their preparation to assist in the classroom. The informal exchange made the aides more positive in their attitude toward teachers and what their possible reception in the classroom might be. The informal coffee hour provided by the graduate Curriculum class afforded a one to one contact for teacher and aides, and the aides were most encouraged by the teacher's eager response.

Consideration of Others and Developing Insights Important

Considering the others was emphasized during the workshop. This included the instructor who showed them how to go back over events and try to understand what happened. By this method, the trainees learned to accept individual strengths and weaknesses and learned to work through a problem; the reasons for training was emphasized and the question of how the individual could help others understand what the aide had to offer was thoroughly examined.

Immediate involvement was the technique used very often because the class was being trained to emphasize work of individual competencies and differences with others. The focal point of the class centered on an understanding of home economics subject matter and teaching areas. Participants were offered the opportunity to demonstrate anything they felt they had to offer to supplement the teaching in any of these areas. Their demonstrations were scheduled two to four a day, depending on the plan for other experiences and the kind of demonstration. This proved to be a worthwhile experience and strengthened the feeling of contribution. It gave the instructor an opportunity to assess both personal attributes and appearance of each when they were in front of the group.

Use of Resource People

A presentation by a Sanitarian from the City-County Health Department stressed main points for food handlers and included a dramatic demonstration of bacterial growth. He also showed two films on sanitation. Following his presentation, each person was presented with a food handler card. This, along with preparation of lunches was an effective means of emphasizing the need for high standards of sanitation and safety in the schoolroom.

A half day trip to a local school library for instruction and working with a school librarian on locating library materials and using the library effectively as well as instruction on two audio visual machines was used to acquaint the aides with working with a person to assist them. The trip to the High School and Junior High to see the home economics classrooms and to learn about the Junior and Senior High School curriculum by teachers working in these areas during the visit helped to clear up misunderstandings about what was taught, how, and where, and how Junior and Senior High School classes supplement one another.

Use of Equipment and Office Machines a Necessary Part

Operating the mimeograph, ditto, copier, and all other types of office equipment was shared during the workshop in order that each one would be competent and feel at ease with these tasks. Filing, mounting pictures, changing bulletin boards and innumerable other routine tasks were also included.

Age Range Provided Opportunities For Understanding

Enrollees ages were from 17 to 53. The age span was a shock to some of the participants in the beginning--almost to the point as one girl stated, "I almost turned and ran!" This age difference proved to be a positive factor in helping participants prepare for work in the classroom. Other

differences: race, sincerity in purpose, basic intelligence and perception differences worked to rapidly bring up the kinds of forces operating in a classroom. At the end of the four weeks they were each able to say "This is where I am--I have certain things to offer and some things I must work on." Each was aware that they could be an important person in helping the aide program work well in a school situation in the manner in which they would fit in with the teacher and the students and all had gained self confidence, poise, and interest in the program.

Methods of Analysis and Evaluation of the Experience

Midpoint in the workshop, group evaluation was used. The instrument covered the areas: course content, and contribution of both teacher and individual. It was conducted by the group without the presence of the instructor. Results showed that the goals of the workshop were being met. The manner of evaluating brought out immaturities in some of the participants. This information was used by the teacher in planning group work for the rest of the training session. (Exhibit E and Exhibit F)

An informal evaluation was compiled and presented in skit form to a group of home economics teachers. Mrs. Ruth Knoll, a consultant, was present and in the class when the presentation was discussed, and states:

> "A humorous skit at the beginning of the coffee hour (including all members of the aide class) helped to illustrate the responsibilities of aides. For both teachers and aides it emphasized the importance of making good use of aides in the classroom."

The rest of her report is included in this report in the following section. (Exhibit G)

On Tuesday of the last week a committee worked with the instructor to compile group feelings about the aide as a person and the competencies they

felt they would have. This compilation was presented to the group, and worked on by all the trainees. Following this, small groups formed to rework the separate parts, then reassembled for acceptance by the workshop participants. The results are included in this report. (Exhibit H)

A final individual written evaluation was submitted by each participant. This was at the request of the entire group. Excerpts from these evaluations are included with this report. (Exhibit I)

IV FINDINGS

Descriptions of the Participants

The Teacher-Aide Enrollees

Those who participated in the workshop included twenty women, a bi-racial group ranging in age from 17 to 53 years. Education ranged from two who were not high school graduates, to one who had three years of college work. Enrollees came from nine communities which included: Kalamazoo, Port Huron, Parchment, Portage, Waterford, Pontiac, Grand Blanc, Mt. Pleasant, and Battle Creek. (Names and addresses are included in the appendix. Exhibit J)

One in the group was a person who had worked as a Teacher-Aide in music, and almost all had previous work experience of some type. One persons husband was a vocational director. Two of the women had attended previous workshops. All enrollees indicated an interest in becoming Teacher-Aides. They were selected on this basis together with their ability to make a contribution in the classroom. Each one appeared to be an interesting person, well groomed, and able to relate well to young people. In the writer's opinion, all would be able to work in an educational setting.

Use of Consultants

A team of three consultants worked with the Director, Coordinator and Instructor of the workshop to formulate the plans and evaluate the results. The consultants were: Mrs. Ethel Washington, Supervisor of Home Economics, Detroit Public Schools; Miss Betty Ketcham, Program Leader, Family Living Education, Cooperative Extension Service; and Mrs. Ruth Knoll, Home Economics teacher, Fennville High School, Fennville, Michigan.

During the workshop several consultants visited and helped with providing some parts of the content for the Teacher-Aides. As previously stated they were: Mr. Donald Campbell, Head of the Science Department,

Portage Public Schools; Mrs. Knoll; and Miss Marguerite Lofink. Mr. Campbell talked from the point of view of a different curricular area to point up the need of aides. As a result of his leadership, many similarities were found to exist along with unique needs in particular areas. Mrs. Knoll helped with sharing her previous experience working with an aide with the group, and in helping to assess progress of the workshop while it was in session. Miss Lofink, Home Economics Consultant, Michigan Department of Education, thought the group rapport was good and the curriculum content of the workshop meaningful. She was able to keep the State Department informed of the progress of the workshop toward the achievement of the goals.

Competencies Achieved by the Aides

Home Economics Teacher-Aides can help to create a friendly atmosphere in the home economics classroom. Aides can work with the teacher in helping individuals with make-up work or where the student needs special help, always under the teacher's direction or by giving the extra attention needed by a student by taking an interest in her.

They could be expected to set up supplies, equipment and materials related to the lesson of the day as well as aiding in the acquisition of these materials, equipment and supplies. They could help in the production of some teaching helps such as bulletin boards. They can be expected to know about professional ethics and the need for preserving confidences. The best guide for this would be the teacher in the classroom and the standard she maintains.

An aide should have specific duties and boundaries set for her with some flexibility understood by both the aide and the teacher.

Summary Conclusions and Recommendations

The varied age grouping was valuable in this situation. Lunch pre-

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paration brought the group closer together and reflected some change of standards as they improved planning and service. Blacks and Whites, young and old, learned to appreciate what each had to offer. The evaluation supports the feeling that the group felt strengthened individually and were psychologically prepared to enter the classroom.

The length of time it takes to get the desired results in a training session is always open to question. The majority of participants felt the four weeks was about right. One woman felt two would have been enough. However, she is a very literal-minded person and was the one who took the longest to really gain some insight in tolerance for others. One young girl very seriously wanted to know if there wasn't a way of extending it another two weeks because she felt she needed that much more time to develop her own abilities. Four weeks was adequate time to work through the necessary discussions and presentation of materials.

The amount of definite material to be used might be variable, according to the instructor and the enrollees. The feeling of the group and the instructor was that it was a good length, long enough to allow the individual to work through some of her complexities and sufficient to allow the kind of training for non-teaching duties to be expected of a non-professional. At the end of that time they were ready for the next step. The group felt the next step would be to go into a classroom and have a coordinated work experience for a period of time.

The contact between Teacher-Aides in training and home economics teachers would seem to be one it would be well to preserve.

Recommendations

Recommendations that a supervised work experience in a classroom be included as part of the next project in training Teacher-Aides. It is

recommended that some provision is needed for job placement and further counseling as orientation and adjustment on the job.

There appears to be a needed briefing or introduction for home economics teachers as to how to use aides effectively for strengthening their program and providing mutually satisfying experiences to both aide and teacher. (The value of such a meeting was pointed out by the experimental coffee hour for home economics teachers attending a curriculum workshop and the trainees.)

Adequate provision for counseling is needed. Although it is time consuming, some time each day needs to be provided. Each trainee needed support and adequate reassurance in order to build self-confidence and feel competent to function as an aide in home economics high school classes, particularly for those who had experienced little success or failed to find job satisfactions previously.

It was suggested by the enrollees that a brief seminar be planned for next summer to assess success and offer inservice education for those who attended this workshop and are working as home economics Teacher-Aides, using the same instructor for one or two day sessions.

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EXHIBIT Aa

May 12, 1970

Dear

You have been suggested as a person who might be interested in hearing about the following information.

The Home Economics Department, Western Michigan University is sponsoring a workshop for the Preparation of Teacher-Aides for Vocational Home Economics. This workshop will prepare a selected number of women to assist the Home Economics teachers in the classrooms in Michigan High Schools. It will be held June 29-July 24.

Workshop enrollees will be paid $225 for the four weeks to cover their living expenses. A part of this amount will be paid each week. Some rooms will be available in the University student dormitories. The workshop will be held in the Home Economics Department at Western Michigan University, which is located in the Engineering and Technology Building, Room 3004, dialy Monday through Friday. The hours will be from 9 o'clock until 3 o'clock. Mrs. June Abnet, Portage Public Schools, will be the teacher. There will be no tuition or college credit, however a certificate will be awarded to those who satisfactorily complete the workshop.

If you want to apply, please return the enclosed application form filled out. This form must be received by us no later than June 1, 1970. If you are selected you will be notified right away, (not later than June 12.)

Your cooperation on this will be greatly appreciated. If you have additional questions kindly contact us.

Sincerely,

Dr. Eunice E. Herald, Head
Home Economics Department

Dr. Margaret Jane Brennan
Coordinator

Telephone Number
(616) 383-0909

MB/so

EXHIBIT Ab

WESTERN MICHIGAN UNIVERSITY
KALAMAZOO, MICHIGAN

WORKSHOP FOR VOCATIONAL HOME ECONOMICS TEACHER-AIDES
June 29 - July 24 Home Economics Department

Name: _____ Miss / Mrs

Home Address: _____
Street City or Town

Zip Code: _____ Telephone Number: _____

If not, how can you be reached? _____

_____

High School Graduate _____ When? _____

Age _____

Have you worked since? _____ How long? _____

Name of Employer? _____

Address: _____

Kind of work? _____

How did you hear about the workshop? _____

_____

Have you attended any other workshop? _____

Where? _____ When? _____

Will you need campus housing? _____

Single room _____ Double room _____

Roomate preference _____

Do you have any other questions?

Application forms must be returned by June 1. You will be notified whether or not you are accepted by June 12. A stamped return envelope is enclosed for your use.

EXHIBIT B

June 5, 1970

Dear

Your application has been received for the Teacher-Aide Workshop and you have been selected to be one of the participants. Congratulations. I hope it will be an interesting and worthwhile experience for you. You will be hearing from us.

The workshop will begin Monday, June 29 at 9 o'clock in Room 3004 of the Engineering and Technology Building. Please report at that time. If you have indicated needing a room reservation, you will be hearing from Mr. Peterson, University Housing Bureau, for your room assignment.

Please come prepared to spend the day - wear comfortable shoes, you may need a sweater also as our building is air conditioned. We will be looking forward to seeing you on Monday. If you have any questions, please feel free to contact us.

With Best Wishes.

Sincerely,

Margaret Jane Brennan,
Coordinator

MB:so

EXHIBIT C

June 5, 1970

Dear

Your application has been received for the Teacher-Aide workshop. Due to the limited number we can take for this summer, we regret that you will not be able to take part in it this time.

However, we appreciate your interest and if we are able to repeat this type of workshop later on or next summer your name will be reconsidered. Thank you for your cooperation.

With Best Wishes.

Sincerely,

Margaret Jane Brennan,
Coordinator

MB:so

What aides can do...

Make use of personal competencies, for example: art, typing, bulletin boards, etc. After working with the aide, she gave a demonstration including the history of pasties.

Follow through with individual help after observing lessons.

Learn how to help and encourage students without actually doing too much for students. They really want to do it themselves.

Follow directions given by teacher for grade level. May be different for different grades.

Get materials ready for demonstrations, sometimes prepare or partly prepare.

Assist with demonstrations.

Check units after laboratory lesson. Get materials ready for each laboratory lesson.

Learn to see and do without being asked.

Routine work--check some tests, record grades, file, etc.

Help teacher prepare for lessons, for example: collect advertisements, prices, shop, etc.

Report to teacher any incident that she feel significant.

Be responsible for interruptions common to the home economics department. (sew ripped pants, etc.)

Keep a record of and check out reference materials.

Take suggestions of the teacher as a means of improving and not personal criticisms. They should be made to realize that a teacher is constantly searching for more effective methods of teaching.

Establish a good working relation with the teacher. Ask for a conference if you feel it would help.

Start slowly and gradually increase responsibilities.

Help to develop a good working relationship with the teacher (willingness to learn, good attitude, and also respect).

What aides should not do...

Do not try to become the teacher.

Don't think you have to know everything. Don't be afraid to say you don't know.

Don't question students about what a teacher does or why. She probably has a reason. To do so is not in the best interest of the students.

General...

Special abilities are useful. Homemaking experiences are valuable, and maturity is important.

Suggested experiences as a part of the workshop...

Learn to set up and operate the filmstrip, movie, and overhead projector.

Plan a laboratory lesson for the group. List or actually set up materials that an aide might have ready for that class for each group.

Give a demonstration or take them to a utility company for one. Ask to have one person give the demonstration and one to assist. Have class members observe management procedures used, what was done before they arrived, and what the assistant did.

Plan a demonstration, have class members set up for it.

Have class members plan and complete a laboratory lesson that might be used in high school. Should help them understand some of the problems of the students and develop patience in working with teenagers.

Demonstrate threading a machine, have class members do the same.

Make a simple garment, to learn to follow directions.

EXHIBIT Db

POSSIBLE NONINSTRUCTIONAL ROLES FOR TEACHER-AIDES

1. Collecting lunch, milk, banking, charity drive, trip, and project money.
2. Distributing and collecting supplementary books and materials.
3. Collecting and displaying pictures, models, objects, and exhibits.
4. Typing and mimeographing instructional materials prepared by the teacher.
5. Correcting standardized and teacher-prepared tests.
6. Preparing records of pupil profiles and scattergrams, etc.
7. Correcting workbooks and homework; noting reporting deficiencies.
8. Proofreading notes to be taken home, and school and class newspapers.
9. Ordering, securing, and returning films, and other audio-visual materials.
10. Telephoning parents about routine matters.
11. Taking attendance and completing absence and illness reports.
12. Entering information on student permanent record cards.
13. Filing correspondence and reports.
14. Ordering and distributing supplies such as paper for writing or art, crayons, brushes, scissors, rulers, etc.
15. Ordering, procuring, setting up, operating, and returning equipment.
16. Requisitioning materials and supplies.
17. Locating price and product information for books, materials, and supplies.
18. Organizing and filing resource collections, classroom work, etc.
19. Sending for free and inexpensive materials.
20. Obtaining special materials for homemaking.
21. Checking excuses for tardiness or absence brought by students.
22. Keeping records of books students have read, special interests, etc.
23. Checking trip permissions, special medical or dietary needs.
24. Obtaining information about local and area agencies and resources.
25. Organizing and keeping up to date a parent resource file.
26. Making arrangements for classroom resource people with special talents.

27. Making arrangements for field trips, special excursions, etc.

28. Helping with housekeeping chores in the classroom.

29. Taking care of sick or injured children.

30. Interpreting for non-English-speaking students and parents.

EXHIBIT E

Form For Group Evaluation Of Training Program

Introduction

We are trying to see where we can make our training program better. We would like you to level with us about the program. We feel it most helpful to do this about halfway through the workshop as well as at the end.

We would like you to evaluate all the different parts of the program. We want you to do it this way:

1. Do it as a group.

2. Choose someone or have someone agree to be the recorder and group reporter.

3. Do not tell who said what.

4. If the group doesn't agree about something, report this, giving all sides.

5. Use this outline for discussion and for reporting back what the group thinks.

6. Tell it like it is.

Discussion Questions

Talk about each of the different parts of the workshop
orientation
definition of an aide
introduction to equipment used in Home Economics
relationship of an aide and teacher
operation as a group
and evaluate each, on these points.

Orientation and Introduction to Yourself

1. Do you think it has helped you? How?

2. Do you think it hasn't helped you very much? Why?

3. Does this part of the workshop seem to have anything to do with the other parts? if so, why? If not, why?

4. Do you think you needed this part of the program at this point?

5. What did you like best about this part of the training? Why?

6. What do you like least about this part of the training? Why?

7. Would you like to see this part included in another workshop? Why?

8. What would you like to see put into this part?

9. What would you like to see out of this part?

Training Program Staff

Evaluate the person who is responsible for the training on these points:

1. Does she have anything to teach you? Why?

2. Is she able to get it across?

3. Does she take your comments seriously? How do you know?

4. Is there anything about this staff person that bothers you?

Workshop Program Participants

Evaluate yourselves as a group in relation to each of the parts of the program as mentioned on the first page.

1. Do you think as a group, you are giving everything you've got? Example: attendance, participation, cooperation. Include more items of your own. If so, give some examples. If not, what are the hang-ups?

2. What do you know now that you didn't know before training started?

3. Do you think you will provide a service that the community needs?

General Questions

1. What other comments do you have to make about the program and its staff?

2. Do you think the program should be changed in any way? What are your recommendations?

EXHIBIT F

INDIVIDUAL PARTICIPANT EVALUATION

Participant:_____ Instructor:_____

Date:_____

Circle the place on the continuum after each question according to how you rate the participant. A rating of 1 means poor; 2 indicates average; 3 indicates good; 4 means high or excellent, and the question mark indicates uncertainty on the instructor's part.

1. Participant generally participates actively in group sessions. 1 2 3 4 ?
2. Participant's contribution to discussion are to the point. 1 2 3 4 ?
3. The participant has a basic understanding of the material covered. 1 2 3 4 ?
4. The participant is attentive and seems interested. 1 2 3 4 ?
5. The participant requests information or help. 1 2 3 4 ?
6. The participant accepts correction or criticism. 1 2 3 4 ?
7. The participant is punctual and regular in attendance. 1 2 3 4 ?
8. The participant understands her role as an aide. 1 2 3 4 ?
9. The participant is able to get along with other trainees. 1 2 3 4 ?

Please answer the following questions in the space provided.

1. What improvements have you noticed in the participant's performance and participation?
2. What are the participant's strong points?
3. What are the participant's weak points?
4. Are there any areas in which the participant has particular difficulty and in which you feel she should be given additional help?
5. How would you describe this participant in terms of attitude, interest, and ability in respect to school aide work?
6. Do you feel this participant is ready to assume responsibility as an aide at this stage of training? Why?
7. Additional comments:

EXHIBIT G

MRS. RUTH KNOLL'S EVALUATION

On Wednesday, July 15th, I enjoyed a coffee break with the combined college curriculum class and the class for aides; had lunch with the latter with an opportunity to chat casually with the members; observed a demonstration by a class member on first aide, followed by class discussion and evaluation of the day's activities.

During that time my observations were as follows:

1) A humorous skit at the beginning of the coffee hour (including all members of the aide class) helped to illustrate the responsibilities of aides. For both teachers and aides it emphasized the importance of making good use of aides in the classroom.

2) During the break, a teacher from the curriculum class and a member of the aide class had coffee together. These informal meetings helped to develop a better understanding between teachers and aides, as was evident from the discussion later in the day.

3) The class members had learned to work well together, could see what was necessary to be done, and assumed the responsibility for doing it willingly and cheerfully. This was evident from the lunch which had been catered by a class member who could not be present to follow through with the serving as previously planned. These learnings will carry over into the classrooms where the aides will be working.

4) There was good interaction among class members indicating that they felt free to express their opinions on such controversial subjects as race relations. This was done in an objective and understanding manner.

5) A class member gave a demonstration on first aid, thus making use of her special talent. It was well done, gave recognition to her special ability, illustrated how aides can contribute as a resource person, and helped develop status for the position of aides.

6) There was evidence of good support among the class members and the teacher. They were enthusiastic, interested, and seemed to be enjoying themselves. One mentioned that there had been no cuts.

7) The teacher had the complete course well planned with meaningful learning activities. The students knew the plan for each day as it was posted on the bulletin board.

8) Because of the class, I feel that the members will be a valuable help in the classroom. They have a better idea of what they should and can do, and what they should not do in order to function smoothly and efficiently.

Statements the Teacher-Aide group felt were important in relation to a Teacher-Aide position...

A Teacher-Aide position would be a good way for a young person with low funds available for education, to earn money toward this end and have a learning experience which would make her a much more effective teacher.

A Teacher-Aide position would be a way for an older person to fulfill a need to earn money, and to make use of experiences in everyday living.

A Teacher-Aide is there to assist the teacher, so that she may spend more time with the student and use her knowledge to the fullest extent.

Desirable qualities for a Teacher-Aide in Home Economics:

1. A person who cares
2. A person who is concerned about children
3. A person who is able to work with others
4. A person who can be a team member
5. A cheerful person
6. A person who is willing to learn
7. A person who is able to listen and follow instructions
8. A person who accepts her own abilities and limitations
9. A person who can mask her moods
10. A person who is well groomed
11. A person who is acceptable in a classroom
12. A person who uses correct English
13. A person who is able and willing to give of herself
14. A dependable person
15. Be a responsible and mature person and be willing to accept criticism
16. A person who has good perception and initiative
17. A person who is able to follow through with what is planned

Role of the Home Economics Teacher-Aide:

1. She understands the Home Economics program and its aims.
2. She may organize materials from a source file or from the library that students may use for reading or written assignments. Students may be supervised during the assignment in the library or other designated places by the teacher.
3. She may set up supplies, equipment, and materials related to the lesson of the day
4. Under the direction of her teacher, she may make and keep an organized record of inventories, requisitions, grocery bills, class organization charts, bulletin board materials, and visual materials.
5. She understands her role in relation to the student and teacher.
6. She reveals a unique support to the teacher by cooperating with the planned material of the teacher.
7. She helps with housekeeping chores in the classroom.
8. She helps and encourages the student to develop high standards of work habits and sanitation.
9. She collects and displays pictures, models, objects, and exhibits.

10. She follows school procedure in setting up, operating, and returning equipment.
11. She assists in supervision of field trips.
12. She can teach a small temporary group in any of the instructional areas under the direction of the teacher or following general instruction given by the teacher to the group.
13. She can give more individual assistance to the less able, or individuals who have had extended absences.
14. She may be able to type up material for the teacher.
15. She should be observant at all times, at demonstrations, and listening to what the teacher is telling the students.
16. She should always support the teacher directing complaints or questions to the teacher through the student--never revealing a student's confidence, but rather encouraging the student to go to the teacher with matters which should only be settled by her.
17. She should be able to share in the responsibility of an accurate attendance.
18. She should assist the teacher in creating a home-like atmosphere in the homemaking laboratory.
19. She follows school procedures in the area of that schools standards.
20. She maintains a professional, confidential attitude at all social or family functions in regard to her roll as Teacher-Aide.
21. She informs the teacher of the students progress or problems either personally or through the use of a prescribed form avoiding the petty time-consuming details.
22. She demonstrates the value of time by using her time in constructive ways, keeping to the assigned schedule and notifying the school if absence is necessary.
23. She uses expressions of encouragement when speaking to the student.
24. She may possess particular skills because of previous work experiences, well developed crafts, work with youth groups, or language ability, which might make her particularly valuable in a given area.

These materials were done cooperatively by the class and instructor. A committee worked with the instructor and presented the results to the group. Then it was reworked by the whole group, then in sub groups who revised various parts.

EXHIBIT I

EXCERPTS FROM PARTICIPANT'S EVALUATIONS

"The workshop help June 29-July 24 was an experience I will never forget. Learning different ways to be a better and more helpful Teacher-Aide will always stay with me."

"This class had made me eager to learn about others, to explore new horizons and, to search within myself to find the true meaning of my life here on this earth. I know now that I can do for others and feel I have also accomplished something within myself. These past four weeks have proven to me that a generation gap is a matter of someones fictional mind and he does not exist."

"Each one of us had to talk in front of the class and tell how something was done. In this, we learned how to talk in front of a group of people. Many of us had never done this before. It was not all just cooking and sewing. We learned how to make many many things. It also taught us what to expect in the classroom. Our job is not to take over the class, it is just to help the teacher. We are not to have any job like teaching the class or grading any students. We are there just as a helper. We are not there to watch over the class while the teacher is out of the room. But I just can't write down on this paper what all we learned, or the special feelings we have."

"Each person has learned their own abilities. I have learned that I could be a valuable asset to a teacher by helping her to become a good or better teacher. By giving her the time she needs to prepare her lessons while I, as a Teacher-Aide, can put away her things and do the little odd jobs that take up her time."

"The home economics workshop has been a new experience. Another stepping stone in my life. The four weeks have been an inspiration. I would like to recommend that the workshop continue to be a part of every Teacher-Aide who will be going into this kind of work. Without some training to be an aide, or some knowledge of what an aide should do, there is a gap."

"I for one, discovered that I am capable of a lot more than I thought before, so if asked, I can truthfully say I have a lot to offer a home economics teacher. Now to get on with it and prove it to the rest of the world--and believe me I will. This month was a most valuable experience, I wouldn't trade it for anything."

"I got a better understanding of young people, the school system and what's going on in a classroom. Spirit to start studying again, and opportunities open for us with a family."

"We are all better people for this time we spent here with each other."

"There are many things I hadn't thought about, that a teacher could use an aide for, many ways in which I could help a teacher, to give her more time with her students."

"I don't think it would have been as good if we wouldn't have had the ages that were here. I think that having this would help us even if we don't become Teacher-Aides. Meeting everyone we did was an experience all its own and learning the way other people, older and younger, felt about certain things."

"I have learned how to operate the machines. Personally, I feel that if anyone gets along quite well with all kinds of people and like to help them, they can be a Teacher-Aide."

"The Teacher-Aide class has really been worthwhile especially working with the different age groups here. We couldn't have had anyone better than Mrs. Abent to relate in so many ways, how we can best be a Teacher-Aide."

"We have learned to work with other people and this is important in working in schools. We have discovered what we have to offer and how we can use this in the classroom."

"Having worked in such a variety of different situations this past four weeks, I feel I have a great deal to give as a Teacher-Aide. A person doesn't realize all the little details involved in getting a classroom ready for teaching."

"This class will open many doors for better teachers as we can learn by continuing on our own education, possibly become teachers ourselves."

"I got out of this home economics workshop a feeling that I might be able to help some of the students and their problems. I did not realize before, just all the pressures a teacher has in her class and where I might be able to help her."

"I think I, for one, have learned a sense of responsibility, which is important for such a job, also getting along with others. I do think we should have had more to do, some studying, and more practical work."

"These four weeks have started me to thinking of ways that I can get back into school. I have enjoyed every minute of it. My weak points have been brought out so that I could see them, I have learned how to start something and not let the class side-track me. I know that I can stand up and talk better."

"I have learned to accept other's thoughts and other's feelings."

"When I first came here, I knew that I would almost be the only black, and I thought that it might be prejudiced but I really felt as if I belonged here after we all got acquainted. I am glad that I was able to come and I would like to thank you for making it all possible."

EXHIBIT J

TEACHER-AIDES

Mrs. Marsha Affhalter
5410 Collingwood
Kalamazoo, Michigan

Celestine Barnes
1233 East Michigan
Kalamazoo, Michigan

Mrs. Loraine Barnes
5806 Lakeshore
Port Huron, Michigan

Christine Bush
1810 Cambridge
Kalamazoo, Michigan

Peggy Clarey
3716 Oakland Drive
Kalamazoo, Michigan

Betty Clark (Mrs. Paul)
1154 S. Lincoln Rd.
Mt. Pleasant, Michigan

Rebecca Coyer
9203 East O Avenue
Kalamazoo, Michigan

Vickie Dalrymple
5950 North 20th
Kalamazoo, Michigan

Yvonne Kenham (Mrs. Robert)
3326 Whitfield
Waterford, Michigan

Ethel Florence
361 Worthwood
Battle Creek, Michigan

Helen Fox (Mrs. Lincoln)
1706½ North Burdick
Kalamazoo, Michigan

Connie Hinds
3836 Madison Street
Kalamazoo, Michigan

Judith Hinds
3836 Madison
Kalamazoo, Michigan

Julie Lockett
3514 N. Pitcher
Kalamazoo, Michigan

Darlene Mallory (Mrs. Alva)
1080 Baldwin Road
Grand Blanc, Michigan

Dorothy Renzema
518 Hamilton Road
Parchment, Michigan

Mrs. Geraldine Stacenrider
2926 Peavey Street
Port Huron, Michigan

Margot VanderKamp
4234 South Park
Kalamazoo, Michigan

Ruth Winter (Mrs. Rolf)
25 East Iroquois
Pontiac, Michigan

Linda Youngblood (Mrs. Brian)
20546 South Westnedge
Portage, Michigan

EXHIBIT K WORKSHOP CALENDAR

JUNE 29	JUNE 30	JULY 1	JULY 2	JULY 3
Organization. Get acquainted Lunch plans made Why are we here? Group planning of goals. What is Home Ec., how does it contribute? Learning to work together.	How to work in food lab. Use of equipment Discuss job of aide. Kind of person, professionalism, assets & points to improve. Assignment: what they have to offer as aides.	Teacher demo of techniques. Use of film projector. Discuss time awareness. Lunch plans explored. Assignment: Write how you would fit into this situation as aide.	Trip to Portage Central library & H Ec rooms. Jr. and Sr. High programs explained by Portage teachers. Two machine demos. Picnic lunch & social time at Mrs. Floyd's.	Finish library assignment. Discuss trip. Slides of classes to show their use. Introduce idea of personal contribution. 3 demos. Dismissed at noon. (Holiday)
JULY 6	**JULY 7**	**JULY 8**	**JULY 9**	**JULY 10**
Get family reaction to workshop. Demo--overhead projector and production of transparencies. Discuss individual demos and give examples. Discuss scope of Home Ec.	Set up calendar for demos. Individual worktime for demos. Individual work on machines. Use catalog for film selection to use with projection demos.	First two student demonstration. Demonstrate film projector. Three short films selected and shown by individuals. Bulletin board film--discussion and demo of board use.	3 student demos. Committee to work on skit for presentation to curriculum. Luncheon committee for Tues. lunch. Work time. Filing--hand out guide. Use magazines.	Discussion of interpersonal relationships. Professionalism. Two student demos. Afternoon for group evaluation.
JULY 13	**JULY 14**	**JULY 15**	**JULY 16**	**JULY 17**
Mr. Joe Matz, Head Sanitarian, City-County Health Dept.--sanitation presentation & film. Talk on Teacher-Aide in another field by Head of Science Dept., PCHS, Mr. Don Campbell	Skit work for group. Special luncheon, film to complete sanitation presentation. Visit from Miss Lofink.	Presentation of skit--"What a Teacher-Aide can do for a Home Ec teacher. Two student demos. Discussion time. Visit from Mrs. Knoll.	Prepare for field trip. Trip to Upjohn's. Relation of trip to aide and her responsibilities. Prepare cakes for demo.	Two student demos. Small group work. Typical Home Ec laboratory activities.
JULY 20	**JULY 21**	**JULY 22**	**JULY 23**	**JULY 24**
Three student demos. Discuss demos--relate to Teacher-Aide. Begin work with committee on what aides have to offer.	Work time--bulletin boards. one demonstration. Trip to Consumer Power. Kitchen demonstration. Work with machines.	Demo using film strip projector & record player. Teacher demo--meat loaf. Work with aide. Group work on what Teacher-Aide has to offer.	Complete demos. Sort hand outs. Show slides. Final look at group work on competencies. Clean stoves and refrigerator.	Lab and discussion on housekeeping responsibilities. Summary and evaluation of workshop. Buffet luncheon at Student Union. Presentation of certificates by Dean Kohrman.

EXHIBIT L

COURSE OUTLINE

I The line of authority in schools
- A. School board
- B. Superintendent
- C. Principal
- D. Assistant Principal
- E. Department Chairman
- F. Teacher
- G. Teacher-Aide

II Role of the Teacher
- A. Human relations--helping pupils
- B. How people learn to become self directive and to grow in ability

III Role of the Teacher-Aide
- A. Assists teacher but does not teach
- B. What is meant by a paraprofessional

IV Importance of professional ethics
- A. Working as assigned
- B. Using materials and equipment as intended
- C. Accepting no gifts
- D. Believing in the dignity of each man and measuring success by progress of each student toward his potential
- E. Confidential nature of work
- F. Seriousness of the responsibility--Teacher-Aide holds a professional position
- G. Must demonstrate loyalty and preserve confidences

Housekeeping Procedures
- Standards of cleanliness and safety factors
- Awareness of necessity for using instruction books for care and use of equipment

Classroom Physical Control
- Assist the teacher in helping students to be aware of their responsibility in keeping a high standard of neatness and cleanliness in the classroom

Setting up Laboratory
- Awareness of kinds of equipment (might be for foods, home nursing,)

Development of awareness of particular skills aide might have from demonstrations (chance for instructor to hear her speak and note her effect on others).
- What do I have as an aide to offer to a Home Economics teacher.

Group work (discussions and getting lunches) to develop an awareness of the intimacy of work in Home Economics classes. How moods of one may affect another.

An awareness of the Home Economics teaching scope.
- Content, level, and areas

Audio-visual aids used in Home Economics classrooms--examples of how they are incorporated in lessons and how an aide could assist the teacher in setting up these experiences.

An awareness of the use of the community as learning experiences for students in Home Economics today.

The importance of bearing themselves well as an example for the students and the acceptance the group will find in the community.

(Field trips--their use and how to set up)

Importance of time
    Being on time--using time of teacher and aide well.

Sample lessons of typical teaching situations and where the aide will fit in.

Summary and progress toward goals of group and individuals as Teacher-Aides.

Completions of workshop--luncheon and program
    Presentation of certificates by Dean Kohrman at buffet luncheon in the Student Union.
    Talks by representative from administration, and participants.

Western Michigan University

College of Applied Sciences

Department of Home Economics

This certifies that

has satisfactorily completed the course for the training of Home Economics Teacher Aides this twenty fourth day of July, 1970. This course was sponsored jointly by the Vocational Division of the State Department of Education and the Department of Home Economics of Western Michigan University.

Dean, College of Applied Sciences

Head, Department of Home Economics

Professor of Home Economics

Assistant Professor of Home Economics

VT 012 171
Bruce, Herbert H., Jr.
Inter-Disciplinary Program in Vocational Education.

Kentucky Research Coordinating Unit, Lexington.
Kentucky State Dept. of Vocational Education, Frankfort. Bureau of Vocational Education
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IDENTIFIERS - RESEARCH COORDINATING UNIT; RCU; KENTUCKY

ABSTRACT - This document contains a description of a 2 year pilot program aimed at developing in students the attitudes, knowledge, and skills common to the vocational areas. The first phase of the project was a planning institute to prepare teachers, administrators, and guidance counselors in Franklin-Simpson High School and Pulaski County High School (Kentucky) to conduct the 2 year program. The second phase, the program, included classroom teaching, orientation and observation of jobs, and on-the-job training during the second year. Evaluation of the program identified team teaching as one of the strengths of the program while on-the-job training during the second year was identified as one of the weaknesses. It was therefore recommended that the second year of the program be dropped and that the first year be moved to the ninth grade. Products resulting from this program include a course of study, sample forms used in the program, and a teacher's handbook. (JS)

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INTER-DISCIPLINARY PROGRAM IN VOCATIONAL EDUCATION

By

Herbert H. Bruce, Jr.

Sponsored by

Kentucky Research Coordinating Unit
Department of Vocational Education
College of Education

VT012171

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University of Kentucky

3665

INTER-DISCIPLINARY PROGRAM IN VOCATIONAL EDUCATION

By
Herbert H. Bruce, Jr.

Conducted Under a Grant From

State Department of Vocational Education
Bureau of Vocational Education
Frankfort, Kentucky

1970

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REPORT

FINAL REPORT

INTER-DISCIPLINARY PROGRAM IN VOCATIONAL EDUCATION

Background to Developing the Institute and Conducting Pilot Program

With the passage of the 1963 Vocational Education Act, a new era in vocational and technical education came into being. The Act suggests changes in existing programs and the development of new programs. This new era created new challenges and responsibilities for people involved in vocational education.

In Kentucky, attempts have been made to bring job training into harmony with industrial, economic, and social needs. The pilot program was an example of how this could be done. The programs were planned to broaden the concept of vocational education. Students were given an opportunity for broader exploratory experiences in four vocational areas. This expanded program of vocational education should more effectively prepare young people to enter the world of work.

There were two phases of this project. A three-week Institute and a two year pilot.

The Institute

An institute was held to prepare teachers, administrators and guidance counselors in Franklin-Simpson High School and Pulaski County High School to conduct a two-year pilot program. During the three-week institute the participants developed plans for coordinated programs in vocational education. This planning involved the following: (a) securing occupational information, (b) developing a plan for selecting students for the program, (c) developing a plan for providing guidance in career objectives to students relative to their choice of vocations, (d) identifying common and differential aspects of vocational education, (e) developing a course of study for the first year program, and (f) deciding how the team of teachers could cooperate.

Objectives of the Institute (June 10, 1968 - July 2, 1968)

The general aim of the Institute was to further develop the understandings, attitudes, and appreciations of vocational education on the part of teachers, guidance counselors, administrators, and program chairmen who had responsibilities for this "pilot" in vocational education. The specific objectives for institute participants were:

1. To develop an awareness of the trends in education which apply to vocational and technical education

2. To list career opportunities and the preparation needed to enter and progress in a vocation

3. To determine competencies needed by an individual preparing to engage in a specific occupation.

4. To decide on ways to secure satisfactory placement

5. To determine how to advance in an occupation through a program of continuing education.

6. To determine the abilities in human relations required for success in the world of work

7. To determine the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities

8. To determine ways to enhance the image of vocational education

9. To develop a functional knowledge of Federal vocational and technical education acts

10. To develop techniques of working with cooperating agencies that provide occupational experience for the students

11. To develop a team-teaching approach to be used in the "core" part of the program

12. To write specific objectives of the pilot program

13. To develop a course of study to be followed by the team of teachers

14. To work out forms, worksheets, and the like to be used by students, teachers, and cooperators

15. To develop a vocational guidance program to follow up students by the team of teachers involved

16. To organize and use an advisory committee

17. To determine criteria for evaluating the pilot program periodically and at the end of the second year

Number of People Attending the Institute

Eleven participants attended the three-week Institute. This involved all of the personnel in the program except the home economics teacher from Franklin-Simpson High School. Six were from Pulaski County and five were from Franklin-Simpson. The name, address, school, and job title are listed for each participant.

PARTICIPANTS IN THREE-WEEK SEMINAR

INTER-DISCIPLINARY PROGRAM IN VOCATIONAL EDUCATION

Name	Address	School	Job Title
Burton, Bernard A.	106 Ogden Court Somerset, Ky. 42501	Pulaski County High School	Agriculture Teacher
Cliburn, Elizabeth	Route No. One Franklin, Ky. 42134	Franklin-Simpson High School	Business Teacher
Deweese, Vebere	Route No. Five Scottsville, Ky.	Franklin-Simpson High School	Guidance Counselor
Hammer, James L.	Glendale Road Franklin, Ky.	Franklin-Simpson High School	Agriculture Teacher
Hoffman, Helen	101 Norfleet Drive Somerset, Ky. 42501	Pulaski County High School	Distributive Education Teacher
Marshall, Catherine	98 Ohio Street Somerset, Ky. 42501	Pulaski County High School	Business and Office Teacher
Sells, Gloria Janelle	P.O. Box 578 Somerset, Ky. 42501	Pulaski County High School	Home Economics Teacher
Stephenson, Don	107 Iris Drive Franklin, Ky.	Franklin-Simpson High School	Principal
Uhls, Dorothy	Route No. One Franklin, Ky.	Franklin-Simpson High School	Distributive Education Teacher
Wallace, Mollie Tarter	412 Ogden Street Somerset, Ky. 42501	Pulaski County High School	Guidance Counselor
Wilson, Garva G.	Windsor, Ky. 42565	Pulaski County High School	Principal

Evaluation of the Institute

The participants evaluated the institute. The instrument used is attached to this report, and the results are summarized in the following table.

EVALUATION OF THE INSTITUTE BY PARTICIPANTS

(Summary)

Item Evaluated	Feeling of Participants				
1. To what degree did you understand the objectives?	Very Clearly (5)	Clearly (5)	Reasonably Well (0)	Not Very Well (1)	Not At All (0)
2. To what extent were the stated objectives accomplished?	Fully (3)	Adequately (6)	Fairly Well (2)	Inadequately (0)	Not At All (0)
3. To what degree was the Institute planned?	Very Well (5)	Well Planned (3)	Adequate (3)	Inadequate (0)	Very Inadequate (0)
4. As a result of the institute my concepts of how to participate in a pilot program have been	Greatly Clarified (6)	Improved (5)	Slightly Modified (0)	Unchanged (0)	Confused (0)
5. To what extent were you given an opportunity to participate in the institute	Every Opportunity (8)	Many (3)	Some (0)	Few (0)	Almost No Opportunity (0)
6. The physical arrangements seemed to be:	Perfect (1)	Good (10)	Adequate (0)	Fair (0)	Poor (0)

Question number 7 asked for the institute's strong points. The following responses were given:

- Excellent planning - 7
- Excellent rapport among the participants - 2
- Interesting and informative consultants - 9
- Friendly atmosphere - 1
- Freedom to express opinions - 3
- Opportunity to learn about other programs - 2
- Opportunity to work out a course of study - 4
- Physical arrangements good - 2
- Information as to securing material - 1
- Had material at our disposal - 1
- Opportunity to exchange ideas - 1

Question number 8 asked for the weaknesses in the institute. The responses of the participants were:

- No weaknesses - 2
- Speakers did not stay on the subject - 2
- Little was done about team teaching - 1
- Not enough time to develop units - 6
- Limited money for supplementary materials - 1
- Failed to have role playing by participants - 1
- Improper planning of time - 1

Question number 9 asked what was most important and useful. This question seemed to be closely related to question 7. The responses were:

- All parts of the institution were useful - 1
- The resource people - 2
- The role of the teacher in the program - 1
- The development of the course of study - 3
- Out-of-state consultants - 1
- Fact that all participants had common goals - 2
- Learning how to set up a pilot program - 1
- That the institute made them aware of student needs in vocational fields - 1
- The exchange of ideas - 1
- Understanding of the objectives by teachers and principals - 1
- The satisfaction that we are trying to improve our schools - 1

Other comments were:

- The three weeks were very short.
- Very enjoyable three weeks
- The program is needed in our school.
- The program will be accepted by the businessmen in our community.

The Pilot Program (July 1, 1968 - June 30, 1970)

The objective of the pilot program was to develop in students the attitudes, knowledge, and skills common to vocational areas which will assist them to make a beginning in the world of work.

This program was to be attained by classroom teaching (see the course of study in the Appendix), orientation and observation of jobs, and on-the-job training. On-the-job training was done the second year.

Each student observed four different businesses during the first year of the program. Each observation was planned for four hours. Prior to each observation, time in class was devoted to preparing for the observation. After each observation evaluation of the visits was made. At the end of the fourth observation, each student selected a place to do his on-the-job training.

Teaching Responsibility

The four vocational teachers in each school did the teaching. This team teaching effort and the broad course of study which applies to any vocational area caused the program to be inter-disciplinary. Other disciplines in the school were not a part of the pilot.

The Pulaski county program enrolled sophomores who did their on-the-job training as juniors. The students who felt the need for additional training did this in their senior year. At Franklin-Simpson students began the program as juniors. Those who desired further training had to do this after high-school graduation. The additional training was done in an area vocational school.

A breakdown of the course of study and the person who handles each unit are a part of the final report (see Appendix).

Enrollment the First Year

Fifty-seven students enrolled in the two programs. There were 30 in the program at Franklin-Simpson and 27 at Pulaski County.

It was suggested that the program begin with the sophomore class. However, this was not desirable in both schools, because the Franklin-Simpson school schedule was arranged to permit seniors who were in vocational programs to work part-time. The participants felt they should have this program begin the junior year so seniors could be in the cooperative education program the second year.

The personnel from Pulaski County and Franklin-Simpson schools met in January 1969 and again in June. The following people were present:

Bernard Burton	Catherine Marshall
Elizabeth Cliburn	Don Stephenson
Vebere Deweese	Dorothy Uhls
Mrs. Freas	Mollie T. Wallace
James Hammer	Alva Wilson

James Hammer and Bernard Burton made a narrative report at the end of each six weeks. Other reports relative to evaluation were: student evaluations of his observation experiences, the cooperator's reports concerning student observations, evaluations of student's classwork in the inter-disciplinary program by teachers, and evaluations of the instructional program by the teachers involved. Information was summarized and used in preparing this report.

There were several good things about this program.

1. Team teaching brought about a very close working relationship between the teachers involved.

2. The students thought the class was the best one they had taken because:

   -More than one teacher was involved.
   -They enjoyed observing and felt they learned important things, about the world of work.
   -The class activities were very interesting.

3. Students' attitude about the businesses they observed and about work improved.

4. The ability of the students to write letters and fill out application forms improved during the year.

5. Other faculty members were impressed with the program.

6. The area vocational school was observed by students in Pulaski County. They thought this experience was very helpful.

7. The course of study was very interesting and challenging. Minor adjustments of the units were made the second year.

8. The class members knew more about job opportunities than the seniors who were not enrolled in the class.

9. Twenty-four of the 27 students enrolled finished the first year at Pulaski County and 27 of 30 completed the year at Franklin-Simpson School.

10. Students in the program showed a marked improvement in grooming, personal appearance, attitude, school attendance, career planning, and grades.

11. Students asked the guidance counselor to help them interpret their aptitude test scores, interest profiles, and other tests. They also wanted help in interpreting brochures and other information on selecting an occupation.

12. The classes did a great deal of career planning.

13. Most businessmen were willing to let students observe their businesses. However, a few people were concerned about labor laws and the liability of students observing and preferred that students did not observe their businesses.

14. Businessmen were impressed with the students in this program.

15. The program helped improve the relationship of vocational teachers within a school.

16. Most students were very complimentary of the program. Some of the reactions were:

    -They enjoyed having different teachers.
    -Job orientation was important.
    -Observing different businesses was stimulating and interesting.
    -Instruction on how to get a job was important.
    -The course was very interesting.
    -The teachers did a good job of teaching.

There were many other comments, however, the ones listed above were listed by a majority of the students.

17. The students indicated they would recommend the course to others.

Even though many positive things about the program are listed, there were some problems.

1. Transportation to and from businesses was a problem.

2. Grading was a problem for the teachers in Franklin-Simpson. The teachers from Pulaski County suggested that each teacher involved give each student a grade and then average all grades to get the six week's average.

3. A limited amount of teaching material was available.

4. Lack of insurance by students presented a problem observing some businesses.

5. Student orientation before they enrolled in the first class was not adequate. However, the guidance counselors worked with the students before they pre-registered the following spring.

After discussing strengths and weaknesses of the program the group felt that some suggestions for changes should be made. The changes are as follows:

1. Arrange the course of study so that all teachers will teach each semester.

2. Arrange for students to observe in small groups supervised by a teacher.

3. Reduce the number of hours of observation.

4. The unit, "Organization of Business," should be taught during the first semester.

5. Each student should be asked to write an autobiography early in the first semester to provide the teachers with some pertinent information.

6. Parents should be invited to attend an orientation meeting at the beginning of the school year.

7. When possible the class should be scheduled the last period of the school day. This would allow for some observation to be done after school.

Other decisions were reached by the group:

1. Students should work from 8 to 15 hours per week during the second year of the program. (A minimum of 180 hours per year.)

2. Students should work all year during their on-the-job training experience.

3. Each student should be responsible for obtaining a job. The teachers should assist in preparing the application.

4. The class size should not exceed 30 students.

5. The second year students may enter one of the regular vocational programs.

6. Approximately one-third of the class members were handicapped or disadvantaged students. The teacher thought this course could be adapted to fit these students by arranging the observation and on-the-job training to fit their needs.

The teacher felt that the second year was the weakest part of the program. The reason was probably the lack of classwork and teacher supervision relating to their on-the-job training.

Each student met with a teacher one hour per week to discuss the experiences they were getting, what they should get, and to make preparations for properly doing the work. This did not seem to be adequate.

Following is a summary of what happened to the students the second year.

Summary of the Second-Year Students

	Number Who Worked	Number Attending A Vocational School	Number in the Regular Program	Number Dropping Out of School	Number Who Did Not Get A Job
Franklin Simpson	15*	0	10	3	2
Pulaski County	7	6	10	3	1
Total	22	6	20	6	3

*3 were teacher aids in the school

In the two schools the second year 22 of the 57 students worked from eight to 15 hours per week, six enrolled in an area vocational school, 20 enrolled in one of the regular vocational programs in the schools, six dropped out of school and three could not get jobs.

Forty-eight of the 57 students (84 percent) worked, or enrolled in another vocational class to get additional training. The personnel involved in conducting the program thought this was high enough to be considered successful.

In summary the major strengths and weaknesses of the program are listed below:

Strengths

1. Team teaching
2. Orientation and observation
3. Guidance programs
4. The development of good attitudes and improved appearance of students.

Weaknesses

1. Transportation to businesses
2. Grading
3. Limited teaching materials
4. Observing large businesses
5. On-the-job training (Second Year)
   - Not enough planned classwork
   - Lack of supervision of the coop work
   - Lack of technical skill training

On the basis of the strengths and weaknesses listed, the following recommendations seem to be pertinent:

1. The second year part of the program should be dropped.

2. The first year should be moved to the 9th grade level and emphasis be put on orientation and observation.

3. Students who enroll in this course should be guided into a regular vocational program at the end of the year.

4. Team teaching should be an important aspect of the program.

5. A broad course of study (See Appendix) should be followed.

FIRST YEAR

Course of Study

INTER-DISCIPLINARY PROGRAM IN

Vocational EDUCATION

COURSE OF STUDY

INTER-DISCIPLINARY PROGRAMS

IN

VOCATIONAL EDUCATION

FOR

Pulaski County High School
and
Franklin-Simpson High School

A PILOT PROGRAM

Under Contract with:
Bureau of Vocational Education

Prepared
by
Herbert H. Bruce, Jr.

Department of Vocational Education
College of Education
University of Kentucky
Lexington, Kentucky

July 1969

3682

COURSE OF STUDY IN INTER-DISCIPLINARY VOCATIONAL EDUCATION

Class Sophomore High School Pulaski County Teacher Team-- B & O, DE, Home Ec., Ag.

Date Prepared (or Revised) June, 1968 Unit of Teaching Time (day, hour, etc.) 175

Major Teaching Objective or Teaching Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
1. Orientation	5	7									12
2. Grooming and Dress		9									9
3. Applying for a Job		4	7								11
4. First Observation			11								11
5. Human Relations and Personality Development			4	6							10
6. Salesmanship				10							10
7. Second Observation				3	7						10
8. Telephone					3						3
9. Health					5						5
10. Safety						10					10
11. Business Machines						2					2
12. Business and Office						5					5
13. Home Economics						5					5
14. Distributive Education							5				5
15. Agriculture							5				5
16. Third Observation							10	1			11
Total	5	20	22	19	15	22	20				Sub. Total 124

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COURSE OF STUDY IN INTER-DISCIPLINARY VOCATIONAL EDUCATION

Class Sophomore High School Pulaski County Teacher Team--B & O, DE, Home Ec., Ag.

Date Prepared (or Revised) June, 1968 Unit of Teaching Time (day, hour, etc.) 175

Major Teaching Objective or Teaching Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
1. Organization of Business								10			10
2. Labor Laws								2			2
3. Money and Banking								8	4		12
4. Taxes and Social Security									5		5
5. Fourth Observation									8	3	11
6. Leadership										4	4
7. Evaluation and Planning Second Course										5	5
8. Closing School										2	2
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
Total								21	17	14	175

8984

COURSE OF STUDY IN INTER-DISCIPLINARY PROGRAM IN VOCATIONAL EDUCATION

Class Junior High School Franklin-Simpson Teacher Team--B and O, DE, Home Ec., Ag.

Date Prepared (or Revised) June, 1968 Unit of Teaching Time (day, hour, etc.) 174

	Major Teaching Objective or Teaching Unit	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Total
1.	Orientation	4	8									12
2.	Personal Health and Grooming		12	1								13
3.	Applying for a Job			11								11
4.	First Observation			10	1							11
5.	Human Relations				5							5
6.	Personal Development and Manners				5							5
7.	Job Skills				8	12						20
8.	Leadership					2						2
9.	Second Observation						11					11
10.	Safety						10					10
11.	Money and Banking						1	19				20
12.	Organization of Businesses							1	9			10
13.	Third Observation								10	1		11
14.	Occupations 1. B &O 2. H. Ec. 3. DE 4. Ag.									18	2	20
15.	Fourth Observation										11	11
16.	Labor Law										2	2
	Total	4	20	22	19	14	22	20	19	19	15	174

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UNIT: ORIENTATION

Major Teaching Objective

To cause students to understand the inter-disciplinary program in vocational education

Suggested Learnings (Competencies) To Be Developed

1. To get acquainted
2. To understand course objectives
3. To see the advantages of an occupational course
4. To see an overview of units in the course
5. To understand team teaching
6. To plan observation periods
7. To be familiar with vocational terminology

UNIT: ORIENTATION

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

The team of teachers and the guidance counselor will be involved with this unit. However, the guidance counselor will have a very important role in the beginning.

The major overall objective of the guidance counselor will coincide with that of the other staff members involved in the program; namely, to contribute to the maximum development of the individual student participants by assisting them to secure the information, understandings, and attitudes vital to the vocational-choice process.

The function of the counselor in the program is three-fold: (1) to assist in the selection of the students for the programs, (2) to give professional support to the staff, and (3) to provide vocational, educational, and personal-social guidance services to the students. The first function, assisting in the selection of students, is not to be interpreted as a recruiter's role, but rather, that of liason between prospective students and the staff. He will make significant contributions to both groups. Prospective students and their parents will be assisted in planning the student's program of studies by informing them about the pilot program -- its objectives, course of study, and plan of action. The counselor has access to significant information about prospective students that will assist the staff in selection and placement decisions. The second function, professional support to the staff, will involve such activities as: (1) helping to arrange the Parents' Night Program, (2) helping to secure materials on guidance, stimulating interest through guidance services, and being available, when needed, to collaborate with the teachers in their work with an individual or the group. Although the third function, providing guidance services, is continuous throughout the program, the counselor should conduct a series of group guidance activities early in the course. These should develop essential concepts and understandings about career choice and establish a climate needed to motivate subsequent pupil-initiated individual counseling sessions.

This is the first unit to be dealt with in the inter-disciplinary course of study. Proper orientation is very important in any program, and especially to a pilot program.

Suggested Learnings (Competencies) to be Developed

1. To get acquainted with students

2. To understand course objectives

   Skills to be developed
   Common knowledge to supplement skills
   Developing desirable work and social attitudes
   Understanding and appreciating the world of work

3. To see the advantages of an occupational course

   Provides opportunities to discover aptitudes and interests of students
   Provides opportunities to select and explore careers
   Provides functional program of study and learning by observing selected occupations
   Provides learning experiences that improve the possibility of securing part-time employment during the senior year and attending college or securing full-time employment after graduation
   Develops characteristics which lead to "job success"
   Develops appreciation of the manner in which academic studies "tie up" with real situations in the world of work
   Develops a feeling of maturity and sense of responsibility to adults and their needs
   Provides instruction in desirable work habits -- in labor laws and regulations
   Provides opportunity to observe duties, working conditions, advantages and disadvantages of an occupation
   Provides opportunity to secure information from employers and supervisors

4. To see an overview of units in the course

5. To understand team teaching throughout the course

   Each teacher has a background of training and experience in areas that he teaches
   Students will receive information common to several occupations because of team teaching
   Each student will be assigned a teacher to help with selecting a career and to give assistance to the student with problems that may arise during the observation of an occupation
   The student will be helped by a teacher who has had experience which correlates with the student's choice of career

6. To plan observation periods

   Each student will select an occupation to observe
   The coordinator will select an "Observation Station"
   Students will write letters of application, fill out application blanks, make appointments for interview, and be interviewed by the employer of the observation station

7. To be familiar with vocational terminology

Discuss occupational terminology used in this course

a. Agribusiness
b. Distributive education
c. Business and office education
d. Home economics education

Teaching Learning Activities and Resources

Standardized Tests Are To Be Administered
(Each school will select tests from this group)

General Aptitude Test Battery (GATB)

High School Standard Achievement Test (Basic Battery, Forms W and X)

Metropolitan Achievement Test

California Short-Form Test of Mental Maturity

Differential Aptitude Tests

Otis Quick-Scoring Tests of Mental Ability (Gamma-FM)

(The tests will be interpreted by individual counseling sessions.)

UNIT: CHOOSING AN OCCUPATION

Major Teaching Objective

To understand the basic principles and sound methods of making decisions on careers and to show that vocational choice is a process which involves the integration of career information and self-understanding

Suggested Learnings (Competencies) To Be Developed

1. To understand that career choice is one of the most important decisions in an individual's life

2. To secure a brief overview of the occupational world, its interdependencies, and major classification systems

3. To provide guidelines to follow in studying a career

4. To develop concepts essential for realistic self-appraisal and to motivate each student to move toward better self-understanding

5. To assist in problem solving to relate self-evaluation and career information in choosing a field of work

UNIT: CHOOSING AN OCCUPATION

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

At the beginning of this course in occupational exploration, it may be well to consider the progress students have already made toward choosing an occupation. Ask them to write as much as they care to on this topic. They should be very frank. Their feelings about choosing an occupation are more important than the form and organization of their thoughts. Students' responses should be kept as confidential as they desire.

Suggested Learnings (Competencies) to be Developed

1. To understand that career choice is one of the most important decisions in an individual's life

As a setting for this lesson, prepare a display of occupational materials to include the following:

a. Dictionary of Occupational Titles
b. The Occupational Outlook Handbook
c. A mobile career kit such as:

- The Chronicles
- SRA -- Career Kits

To introduce this unit, the teacher should show the impact of career choice upon the life of each individual. It is said that most American youth face, and resolve, three fundamental issues which produce lasting effects upon their lives.

a. A philosophy of life
b. The choice of a partner in life
c. A career choice

How career choices affect the following:

a. One's standard of living
b. Family life
c. Friends

d. Where one lives
e. One's service to others
f. Opportunity for self-expression
g. One's mental and physical well-being

2. <u>To secure a brief overview of the occupational world, its interdependencies, and major classification systems</u>

Display pertinent materials
Give a brief review of the immensity, the interdependencies, and the interrelatedness of the world of work
There are 25,000 to 30,000 different occupations
Show how a problem in one area can affect many different kinds of work
There are many kinds of work

a. Some is done at night because of the interrelatedness of the world of work

- Delivering produce
- Bakery
- Cleaning (offices, factory)
- Stocking (Kroger, A & P, others)
- Others

b. Some work must be done mainly on weekends
c. Some work must be done continuously

There are systems of classifying occupations

a. Use of the DOT and explain briefly:

- What it is
- Why it was developed
- How to use it

b. Occupations are classified into these broad categories

- Professional, technical, and managerial occupations
- Clerical and sales
- Service
- Farming, fishery, and related occupations
- Processing
- Machines trades
- Bench work occupations
- Structural work
- Miscellaneous

There is a great deal of change in the world of work
The filmstrip, "The Wonderful World of Work," could be shown here

3. <u>To provide guidelines to follow in studying a career</u>

Securing authenic occupational information is very helpful. Some of the most helpful sources are:

a. Career articles, pamphlets, and books
b. Conferences with counselors and teachers
c. Visits to places of employment
d. Talks with successful experienced workers
e. Parents, other relatives, and friends
f. School subjects and career classes
g. Library and other information sources
h. Part-time and summer employment

Criteria for evaluating occupational information should include the following:

a. Check the copyright date on printed material
b. Recognize that there are "Gyp Schools" in operation
c. Know techniques used by high-pressure recruiters

Allow time for students to see and evaluate the materials that are being displayed

How to study an occupation (a copy of the following material, duplicated and distributed to each student, should be helpful)

a. Nature of work

- What are the activities, duties, and responsibilities of the worker in this occupation?
- What kinds of interests underlie the occupation?

b. Mental requirements

Which of the following mental abilities are required?

- Verbal comprehension
- Reasoning
- Numerical ability
- Spatical aptitude
- Mechanical comprehension

c. Personality requirements

will the job require you to be:

- Sociable?
- Energetic?
- Persuasive?
- Careful about details?
- Persistent?

d. Educational and training requirements

- What kind of education is necessary?

- What level of education is necessary?
- What type of apprenticeship or internship is necessary for entrance into the occupation?
- What type of in-service training can be expected on the job?
- How do you gain admission to the required types of training?
- What are the limitations on the number admitted to special training?
- What is the length of training in school? On the job?
- How much will this training probably cost?

e. Entrance into the occupation

- What kind of certificate or license, if any, will you need to practice the occupation?
- Is membership in a union or professional society required?
- Are any special agencies for employment used in getting a job?

f. Possible restrictions affecting eligibility for the occupation

- Age
- Men only, women only
- Race or nationality
- Physical attributes, personal appearance

g. Working conditions

- Physical conditions
- Hours of work
- Physical activity

h. Demand and supply of workers

- Outlook for the future
- Turnover

i. Income, promotion, and security

- What beginning annual income may be expected?
- What are the possibilities for promotion?
- To what related occupations might transfer be made, either as a promotion or as a substitution for the original job?
- What degree of security does the occupation offer?
- What is the policy for paid vacations? Sick leave?
- What sort of pension or retirement plan, if any, is provided?
- At what age are workers ordinarily retired?

4. <u>To develop concepts essential for realistic self-appraisal and to motivate each student to move toward better self-understanding</u>

Have students interview some people who have chosen their occupation in life. After the interview, ask the students to report their findings in class. A few questions they may wish to ask are:

a. When did you choose your occupation?
b. How did you decide on the occupation you have chosen?
c. How much education and training did you need in order to do a good job?
d. How many times have you changed vocations?
e. Other questions should be suggested by the teacher

What is the foundation of career choice?

a. Self-understanding
b. Career information
c. Interest
d. Others

At this point, show the film and filmstrip:

a. "Your Aptitudes and Abilities" (film)
b. "Get Acquainted With Yourself" (filmstrip)

Get student to discuss the film and filmstrip
Develop an understanding of the terms you and the students will be using

a. Interest
b. Aptitudes
c. Ability
d. Values
e. Others

Explain how various traits are measured
Discuss the use of standardized tests

a. Percentile rank
b. Interpretation and use of results
c. Fallacy of attaching too much meaning to the results
d. Other data should also be used to help appraise a person's strengths and weaknesses

Examine these and other profile sheets

a. Kuder Preference Record Profile
b. Differential Aptitude Test Battery Profile
c. The Sextant Individual Profile
d. The self-inventory form in the booklet, "Choosing Your Occupation"

Discuss the purpose of the General Aptitude Test Battery (GATB)
Schedule a time for the students to take this test battery

5. <u>To assist in problem solving to relate self-evaluation and career information in choosing a field of work</u>

An individual has the personal responsibility for making vocational choices

a. Every individual has this right in a democracy
b. Every individual has this responsibility

Making vocational choices

a. Time is crucial
b. Choices can be made too early or too late
c. Mistakes are costly

Life stages in the developmental process

a. Growth
b. Exploration
c. Establishment
d. Maintenance
e. Decline

Vocational choice is a long-term developmental process. It involves compromise and often change and re-direction.

There are some advantages of choosing a broad field rather than a specific job

a. The filmstrip, "Preparing for the World of Work," will be helpful at this point
b. Each person has the requisites for success in many occupations

There are some common mistakes in career decisions

a. Striving to meet requirements beyond reach, considering:

- General mental ability
- Proficiency in tool subjects
- Personality requirements
- Physical strength
- Special skills
- Financial limitations

b. Choosing an occupation because of:

- Glamour
- Pressure of relatives

c. Over-crowded fields

Students should be requested to schedule an appointment with the guidance counselor to discuss their career plans, interpretation of test results, and other concerns

REPORT OF COUNSELING INTERVIEW

Name of student _____ Date _____

Classification: _____ Freshman
_____ Sophomore
_____ Junior
_____ Senior

Reason(s) for counseling interview:
_____
_____
_____
_____

1. Vocational and educational goals

   a. Brief statement of vocational goals: _____
   _____

   b. Brief statement of educational plans: _____
   _____

   c. Evaluation of vocational and/or educational goals:
      _____ 1) Realistic
      _____ 2) Unrealistic, because of
         _____ a) Lack of self-knowledge
         _____ b) Lack of vocational information
         _____ c) Lack of educational information
         _____ d) Parental attitudes
         _____ e) Other (explain): _____
         _____

   d. Progress to date toward vocational goals: _____
   _____

   e. Progress to date toward educational goals, including any problems encountered: _____
   _____

   f. Plans or decisions made during the interview: _____
   _____

2. Special conditions or situations which might produce problems (summarize briefly) _____
_____

3. Personality appraisal (summarize briefly)
_____
_____
_____

4. General evaluation of interview
_____
_____
_____

5. Plans for future counseling, if any
_____

Counselor _____
(Signature)

SUMMARY REPORT OF COUNSELING SESSION

1. Purpose of counseling session

Type:

_____ Occupational
_____ Educational
_____ Personal
_____ Social
_____ Information giving

2. Student's presentation of problem or role in the counseling session.

3. Counselor's basic hypothesis of problem. (Itemize contributing factors and those you can handle.)

4. Immediate goal for student (suppertive, reinforcing, other).

5. Long-range goal for student.

6. Objective test data (optional).

7. Structure of counseling relationship:

_____ Warm, friendly atmosphere
_____ Non-censorious
_____ Permissive
_____ Feelings of client overlooked
_____ Over-emphasis on objective evidence
_____ Acceptance of client without value judgment
_____ Frequent interruption by counselor
_____ Ready-made solution or use of advice by counselor

8. Counselor's observations of student:

_____ Is he under stress?
_____ Is he able to cope with situation?
_____ Is he able to accept help?
_____ Is he of suitable age and intelligence?
_____ Other

9. Negative feelings expressed by student.

10. Manner in which these feelings were accepted, recognized, and clarified.

SURVEY OF CAREER PLANS

High School _____
Address _____

Name _____ Age _____ Sex _____
(Last) (First) (Middle)

Home Address _____
(Street) (City)

Do you plan to finish high school? _____

What kind of school do you plan to attend after high school? (Mark as many choices as apply)

_____ None
_____ Junior College
_____ College or University
_____ Technical Institute
_____ School of Nursing
_____ School of Practical Nursing
_____ Business School
_____ Trade School
_____ Armed Forces Enlisted School
_____ Other _____
(Specify)

If you are going to college, in what area do you plan to major?

_____ Mathematics
_____ Physical Sciences
_____ Biological Sciences
_____ Social Sciences
_____ English & Literature
_____ Foreign Language
_____ Art
_____ Music
_____ Psychology
_____ Philosophy
_____ Elementary Education
_____ Special Education
_____ Engineering
_____ Business & Commerce
_____ Agriculture & Forestry
_____ Law
_____ Home Economics
_____ Medicine
_____ Nursing
_____ Other _____
(Specify)

Which of the following degrees do you plan to earn?

_____ None
_____ A.A.
_____ B.A. or B.S.
_____ M.A. or M.S.
_____ Ph.D. or Ed.D.
_____ L.L.B.
_____ R.N.
_____ M.D.
_____ D.D.S.
Other _____
(Specify)

If you plan to continue your education, what is the major reason for doing so?

_____ Make more money
_____ My career requires more education
_____ Make contacts for business
_____ Friends are continuing their education
_____ For athletics
_____ Parents want me to continue my education
_____ Social reasons
_____ No special reason
Other _____ (Specify)

If you are not continuing your education beyond high school, why?

_____ I want to earn money
_____ I want to get married
_____ I want to go into the military service
_____ I can't afford it
_____ I can't because of a family problem
_____ I can't because I am married
_____ I could not get in college because of grades
Other _____ (Specify)

If you could do anything you wanted to, what job would you choose?

_____

What careers are you considering? _____

_____

_____

What influenced you to choose these careers? _____

_____

_____

_____

Have your parents suggested a particular occupation to you? _____
If so, which occupation _____ Do you agree with their choice? _____

What is your father's occupation? _____
What kind of influence has this had on your career choice?

_____ A positive influence
_____ A negative influence
_____ No influence

Teaching Learning Activities and Resources

Below are some ideas you may want students to consider. Remember they are only suggestions.

I. At present what are you considering as your vocational choice?

a. When did you make this choice?

1. Have you made other choices?
2. Have you changed your choice? If so, why?

b. What things have influenced you in this choice?

1. Advice or suggestion

a. Relative
b. Friend
c. Teacher or counselor

2. Reading and other observation
3. Opportunity for service
4. Occupation of someone you admire
5. Offers adventure or prestige
6. Good pay
7. Feeling that you can succeed
8. Other influences

II. What do you know about this occupation? Where did you get the information?

III. What kind of education, training, and experience will you need to enter this occupation?

IV. What salary do you expect to earn the first year? After five years? At the peak of your earning power?

V. Why do you feel you will be successful in this choice?

a. What are your strongest aptitudes and abilities?
b. What about your scholastic aptitude? Where do you usually stand in your class? In what subjects do you do best? In what subjects do you do poorly?
c. What do scores on aptitude tests indicate about your special talents or aptitudes?
d. Do you have skill with your hands?
e. What hobbies and other leisure activities do you enjoy most?
f. What personality traits do you have that will help you in this occupation?

1. How do you get along with people?

a. Are you comfortable with large groups? Do you prefer to be with a few friends that you know well?

b. Would you be happy working alone?

2. Other

g. What work experiences have you had?

1. What type of work did you do?
2. What income did you receive?
3. Have these experiences influenced your present choice?

Books

Occupational and Careers, W. J. Greenleaf, New York, McGraw-Hill Book Company, 1955
Some Do's for the Use of Occupational Information, R. Hoppock, The School Counselor, Vol. 15, No. 2 (November, 1967), pp. 134-5
Occupational Information, R. Hoppock, New York, McGraw-Hill Book Company, 1957
Career Information in Counseling and Teaching, L. E. Isaacson, Boston, Allyn and Bacon, Inc., 1966
You: Today and Tomorrow, M. R. Katz, Cooperative Test Division, Education Testing Services, Third Edition, 1959
Successfully Finding Yourself and Your Job, F. A. Magoun, New York, Harper and Row, 1959
Career Planning for High School Students, W. J. Reilly, New York, Harper and Row, 1953
Choosing a Career in a Changing World, V. Westervelt, New York, G. P. Putnam's Sons, 1959
World Book Encyclopedia, A Career Planning Guide
Dictionary of Occupational Titles, 1963
Occupational Outlook Handbook, 1965

Pamphlets

"Our World of Work," Seymour L. Wolbein & Harold Goldstein, Science Research Associates, Inc., Chicago, Illinois
"Exploring the World of Jobs," Donald E. Kitch, Science Research Associates, Inc., Chicago, Illinois
"Planning Your Job Future," Emery Stoops & Lucille Rosenheim, Science Research Associates, Inc., Chicago, Illinois
"Choosing Your Career," J. Anthony Humpreys, Science Research Associates, Inc., Chicago, Illinois
"College, Careers, and You," Robert H. Plummer and Clyde E. Blocker, Science Research Associates, Inc., Chicago, Illinois
"You and Your Abilities," John & Katherine Bryne, Science Research Associates, Inc., Chicago, Illinois
"What Employers Want," James C. Worthy, Science Research Associates, Inc., Chicago, Illinois
"How to Get the Job," Mitchell Dresse, Science Research Associates, Inc., Chicago, Illinois
"Finding Part-Time Jobs," S. Norman Feingold & Harold List, Science Research Associates, Inc., Chicago, Illinois

"Your Abilities," Virginia Bailard, Science Research Associates, Inc., Chicago, Illinois
"Girls and Their Futures," Marguerite W. Zapoleon, Science Research Associates, Inc., Chicago, Illinois

Films

"Get Acquainted With Yourself," Colonial Films, Inc., 70 Fairlie Street, N. W., Atlanta, Georgia
"Wonderful World of Work," Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago, Illinois 60614
"An Introduction to Vocation," Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago, Illinois 60614
"Counseling in Vocational Decisions," Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago, Illinois 60614
"Preparing for the World of Work," Society for Visual Education, Inc., 1345 Diversey Parkway, Chicago, Illinois 60614

UNIT: GROOMING

Major Teaching Objective

To help students learn and use simple rules of body care and cleanliness

Suggested Learnings (Competencies) To Be Developed

1. To know the structure of the skin, and proper skin care
2. To care properly for the hands
3. To use basic practices in hair care
4. To use proper face care
5. To practice simple care of teeth and feet
6. To use fragrances and cosmetics properly

UNIT: GROOMING

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit is for use with the inter-disciplinary class. It should follow the unit, "Choosing an Occupation," and precede the unit, "Clothing."

Students should realize the need for and practice proper body care and cleanliness. Students should understand that good body care relates to one's success in an occupation.

Suggested Learnings (Competencies) to be Developed

1. To know the structure of the skin, and proper skin care

   Layers of skin
   Functions of each skin layer
   Care for appearance and cleanliness
   The need for baths
   Use of deodorants and anti-perspirants

2. To care properly for the hands

   Time to wash (frequency)

   - Often enough to keep clean

   Protection

   a. Use of gloves
   b. Lotions

   Manicure

   Proper handshake

   Misuse of hands

3. <u>To use basic practices in hair care</u>

Daily brushing
When to shampoo
Styling

a. Suitable to job
b. Suitable to the person

Keeping hair neat and in place

4. <u>To use proper face care</u>

Washing

a. Number of times per day
b. Proper drying

Protection
Treatment for acne

5. <u>To practice simple care of teeth and feet</u>

<u>Teeth</u>

Brushing

a. Regular
b. Method

Use of antiseptics
Use of dental floss
Check-ups

<u>Feet</u>

Pedicure
Shoes, hose, socks

a. Kind
b. Size

6. <u>To use fragrances and cosmetics properly</u>

Suitable to the individual
Appropriateness

a. Time to use
b. Frequency of using

Teaching Learning Activities and Resources

Show filmstrip: "The Skin: Structure, Function, and Care." Discuss points emphasized.
Discuss body care needed daily and periodically
Use pictures to illustrate hair care, good use of cosmetics, clean and attractive hands and attractive teeth
Show filmstrip: "Teen-Aged? Have Acne?"

References

Books: About Her, Gregg Publishing Company
About Him, Gregg Publishing Company
Guide to Beauty, Charm, Poise, Ruth Tolman, Milady Publishing Company
Executive Profile, Famularo and Atkinson
Charm, Whitcomb and Lang

Booklets: "Good Grooming for Boys and Girls," SRA #5-1161
"Guide to Good Grooming," SRA #5-862

Others: "The Personal Improvement Magazine," Charm Division, Milady Publishing Company, 3839 Winter Plains Road, Bronx, New York, 10467 (Free)

For the Students

"How to Make Good Grooming a Habit," Dial Research Laboratories
"Teen-Aged? Have Acne?" and "Hair Do's and Don't's," Winthrop Laboratories (Free)

Filmstrips: "The Skin: Structure, Function, and Care," Andrew Jergens Company
"Teen-Aged? Have Acne?" Winthrop Laboratories

UNIT: CLOTHING

Major Teaching Objective

To help students understand that the appropriate dress is determined by activities, occasions, personal build, and complexion

Suggested Learnings (Competencies) To Be Developed

1. To select the type of clothing to wear for different occasions (job, church, school, home, and social functions)

2. To understand how line and color of clothes are determined by body build and complexion

3. To see how clothing and appearance relate to job success

UNIT: CLOTHING

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit is a part of the series on good grooming and dress. This unit should be dealt with after the unit, "Grooming." Suggested teaching-learning activities are listed at the end of the unit.

Suggested Learnings (Competencies) to be Developed

1. To select the type of clothing to wear for different occasions

Appropriate clothing for jobs

a. Farming
b. Waitress
c. Sales girl
d. Recreation
e. Other occupations

Suitable clothing for specific activities

a. Church
b. School
c. Home
d. Party
e. Wedding
f. Other activities

Determining the clothes to wear

a. Community mores
b. Religion
c. Finances
d. Personal preference
e. Other factors (size, age, money for clothes, and the like)

2. To understand how line and color of clothes are determined by body build and complexion

Types of lines used
Effects produced by different lines
Suitable lines

a. Tall, thin
b. Short, stout
c. Tall, stout
d. Short, thin

Face shapes help determine lines to use
Characteristics that determine the color one can wear

a. Complexion
b. Hair color
c. Body size
d. Others

3. To see how clothing and appearance relate to job success

Conditions of clothes

a. Cleanliness
b. Neatness
c. Absence of buttons and other fasteners

Condition of shoes
How these conditions relate to job success

Teaching Learning Activities and Resources

Use pop-up to list various types of jobs, and clothes suitable for each
Use illustrations to show good choices of clothing for various activities
Use transparencies or cut-out silhouettes to show the effects of different lines on body size
Show movie: "Good Looks" and/or "Dressin' Up," Association Films
Use colored fabrics to illustrate the effects of various colors on individuals with different complexions
Class members use fabric samples or cut-outs to show good combinations for separates--for appearance

References

Books: Guide to Beauty, Charm, Poise, R. Tolman
Charm, Whitcomb and Lang
Executive Profile, Famularo and Atkinson
Experiences With Clothing, Pollard, Ginn and Company

Others: Movies: "Good Looks," "Dressin' Up," Association Films, 324 Delaware Avenue, Oakmont, Pennsylvania, 15139. Free for return postage.

Give: "Know How to Dress and Look" (for boys), Avon Products, Inc.

(Some ideas for this unit are from Personal Development and Management course from the Home Economics Service, Alabama.)

UNIT: APPLYING FOR A JOB

Major Teaching Objective

To enable the student to present himself favorably as an applicant for employment

Suggested Learnings (Competencies) To Be Developed

1. To locate the "right" job
2. To apply for the job
3. To handle the interview successfully
4. To follow up the interview and other contacts

UNIT: APPLYING FOR A JOB

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit should be very helpful to students who apply for jobs. The unit deals with selecting a job, making application for the job, being interviewed, and preparing follow-up material. This unit should be dealt with before the students need to make these decisions. It should be helpful in observing occupations.

Suggested Learnings (Competencies) to be Developed

1. To locate the "right" job

Sources of information

a. Newspaper ads
b. Employment agencies
c. Personal contacts
d. Miscellaneous sources

Have each student do some self-evaluation

a. Would you hire yourself?

- Some good bulletin board information on jobs will be of help
- Use transparencies to illustrate how one looks for a job

b. Where would you like to work?

- Magazine clippings of jobs

Office jobs
Agribusiness
Salesman
Many others

c. What do you need to consider?

- Techniques of looking for a job
- Facts you need when looking for a job
- Ways of displaying your talents

d. How do you sell yourself?

- Telephone conversation
- Shaking hands
- Appearance
- Conversation

2. To apply for the job

Some activities for students

a. To learn the basic parts of a letter
b. To understand the purpose, content, and suitable forms for the resume
c. To prepare the following:

- Letter of application
- Resume
- Complete application forms

3. To handle the interview successfully

Exhibit good grooming and proper dress
Know yourself
Prepare for the interview

a. Identify questions likely to be asked (see list at the end of the unit)
b. Plan honest answers to make a good impression

Have the students to do role playing

a. Have interviews by students during the class
b. Allow time to discuss these interviews

Use a resource person to talk to the class on interviews

4. To follow up the interview and other contacts

A letter of appreciation should be written

a. It is courteous
b. It reminds the interviewer of your interest in the job
c. It may be the deciding factor in being employed

The kind of follow-up letter to write

a. Brief

b. To the point
c. Handwritten or typed

Interview Preparation

1. Dress according to the job for which you are applying.

2. Be on time for the interview.

3. Go into the interview alone.

4. Greet the receptionist or employer with a smile. Do not sit down until he directs you to do so.

5. Let the interviewer take the lead in the conversation.

6. Have easy access to personal data sheet, social security card, proof of age, pocket-size calendar, pad and pencil.

7. Be enthusiastic but relaxed, sit properly, exercise proper placement of feet and hands.

8. Stress your qualifications for the job, and your interest in it.

9. Be businesslike and brief, but answer all questions completely, accurately, and honestly.

10. Have a definite understanding of what is to be required of you on the job.

11. Do not overlook extracurricular activities in which you have participated, and their value to you.

12. Look the employer straight in the eyes. Direct eye contact is very important; it indicates that you are interested in what is being discussed.

Interview Questions Often Used

1. What are your future vocational plans?

2. In what type of position are you most interested?

3. Why did you choose your particular field of work?

4. What caused you to apply for a position in our company?

5. Do you feel that you have been adequately trained to be successful?

6. What courses did you like best? Least? Why? How did you rank in your graduating class?

7. What do you think determines one's progress in a good company?

8. Do you prefer to work in a specific geographic location? Why?

9. Do your friends, those with whom you associate, influence you favorably?

10. In what school activities have you participated? Why? Which did you enjoy most?

11. What personal characteristics are necessary for success in your chosen field?

12. What is your father's occupation?

13. What obligations do you have within your family?

14. Do you prefer working with others or by yourself?

15. Are you primarily interested in making money? Do you feel that service to your fellow man is a satisfactory accomplishment?

16. Can you take instructions without feeling upset?

17. Do you live with your parents? Which of your parents has had the most profound influence on you?

18. What interests you about our product or service?

19. Do you feel you have done the best scholastic work you are capable of doing?

20. What do you know about opportunities in the field in which you are trained?

21. How long do you expect to work?

22. Have you ever had any difficulty getting along with fellow students and faculty?

23. What is the source of your spending money?

24. Do you own any life insurance?

25. Have you saved any money?

26. Do you have any debts?

27. Do you attend church?

28. Do you like routine work?

29. Do you like regular hours?

30. In what size city do you prefer to work?

31. What is your major weakness?

32. Define cooperation.

33. Will you fight to get ahead?

34. Do you demand attention?

35. Do you have an analytical mind?

36. Are you eager to please?

37. How do you keep in good physical condition?

38. How do you usually spend Sunday?

39. Have you had any serious illness or injury?

40. Are you willing to go where the company sends you?

41. What job in our company would you choose if you were entirely free to do so?

42. Is it an effort for you to be tolerant of persons with a background and interests different from your own?

43. What types of books have you read?

44. What types of people seem to "rub" you the wrong way?

45. Do you enjoy taking part in sports. Do you like to observe sports?

46. Have you ever tutored an underclassman?

47. What jobs have you enjoyed the most? Least? Why?

48. What are your special abilities?

49. What job in our company would you like to work toward?

50. Would you prefer working in a large or a small company?

51. What is your idea of how industry operates?

52. Do you like to travel?

53. What is your opinion of overtime work?

54. What kind of work interests you?

55. What are the disadvantages of your chosen field?

56. Are you interested in research?

57. Do you enjoy attending dinner parties?

58. Do you use liquor? If so, to what extent?

59. What have you done which shows initiative and willingness to work?

60. If you had an idea which you think would improve the business, how would you present it?

61. How did you spend your vacations while in school?

62. What jobs have you held? How were they obtained, and why did you leave?

Teaching Learning Activities and Resources

Books and Booklets

About Her, Gregg Publishing Company
About Him, Gregg Publishing Company
Applied Secretarial Practice, Gregg Publishing Company
"The Job You Want," Gregg Publishing Company
"You and Your Job," Southwestern Publishing Company
"Making the Most of Your Job Interview," The New York Life Insurance Company
"Business Behavior," Southwestern Publishing Company
"Today's Secretary"

Units

"Finding and Applying for a Job," Instructional Materials Laboratory
"Job Interview," Instructional Materials Laboratory
Paola Course of Study

Student Information Sheets

How to Act During the Interview
Proper Appearance for a Female on an Interview
Magazine Clippings

OBSERVATION AND EVALUATION

Four observations and evaluations are scheduled during the school year. Three hours will be used for preparation and explanation of procedures to be followed during the observation experience. Five hours will be devoted to the actual observation of the job. The evaluation of the observation will take three hours. The time used for the exploratory experience will be the regular class hour, unless otherwise arranged.

Each student will select the job that he desires to observe about three weeks before the observation. The cooperating firm will be contacted by the chairman personally, or by a letter, to establish the observation stations. The chairman and employer will decide the learning experiences to be provided by the employer.

The students are required to submit the application letter and form along with a personal data sheet, to the cooperating firm two weeks before the observation. These will be checked by the chairman or instructor. The interview must be completed at least two days before the observation begins.

At the time of the interview, the "Exploratory Experience Agreement" form is signed by the cooperating employer.

During the period of observation, the "Exploratory Experience Evaluation" form will be completed by the students.

The students will use three class periods following the observations to evaluate their experiences. A "Self Evaluation of Exploratory Experience" form will be completed by the students. A self-rating sheet will be completed and discussed after the first and fourth exploratory experience.

METHODS OF REASSESSMENT

1. Students may be asked to report their learning activities and experiences encountered during their exploratory experience. Time should be allowed for discussions, questions, and answers.
2. Students may be grouped according to the occupation which they explored. A chairman and recorder may be appointed for each group. Learning experiences could be shared and summarized by the recorder, and reported to the class.
3. Authorities in the occupational areas observed could serve as discussion leaders for small "job interest" groups.
4. For the last evaluation period, the entire group could be given the opportunity to discuss the value of the exploratory experiences, and how they could be improved.

The last two or three weeks of the class will be used to analyze the occupation selected for part-time work the senior year. The students may participate in video-taping interviews. This video-tape may be compared with the one made at the first of the school year. These may be useful in evaluating the progress of students in interview techniques, such as: voice, appearance, poise, and grammar.

Dear _____:

Your firm has been selected by _____, a student at _____ High School and a member of the class, "Inter-disciplinary Vocational Education," for exploratory experience as a student observer for the position of _____.

The chairman will explain the use of the forms to be used by your firm and by the student observer, and assist with any questions which may arise.

The student will make an application and arrange for an interview in the near future.

The exploratory experience is scheduled for the period of _____ _____ inclusive, during the time ordinarily devoted to this class which is _____.

Those of us working in this pilot program anticipate a pleasant experience for the firm, student, and chairman. Activities which you can provide for observation will enrich the exploratory period for this student and will assist him or her in deciding whether to pursue interests in this occupation.

Sincerely,

_____, Chairman
Pilot Program

PILOT PROGRAM

(Inter-disciplinary)

Exploratory Experience Agreement

Student Observer _____ Social Security No. _____
Address _____ Telephone No. _____
Exploratory Job _____ Exploratory Firm _____
Firm Address _____ Telephone No. _____
Department in which exploring _____ Supervisor _____
Dates of exploratory experience _____ to _____
Time each day (Hours) _____ to _____
Chairman _____ Telephone No. _____

The exploratory experience is one phase of the course. Its principle objective is to permit the "Student-observer" to explore an occupation in which he believes he has a career interest.

Terms of the Exploratory Agreement

1. The status of the student, while observing, shall be that of student-observer.
2. The student agrees to abide by all agreed and implied terms included in this exploratory agreement.
3. The student-observer will observe for a period of time without pay, the activities of this occupation under the supervision of the assigned individual(s) at a cooperating firm and the coordinator. The period of time will be that normally devoted to the above class by the student-observer, cooperating firm and the coordinator.
4. The cooperating firm shall move the student-observer from job to job within his interest area in order that he or she may become better informed.
5. The parents are responsible for transportation arrangements, if needed.
6. The coordinator will assist with any problems of the student-observer.
7. If the coordinator, or other individuals concerned in this agreement, deems conditions warrant, the student-observer will be removed from the exploratory experience when such action is for the best interests of all parties.

We, the undersigned, indicate by our signature we have read and understand the purpose for the exploratory experience.

_____	_____
Student	Parent
_____	_____
Respresentative-Cooperating Firm	School Principal or Chairman of the Program

(Copy to: Cooperating Firm, Student-observer, Coordinator)

PILOT PROGRAM

(Inter-disciplinary)

Time Sheet

Name _____ Firm _____

Name of supervising person in firm _____

Record of Time Spent in Exploratory Activity With Above Firm

Day	Month	Date	Time of Arrival AM or PM	Time of Departure AM or PM	Total Hrs. Per Day	Type Work Observed
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Other						

Total hours spent in this exploratory experience _____

The above time record appears to be correct.

_____
Signature, Exploratory Experience
Supervisor

PILOT PROGRAM

Exploratory Experience Evaluation

Name _____ Job _____ Business _____

1. How many people work in this job at this firm?

2. A. What are the duties of this job in this business?

   B. On the average, how much time is devoted to each duty each day?

3. A. What other jobs in this firm have important duties similar in nature to this one?

4. What training and experience do I presently have that would be useful in this job?

5. What additional training and/or experience should I obtain before I would be employable at this job with this firm or at a similar job with another firm?

6. A. Do I need to belong to a union to enter or to continue this job at this firm?

   B. If so, what are the steps to follow in joining and belonging? What dues are necessary?

   C. What "fringe benefits" are provided?

7. A. On the average how many hours are spent on the job each week?

   B. How many hours are spent at tasks related to the job while off work?

C. Is this job affected by seasonal layoff?

8. A. If I were hired to work full time at this or a similar job after leaving high school, what is the salary range?

B. What is the estimated salary range five years from now?

9. A. Does this firm hire high school graduates?

B. Are they hired for this job?

C. Is is likely that a job in this area will be available a year from now?

D. Do I need post-high school training? If yes, how much and what type is needed?

E. Must I pay for this training or is it provided at the expense of the firm?

10. A. Do people advance from this job to other jobs within this or other firms?

B. If so, what are some typical job advancements?

11. A. Does this firm have part-time jobs where I or a member of my commonalities class might be employed this year or next summer?

B. If so, name the jobs.

12. A. What do you like about this job? Why?

B. What do you dislike about this job? Why?

13. Give the names and titles of your supervisors during this exploratory experience.

14. What particular hazards are connected with this job?

PILOT PROGRAM

(Inter-disciplinary)

Student's Self-Evaluation of Exploratory Experience

Name _____ Date _____

Job _____ Firm Name _____

1. From my observation of this job, would I be content to work at this job as a career? Yes ____ No ____ Undecided ____ Ten years from now? Yes ____ No ___ Twenty? Yes ____ No ____

   A. What advantages would affect my decisions?

   B. What disadvantages would affect my decisions? (Be sure to consider working conditions, health or safety hazards, social and economic factors, marital and family responsibility, existence of job, etc.)

2. At this time, would I want to spend my work experience in this or a similar part-time job next year? Yes ___ No ___ Undecided ___ Impossible ___. State your reasons.

3. What self-improvement would be helpful for me to be more successful when I start to work? (Include such things as health, habits, grooming, attitudes, education, training, experience, etc.)

4. Has the exploratory experience been of value? Yes _____ No _____ Why?

5. Could the exploratory experience have been improved? Yes___ No___ If Yes, how?

6. What did you find most interesting about the occupation?

7. What did you dislike about the occupation?

8. What occupation do you plan to observe next?

9. Describe any problem that may have developed during your observation at the observation station involving you and the employer or supervisor.

10. Describe any problem that developed between the employer and an employee, client, or customer, if any.

APPLICATION FOR OBSERVATION

Name _____
(Last) (First) (Middle)

Address _____ Telephone No. _____
(Street & Number) (City) (State)

Position Desired _____ Social Security No. _____

How long have you lived at the above address? _____ Do you live with your parents? _____ Date and place of birth _____
Yes/No Month Day Year

Citizen of the United States? _____ Weight _____ Height _____ Right or left handed_____ No. of dependents other than self _____.
Yes/No lbs. Ft./In.

Single ( ) Married ( ) Widowed ( ) Separated ( ) Divorced ( )

EDUCATION

SCHOOL					
Kind	Name	Address	From Year	To Year	Graduating Degree
Elementary					
High School					
Others					

PREVIOUS EMPLOYMENT

Date of Graduation _____

From Mo. Yr.	To Mo. Yr.	Name and Address of Employer	Position	Salary	Reason For Leaving

PERSONAL REFERENCES

Name	Address	Occupation

Signature _____

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PILOT PROGRAM

(Inter-disciplinary)

Student Information Sheet

Name _____ Home Phone _____ Date _____

Address _____ Age _____ Date of Birth _____

Parent or Guardian _____ Business Phone _____

Occupation of Parent or Guardian _____

Number of Brothers _____ Number of Sisters _____

Is transportation available when needed? _____

Check below any activities that you participate in: Fellowship of Christian Athletes ___, Student Council ___, Band ___, Choir ___, Basketball ___, Cross Country ___, Football ___, Tennis ___, Track ___, Wrestling ___, Church Youth Group ___, Scouts ___, Future Teachers ___, FBLA ___, FFA ___, FHA ___, Others _____

What occupational area or job would you like to make for your life's work? _____

_____

What careers has your parents indicated they would like you to enter after graduation? _____

Have you held any job(s) for which you have received wages? Yes ___ No ___. If yes, list below: _____

_____

SCHOOL PROGRAM - First Semester

	Subject	Room	Teacher
1.			
2.			
3.			
4.			
5.			
6.			

Second Semester

Subject	Room	Teacher

Write a paragraph on each of the following topics:

A. Why I enrolled in the Inter-disciplinary course.

B. What I expect to get out of this course.

List 4 occupations you would like to observe this year.

UNIT: HUMAN RELATIONS

Major Teaching Objective

To develop human relations and personality traits for success in business

Suggested Learnings (Competencies) To Be Developed

1. To understand basic human motives that effect employer-employee relations
2. To practice good human relations in the business where one works
3. To be able to adjust to the job

UNIT: HUMAN RELATIONS

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit should be dealt with before students are ready to work. Soon after they have observed businesses it is desirable to deal with this unit.

Employers are quick to point out the importance of good employer-employee relations and the importance of an employee being able to get along with fellow workers. Many businessmen list personal traits and attitudes, rather than incompetencies, as the major reasons for dismissal of new employees.

Students should realize the importance of a pleasing personality and how one may improve his personality.

A new employee has to prove himself to his employer and fellow workers. Usually he must prove himself early or often he will cause resentment and loose the opportunity for help and cooperation. Students employed may largely overcome this attitude by asking help, showing courtesy, and by demonstrating a willingness to learn.

Suggested Learnings (Competencies) to be Developed

1. To understand basic human motives that effect employer-employee relations

   Treat people as individuals
   Recognize that human behavior is unpredictable
   Be loyal to others
   Seek raises and promotions on merit
   Help build department and store morale

2. To practice good human relations in the business where one works

   How to do your job carefully
   How to help others when needed
   How to keep busy doing constructive work

How to know yourself

a. Test yourself
b. Listen to your voice (use a tape recorder)

3. <u>To be able to adjust to the job</u>

The line of authority
How to be resourceful
How to be loyal to your business
How to advance on the job

a. Do more than is expected
b. Approach your job with enthusiasm
c. Be friendly
d. Accept and carry out responsibilities
e. Show you are willing to learn
f. Plan your work
g. Learn names of fellow workers
h. Compliment fellow workers
i. Do not be "too eager"
j. Do not join cliques
k. Learn duties of fellow workers
l. Develop good personality traits

Employer-employee problems

a. Recognizing a problem
b. Gathering facts about a problem
c. Finding the best solution to the problem
d. Carrying out your solution

Develop desirable work habits

a. Do school work as required
b. Take part in extra projects when possible
c. Work instead of "loafing"

Desirable traits of employees

a. Enthusiasm
b. Honesty and dependability
c. Initiative
d. Loyalty
e. Industriousness
f. Tactful and courteous
g. Friendly
h. Cooperativeness

Undesirable traits of employees

a. Using other people
b. "Politicking," currying favors
c. "Running down" other people

d. Taking credit for ideas or achievements of others
e. Gossip, tale bearing
f. Being jealous
g. Being indifferent to suggestions and criticisms
h. "Griping"
i. Stealing sales or easy jobs from fellow workers
j. Acting as a supervisor

Have the right attitude toward your supervisor, your job, your employer

a. What employers provide

- Space and equipment
- Training
- Working conditions
- Financial benefits

b. What employers expect

- Regular attendance
- Adherence to business rules and policies
- Respect for authority
- Personal characteristics
- Growth in performance of the job

Tips to help one benefit from supervisory instructions

a. Preparation
b. Receive instructions
c. Perform the job -- do the job well

A pleasing personality is important

a. What is a pleasing personality?
b. Physical appearance determines first impressions (self-analysis of physical characteristics)
c. Good posture demands respect
d. Self control promotes poise
e. Desirable mental characteristics are essential
f. Correct speech and a pleasing voice are important
g. Develop your personality

- Make a survey of your personality
- Develop a plan for improvement

Teaching Learning Activities and Other Resources

Fundamentals of Selling, Wingate and Nolan, Southwestern Publishing Company
Retail Merchandising

UNIT: MANNERS

Major Teaching Objective

To develop the ability of students to understand, appreciate, and practice correct behavior

Suggested Learnings (Competencies) To Be Developed

1. To develop correct behavior for work
2. To develop correct behavior for recreation
3. To develop correct behavior for school
4. To develop correct behavior at home

UNIT: MANNERS

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit should follow the teaching on human relations. A good way to begin is with a definition of etiquette. Encourage students to use appropriate books to find correct forms of behavior for different occasions. After some student activity, a class discussion on correct forms of behavior for various activities would be logical.

Ask the students to practice making introductions before the class. This activity might be followed by appropriate transparencies, quizzes, and the like.

Suggested Learnings (Competencies) to be Developed

1. To develop correct behavior for work

Proper treatment of people

a. Fellow workers
b. Supervisors
c. Customers

To make correct introductions

a. Allow time for students to practice making introductions before the class
b. Have the class to discuss the strong and weak points of the introductions

Conduct on the job

a. During work hours
b. During rest periods
c. Before and after work

2. To develop correct behavior for recreation

Conduct at different occasions

a. Ball games
b. Movies
c. Restaurants
d. Skating
e. Water sports
f. Parties and picnics
g. Concerts

Proper respect for people in charge of recreational functions
Proper treatment of recreational facilities

3. <u>To develop correct behavior for school</u>

Conduct in the hall

a. When school is in session
b. Before and after school hours
c. During school functions
d. Other

Classroom behavior

a. Study habits
b. Respect for teacher and students
c. Willingness to work
d. Honesty

Conduct in the cafeteria

a. Behavior while being served
b. Manners while eating
c. Willingness to keep the facilities clean and neat
d. Other

Proper conduct in the school office

a. Addressing the principal or other school personnel
b. Getting an appointment
c.

4. <u>To develop correct behavior at home</u>

Treatment of parents, brothers, and sisters

a. Respecting authority
b. Assuming responsibilities
c. Considering each individual before making decisions
d.

Behavior when guests are in the home

a. Share the responsibility for entertaining the guests

- Adults

- Younger members of the family

b. Avoid monopolizing the conversation
c. Be courteous and considerate
d.

Teaching Learning Activities and Other Resources

Books: Mind Your Manners, Allen and Briggs, J. B. Lippincott
Charm, Whitcomb and Lang, Gregg
Guide to Beauty, Charm, Poise, Ruth Tolman, Milady
Executive Profile, Famularo and Atkinson

Booklets: "Growing Up Socially," SRA 5-510
"Where Are Your Manners?" SRA 5-567
"Guide to Good Manners," SRA 5-735

UNIT: SALESMANSHIP

Major Teaching Objective

To understand the basic fundamentals of selling; and to see the necessity for salemanship in everyday life

Suggested Learnings (Competencies) To Be Developed

1. To understand that selling is the key function of all business activity
2. To understand that each person must sell either himself, his ideas, his product, or a service
3. To understand the four psychological steps of a sale (AIDA Formula)
4. To develop the attributes of a good salesperson
5. To understand that there are differences among customers
6. To conduct sales demonstrations

UNIT: SALESMANSHIP

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit is to follow the unit on manners. The unit, "Manners" ill be very helpful in providing the students a background for this series of lessons.

The student should understand from the beginning that all selling involves people. Although people differ in many respects, they are also alike in wanting attention, respect, and courteous service. They should understand that the image of the sales person today is different from that of yesterday.

Students should understand that asking questions or seeking directions from an employer is not an indication of incompetence but rather shows an interest and desire to do a good job.

The approach, the conversation, and making the customer feel important are skills needed for successful employment.

Suggested Learnings (Competencies) to be Developed

1. To understand that selling is the key function of all business activity

What selling is

- Selling involves more than retail sales persons

Five basic factors in buying which affect decisions of customers

a. Need
b. Item
c. Source
d. Price
e. Time

Developing the "You" attitude

a. Everyone is interested in himself

b. Learn to look at a situation from the other person's point of view

2. To understand that each person must sell either himself, his ideas, his product, or a service

Types of selling

a. Intangibles
b. Tangibles
c. Skilled workers sell
d. Students sell

3. To understand the four psychological steps of a sale (AIDA Formula)

Attracting attention

- Determining the customer's wants and needs

Securing interest

- Presenting the merchandise

Creating desire

a. Demonstrating
b. Meeting objections

Completing with action

a. Closing the sale
b. Suggestive selling

4. To develop the attributes of a good sales person

Personality
Use of English
Use of arithmetic
Personal habits
Initiative

5. To understand that there are differences among customers

Buying motives (why people buy)
How they want to be treated

6. To conduct sales demonstrations

Overcoming fear
Developing self-confidence
Emphasizing the parts of a sale
Practicing the techniques of dealing with different types of customers

Role playing (Have students conduct a demonstration)

Teaching Learning Activities and Resources

Fundamentals of Selling, Eighth Edition, Wingate and Nolan, Southwestern Publishing Company
Retail Merchandising, Wingate and Nolan, Southwestern Publishing Company

UNIT: USING THE TELEPHONE

Major Teaching Objective

To acquire skill in using the telephone

Suggested Learnings (Competencies) To Be Developed

1. To answer business calls
2. To use the telephone directory
3. To plan and place business calls
4. To do long-distance telephoning
5. To improve one's telephone personality
6. To see the relation of business and the telephone
7. To understand the secretary's responsibility in using the telephone

UNIT: USING THE TELEPHONE

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit is for use in the inter-disciplinary pilot program in vocational education. It provides an excellent opportunity for role playing (with the use of a teletrainer) on the part of students.

After each demonstration, the class should evaluate the role playing.

Suggested Learnings (Competencies) to be Developed

1. To answer business calls

The voice to voice aspect
Answering calls
Announcing identification

a. Reason for identification
b. Method to follow

Calling others to the phone
Asking the caller to wait

a. Reasonable amount of time to wait
b. What to do while the caller is waiting

Offering assistance

a. When to offer assistance
b. Kind of assistance to offer

Taking a message

a. When to take a message
b. Recording the message
c. Relating the message to the person

Interrupting a call

a. Procedure
b. When to interrupt

Returning to the call
Transferring a call
Handling a complaint

2. To use the telephone directory

The introductory pages

a. Information on these pages
b. Use to make of these pages

The alphabetical pages
Locating listings
The use of the "yellow pages"

a. Type of information listed
b. Use to make of the information
c. Procedure to follow in finding and using the information

3. To plan and place business calls

Planning the call

a. Needed information
b. Recording the information
c. Getting the procedure for calling in mind

Making the call

a. Direct dialing
b. Calling through switchboards

Completing the call

a. Getting the needed information and giving the correct message
b. Closing the call

4. To do long-distance telephoning

Kind of calls

a. Station-to-station
b. Person-to-person

Placing the call

a. Direct dialing

b. Using the telephone operator
c. Being clear and specific

5. <u>To improve one's telephone personality</u>

Kind of attitude to exemplify

a. Courteous
b. Helpful
c.

Be alert and show concern in getting the facts
Your voice indicates what kind of person you are

a. Talk clearly
b. Talk reasonably loud
c. Be sincere in what you say
d. Be specific, "don't beat around the bush"

6. <u>To see the relation of business and the telephone</u>

Ways the telephone is used in business

a. The customer calls

- Needs help
- Makes an order
- Wants information

b. The businessman calls the customer

- Arranging an appointment
- Providing information the customer needs
- Suggests the use of products
- Other

c. Locating "prospects"

Preparation should be made before calling a potential customer to make a sale

7. <u>To understand the secretary's responsibility in using the telephone</u>

Taking messages when the boss is away

a. Make sure the caller knows where the boss can be reached and when he will be back
b. Record the message and read to the caller in order to be sure it is correct

Placing calls

a. Knowing when to place calls

b. Knowing the procedure to follow

- Have the correct numbers
- Have the needed information

Screening calls
Using "button telephones"

Teaching Learning Activities and Other Resources

Teletraining for Business Studies, General Telephone Company of Kentucky
Lesson plans prepared by General Telephone Company are available
Film: "The Voice of Your Business," Bell Telephone Company

UNIT: HEALTH

Major Teaching Objective

To learn, appreciate, and practice simple procedures of good health

Suggested Learnings (Competencies) To Be Developed

1. To exercise good health practices and to see the relationship of health to nutrition
2. To know the effects of fatigue, rest, and exercise on health
3. To have regular dental and medical examinations

UNIT: HEALTH

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit could be used at various times in the course of study. However, students should understand the importance of good health. They should see that a person's health will affect his success in business.

Suggested Learnings (Competencies) to be Developed

1. To exercise good health practices and to see the relationship of health to nutrition

Four food groups

a. Meat, poultry, fish, and eggs
b. Milk and milk products
c. Fruits and vegetables
d. Bread and cereal

Amount of food needed

a. Two or more servings of meat
b. Four or more servings of milk
c. A good source of vitamin C
d. A good source of vitamin A at least twice each week
e. Two servings of fruits (other than fruits supplying vitamin C) or vegetables
f. At least four servings of bread

Function of food

a. Meat group

- Protein
- Growth and repair of cells

b. Milk

- Protein
- Build bones and teeth

c. Citrus fruit

- Vitamin C

d. Green or yellow vegetables or fruits

- Vitamin A
- Helps prevent infection
- Keeps skin in good condition

e. Other fruits or vegetables

- Cellulose
- Calories and other nutrients
- Keeps intestinal tract in good condition
- Maintain weight
- Helps balance meals

The importance of three regular meals

a. Keep weight at proper level
b. Causes one to be alert
c. Helps balance nutrients
d. Helps keep one strong and cheerful

The importance of breakfast

a. Cuases one to be alert for his job
b. Several hours since the last meal
c. Opportunity to get needed nutrients
d. Prevents empty feeling

2. <u>To know the effect of fatigue, rest, and exercise on health</u>

Fatigue

a. Nature of fatigue
b. Cause

- Worry
- Inadequate rest
- Diet

c. Result

- Unable to carry out duties correctly

Rest

a. Sufficient sleep
b. Rest during the day
c. Change in types of activity
d. Proper amount of rest reduces the amount of food needed and affects one's appearance

Exercise

a. The importance of exercise

- Relaxes one's body
- Improves muscle condition
- Promotes good blood circulation
- Promotes good posture
- Other

b. The right kind of exercise is very enjoyable
c. Proper exercise causes one to recover from fatigue very quickly

3. To have regular dental and medical examinations

Value of dental check-ups

a. Discover and repair cavities in teeth as they occur
b. Treat mouth and gum disorders before they become severe
c. Check-ups will likely cause one to keep his teeth clean
d. Improper tooth spacing will be detected

Value of medical examinations

a. May lead to early diagnosis and treatment of diseases
b. Many disorders or diseases may be prevented
c. Gives one a feeling of security
d. Gives one an opportunity to confide in doctors about problems

Teaching Learning Activities and Resources

Use bulletin board to illustrate four food groups
Have class members combine foods for balanced meals
Discuss function of food in the body
Discuss the effects of good and poor eating habits
Interview the coach about good health rules to follow
Survey class members on the amount of sleep they get
Illustrate good posture -- transparencies
Secure dental decay charts to show what can happen to teeth
Have a doctor speak to the class on the importance of medical check-ups

Books and Booklets

You and Your Food, White
The Young Man's Guide to Business Success, Famularo and Atkinson
Guide to Beauty, Charm, and Poise, Ruth Tolman
Charm, Whitcomb and Lang
"Food for Fitness," USDA, No. 424
"Food and Your Weight," USDA, No. 14, Home and Garden Bulletin

"You and Your Health," Science Research Associates, No. 5-517
"Guide to Good Grooming," SRA 5-862
"Teacher's Manual and Film Guide for Building Your Life," Second Edition, Landis and Landis
Filmstrip -- "Why Eat a Good Breakfast," Cereal Institute, Inc.
DE Transparency 63

UNIT: SAFETY

Major Teaching Objective

To develop proper concepts and attitudes of safety needed to practice good safety habits

Suggested Learnings (Competencies) To Be Developed

1. To understand where, when, and why accidents happen
2. To understand the importance of and practice safety in the home
3. To understand the importance of and practice safety at school
4. To understand the importance of and practice safety at work
5. To practice automobile safety
6. To exercise safety in recreation
7. To develop and practice the right concepts of first aid

UNIT: SAFETY

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit should follow the unit on health. It is very important that students learn to observe good safety rules before working in a business. This unit deals with safety in all aspects of living (home, school, work, automobile, and recreation). Therefore, it is very important for this unit to be dealt with in this pilot program.

Suggested Learnings (Competencies) to be Developed

1. To understand where, when, and why accidents happen

Areas where accidents are apt to happen

a. At home
b. In automobiles
c. At work and at school
d. In recreation

Accidents are caused

We can usually associate accidents with certain materials and certain areas

2. To understand the importance of and practice safety in the home

Identify the common accident areas in the home

a. Electrical system
b. Heating system
c. Stairs
d. Roofs
e. Other areas

What can be done to eliminate the accident areas and causes

a. Education
b. Provide some kind of safeguards
c. Eliminate the area

3. <u>To understand the importance of and practice safety at school</u>

Identify areas at school where accidents are likely to happen

a. Getting on and off school bus
b. In halls
c. On the playgrounds
d. In school classrooms
e. In school shops
f. Other areas

Ways to eliminate accidents in these areas

a. Education on accident areas
b. Provide safeguards

4. <u>To understand the importance of and practice safety at work</u>

Identify accident areas at work

a. Machines
b. People
c. The safety precautions set by the employer that we are to follow
d. Others

Ways to protect ourselves from accidents

a. Wear the proper clothing
b. Be able to follow directions
c. Report unsafe conditions to the proper person
d. Other things

5. <u>To practice automobile safety</u>

Know the responsibilities that go with driving

a. Driver license requirements
b. Liability requirements
c. Responsibility to other drivers
d. Speed on the highways
e. Car safety
f. Others

Driver education
Safe driving practices
Safety campaigns

6. <u>To exercise safety in recreation</u>

Recreational activities where accidents are likely to happen

a. Water (swimming, boating, water skiing, diving, wading)
b. Fishing (different fishing methods)

c. Hiking (trail, mountain, cave exploring)
d. Horseback riding (trail, highways, others)
e. Hunting (shotgun, rifle, bow and arrow, and trapping)
f. Sports (football, baseball, basketball, softball, volley ball, tennis, bowling, golf, roller skating, dancing, etc.)
g. Hobbies (insect or rock collecting, photography, birdwatching, sewing, and others)
h. As a spectator (sports, movies, television, and other things that require very little physical activity)
i. Quiet games (chess, cards, checkers, and others)

7. <u>To develop and practice the right concepts of first aid</u>

What first aid is
First aid procedures to follow

- In most cases, it is just as important to know what not to do as it is to know what to do

Injuries that are most often caused by an accident usually require first aid

a. Fractures or muscle injury
b. Contusions or bruises (where the skin is not broken)
c. Wounds
d. Crushing injuries
e. Burns or cold damage
f. Shock

Injuries that most people can treat without need of special training

a. Contusions or bruises
b. Fractures or muscle injury
c. Abrassion wounds
d. Lacerations or tears
e. Stab wounds
f. Foreign bodies
g. Infection in wounds
h. Bleeding from wounds
i. Nose bleeding
j. Burns from heat, chemical, cold
k. Shock
l. Poison taken by mouth
m. Choking
n. Suspended breathing caused by drowning, electric shock, choking, gas poisoning
o. Unconsciousness
p. Allergy to plants
q. Snake bites, spider and insect stings or bites

Teaching Learning Activities and Other Resources

Books and Booklets

Your Health Today and Tomorrow, 1963 Edition, Laidlaw Brothers, River Forest, Illinois
Sportsmanlike Driving, Second Edition, American Automobile Association, Washington, D. C.
Health and Safety for the High School Student
Guide to Good Driving
Child Safety
Your Family Survival Plan
Check Your Home
Wet and Water Proof
First Aid
"Paola Project Course of Study"
Phamphlets and Leaflets (available through your local health department)

Films (available through your local health department)

"Safe Living At Home"
"Safe Living At School"
"Safety on the School Bus"
"Rescue Breathing"
"The Breadth of Life"
"Farm Petroleum Safety"
"Mouth to Mouth Breathing"
"Water Wisdom"
"Your Clothes Can Burn"

Transparencies

"Safety in the Shop," 3M Company

UNIT: BUSINESS MACHINES

Major Teaching Objective

To operate the cash register and adding machines properly

Suggested Learnings (Competencies) To Be Developed

1. To learn the parts of a cash register
2. To operate a cash register
3. To make change and various cash transactions
4. To learn the parts of an adding machine
5. To operate an adding machine

UNIT: BUSINESS MACHINES

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit is to teach students to use the cash register and adding machine. These two machines are used in most businesses. Therefore, students should know the parts of these machines and how to operate them before observing their use or using them in a business.

Much of the teaching can be done through role playing where a cash register and an adding machine is available for class use.

Suggested Learnings (Competencies) to be Developed

1. To learn the parts of a cash register

Identify the parts of a cash register

a. Have a cash register in the classroom
b. Point out the parts
c. Have students identify each part

Functions of each part identified

2. To operate a cash register

How to operate

a. Punch keys
b. Place money in cash register

Set up different cash transactions
Allow time for each student to handle some transactions

- Have one student make purchases and another student make the transaction

3. To make change and various cash transactions

Making change

a. How to count back change from a purchase
b. Correcting errors

Multiple pricing

4. To learn the parts of an adding machine

Keys and other parts
Changing paper tape in the machine

5. To operate an adding machine

How to operate

a. Adding
b. Subtracting
c. Multiplying
d. Dividing

How to correct errors

Teaching Learning Activities and Other Resources

Office Machines Course, Agnew and Carnelia, Third Edition, Southwestern Publishing Company
Charts, Victor Machines Company

Secure the loan of one or more cash registers and adding machines from the business department or distributive education department at school, or business firms in town.

UNIT: BUSINESS AND OFFICE OCCUPATIONS

Major Teaching Objective

To enable the student to understand business and office occupations in order that he determine whether he has the interest, aptitude, and skills for this type of work

Suggested Learnings (Competencies) To Be Developed

1. To acquaint students with business and office occupations

2. To determine the skills and abilities needed in business and office occupations from local people engaged in this work

UNIT: BUSINESS AND OFFICE OCCUPATIONS

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit and three other units (Distributive Education, Home Economics Education, and Agricultural Occupations) will be dealt with just before or immediately after the third observation period. This unit will acquaint the students with business and office occupations.

Suggested Learnings (Competencies) to be Developed

1. To acquaint students with business and office occupations

Definition of office occupations
How to study business and office occupations
Allow students the opportunity to do research in business and office occupations

a. Reference material
b. Film
c. Hand out material

- Duties
- Where jobs are found
- Workers needed
- Education and training required
- Special qualifications
- Job entry requirements
- Opportunity for advancement
- Working condition
- Earnings
- Number of workers needed

2. To determine the skills and abilities needed in business and office occupations from local people engaged in this work

Characteristics of jobs

a. Job titles for men and women
b. Requirements for entering the job(s)

c. Employment prospects
d. Earnings
e. Trends

- Automation
- Effects of automation

f. Personalities of workers

- Aptitudes
- Ability

g. Working conditions
h. Unions

- Dues
- Need for joining
- Procedure for joining

Training after high school

a. One-year courses
b. Two-year courses
c. Other

Teaching Learning Activities and Other Resources

Invite former school graduates working in business and office occupations to talk with the class.

Show films from the following:

"A Future to Bank On," 12 min.
"I Want to be a Secretary," 17 min.
"The Secretary: A Normal Day," 11 min.
"Secretary's Day," 10 min.

Have students work as committees to do research and report to the class.

Books

Exploratory Business, Dame, Patrick, and Grubbs, McGraw-Hill Book Company
Occupational Outlook Handbook, U. S. Department of Labor, Bureau of Employment Security, U. S. Government Printing Office
Dictionary of Occupational Titles, U. S. Department of Labor
Opportunities in Office Occupations, Estell Paphan
Future Business Leader, Future Business Leaders of America Magazine
You and Your Career, Collier's Encyclopedia
Business Teaching as a Career, College of Commerce, Ohio State University
Business Careers Kit, Careers, Largo, Florida

UNIT: HOME ECONOMICS EDUCATION

Major Teaching Objective

To know the different areas of home economics and home economics related occupations

Suggested Learnings (Competencies) To Be Developed

1. To know the areas of home economics
2. To identify the opportunities in professional home economics occupations
3. To help students become familiar with home economics related occupations and the training required to enter these occupations

UNIT: HOME ECONOMICS EDUCATION

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

This unit should follow the unit on business and office occupations. It should be dealt with much the same as the other three units on the vocational services. Following these four units the students will observe in businesses. Their observation experience should be more meaningful after dealing with this unit.

Suggested Learnings (Competencies) to be Developed

1. To know the areas of home economics

Areas

a. Child care
b. Clothing
c. Foods and nutrition
d. Health
e. Housing
f. Management
g. Relationships

Training needed
Wages to expect
Personal traits
Opportunities available

2. To identify the opportunities in professional home economics occupations

Opportunities

a. Extension service
b. Dietitian
c. Research
d. Business

Training needed
Wages to expect
Personal traits
Opportunities

3. To help students become familiar with home economics related occupations and the training required to enter these occupations

Related occupations

a. Food service
b. Child care
c. Housekeeping aid

Opportunities available
Training needed
Wages to expect
Personal traits

Teaching Learning Activities and Other Resources

Have a bulletin board display to show home economics and related occupations.
Use home economics career wheel.
Discuss training available, time required for training, and wages received for different occupations.
Invite school graduates to visit the class and discuss jobs relating to home economics.
Invite professional people in home economics occupations to talk to the class.

References

Chronicle Occupational Briefs, Chronicle Guidance Publications, Inc., Moravia, New York
Home Economics Related Occupations, An Orientation Handbook for Young Workers, Interstate Printers and Publishers, Inc., Danville, Illinois, 61832
"Home Economics Related Occupations," Home Economics Division, Frankfort, Kentucky
"Home Economics Career Wheel," American Home Economics Association

UNIT: DISTRIBUTIVE EDUCATION

Major Teaching Objective

To define and identify the employment opportunities available in distributive occupations

Suggested Learnings (Competencies) To Be Developed

1. To identify the qualifications needed for job entry
2. To examine the career opportunities in distributive businesses
3. To secure the information needed to decide on employment in distributive businesses

UNIT: DISTRIBUTIVE EDUCATION

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

Many young people will spend a great portion of their lives in some distributive occupation.

Most people define distribution as working in the local stores and have no concept of the wide range of jobs in the area of distribution.

The major goal of this unit will be to broaden the students' outlook on the field of distribution and to make them aware of the vast area of job opportunities in this field.

This unit precedes the third observation period.

Suggested Learnings (Competencies) to be Developed

1. To identify the qualifications needed for job entry

   Qualifications relating to:

   a. Attitudes
   b. Skills
   c. Knowledge
   d. Basic education

2. To examine the career opportunities in distributive businesses

   Positions available
   Compensation and benefits
   Possibilities for promotion
   Working conditions
   Education and training

3. To secure the information needed to decide on employment in distributive businesses

   Self-analysis is necessary to move forward in the world of work

Inventory of:

a. Attitudes
b. Aptitudes
c. Knowledge
d. Interest
e. Skills

How to operate a business

a. Economic system
b. Competition
c. Making decisions

Functions of a distributive business
Financial responsibilities

Teaching Learning Activities and Other Resources

Film: "The Story of Distributive Education"
Use resource people from distributive businesses.
Have students to bring to class a list of occupations (ads, articles, and the like).

UNIT: OPPORTUNITIES IN AGRICULTURE

Major Teaching Objective

To become familiar with careers in agricultural occupations other than farming

Suggested Learnings (Competencies) To Be Developed

1. To understand the factors to consider in deciding on an agricultural vocation
2. To identify the qualifications needed to succeed in different agricultural vocations
3. To take an inventory of one's personal qualifications
4. To know how to proceed toward a career in agriculture

UNIT: OPPORTUNITIES IN AGRICULTURE

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

Approximately 26 million people work in agriculture; about 8 million work on farms; about 7 million produce products or provide services for farmers; and about 1 million work in processing and distribution. This number of workers indicate the bigness of agriculture. Students in the inter-disciplinary class need to know about agriculture before deciding where to do their on-the-job training.

Suggested Learnings (Competencies) to be Developed

1. To understand the factors to consider in deciding on an agricultural vocation

   Factors to consider

   a. Characteristics of the vocation
   b. Duties of the worker
   c. Working conditions
   d. Training required
   e. Personal qualifications needed
   f. Demand for workers
   g. Future prospects for jobs
   h. Advantages and disadvantages of the vocation
   i. Earnings

      - Beginning
      - Advancement

   j. Getting started in the vocation

   Sources of reliable information
   How to weigh the available information

2. To identify the qualifications needed to succeed in different agricultural vocations

   Education required

Work experience desired
Health and physical requirements
Personal qualifications

a. Aptitudes
b. Attitudes
c. Work habits
d. Willingness to accept responsibilities
e. Ability to work with others
f. Dependability
g. Morals and values

Home background

3. <u>To take an inventory of one's personal qualifications</u>

Family background

a. Social factors
b. Economic factors

Health record
School records
Aptitude and special abilities
Interests
Motives

a. Goals
b. Attitudes

Work experience
Test results

a. Standardized tests
b. Inventories and check lists

4. <u>To know how to proceed toward a career in agriculture</u>

Education

a. High school
b. College of agriculture
c. Other educational experiences

Some agricultural vocations require continued study

a. On-the-job
b. School

Where advanced degrees are necessary, the following steps should be taken:

a. Get complete information from institutions that offer the needed work

b. Consider the following:

- Curriculum
- Qualifications of the teachers
- Facilities available
- Student activities outside the classroom
- Housing
- Costs
- Financial assistance available

Teaching Learning Activities and Other Resources

References

Guidance in Agricultural Education, Byram (The Interstate, Danville, Illinois)
Your Opportunities in Vocational Agriculture, Phipps (The Interstate, Danville, Illinois)
Kentucky Circular 563A -- "The Importance of Agriculture in Kentucky"
"I've Found My Future -- in Agriculture," American Association of Land-Grant Colleges and State Universities, University of Kentucky
"Careers in Agriculture," J. K. Stern; American Institute of Cooperation, 744 Jackson Place, N. W., Washington 6, D. C.
"Choose Your Career in Agriculture," Hoard's Dairyman, Fort Atkinson, Wisconsin

UNIT: THE ORGANIZATION OF BUSINESS

Major Teaching Objective

To understand methods of doing business in America

Suggested Learnings (Competencies) To Be Developed

1. To recognize benefits received from business organizations
2. To understand the relation of government to business
3. To understand the activities of American business
4. To know the factors involved in producing commodities and services
5. To understand four methods of doing business in America
6. To know how businesses work together to serve a community

UNIT: THE ORGANIZATION OF BUSINESS

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

We are the only nation in the world that has a "free enterprise" system of business that competes in a free society. This system has provided the nation with the greatest wealth the world has ever known.

An effort should be made by each student to understand this system. As an employee, he will soon be a part of it. Knowledge of the business world can well determine the degree of success or failure that one has in his work.

Every student needs to know how businesses are organized before going into the world of work.

Suggested Learnings (Competencies) to be Developed

1. To recognize benefits received from business organizations

Increase in the volume of business
Profits
What businesses provide

a. Goods
b. Services
c. Conveniences

Industrial technology is aided
Production cost of a product

a. Mass production
b. Good management

Specialization
Increased output

a. Decreased the length of the working day
b. Increased time for recreation

High standard of living (highest in the world)

2. <u>To understand the relation of government to business</u>

The government maintains internal order and protection over the four factors of a business

a. Natural resources
b. Labor
c. Capital
d. Management

Maintains law and order
Provides essential services

a. Postal Service
b. Department of Agriculture
c. Department of Commerce
d. Bureau of Labor
e. Other services

Promotes and regulates foreign trade

3. <u>To understand the activities of American business</u>

Functions of business

a. Production of raw materials
b. Processing or manufacturing
c. Distributing goods
d. Providing services

Operation of the business
Complexity of the business

4. <u>To know the factors involved in producing commodities and services</u>

Factors involved

a. Natural resources

- Basic to production

b. Labor

- Division
- Quality

c. Capital
d. Management

5. <u>To understand four methods of doing business in America</u>

Four methods

a. Individual ownership

b. Partnership
c. Ordinary business corporation
d. Cooperative business corporation

The advantages of each method
The disadvantages of each method

6. To know how businesses work together to serve a community

Marketing associations
Cooperatives

a. Purchasing
b. Consumer

Credit unions
People working together plus resources equals a great nation

Teaching Learning Activities and Other Resources

Books

American Capitalism, Webster Division, McGraw-Hill Book Company
American Capitalism, Economic Literary Series, McGraw-Hill Book Company
About This Stock and Bond Business, Merrill Lynch

Others

"How We Organize To Do Business in America," Department of Rural Education, National Education Association, Washington, D. C.
"Understanding the Economic System and Its Functions," U. S. Chamber of Commerce, Washington, D. C.
"Cooperatives Today and Tomorrow," U. S. Department of Agriculture, Washington, D. C.

UNIT: LABOR LAWS

Major Teaching Objective

To develop an understanding of our labor laws

Suggested Learnings (Competencies) To Be Developed

1. To understand the need for wage and hour laws

2. To understand how labor laws apply to each of us

UNIT: LABOR LAWS

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

In our present complex society we have many laws concerning wages, hours, and working conditions. Since students will be observing, and soon entering the labor market, it is imperative that they understand these laws, especially as they relate to them.

Suggested Learnings (Competencies) to be Developed

1. To understand the need for wage and hour laws

What the laws are that relate to the work of:

a. Adults
b. Youth

Characteristics of each law

a. Strong points
b. Weaknesses

2. To understand how labor laws apply to each of us

Labor laws

a. Wages
b. Hours

How these laws protect the workers
Responsibility to the laws

a. Employer
b. Employee

How these laws are enforced

Teaching Learning Activities and Other Resources

Secure material from the Department of Labor.
Use a resource person from the Department of Labor to speak to the class (Learning 2).

UNIT: MONEY AND BANKING

Major Teaching Objective

To enable the student to use money wisely and to understand the functions of banks

Suggested Learnings (Competencies) To Be Developed

1. To develop an understanding of our monetary system
2. To construct a budget
3. To purchase goods and services wisely
4. To use credit wisely
5. To understand our banking organization and its services

UNIT: MONEY AND BANKING

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

The filmstrip, "Your World and Money," could be used to give an overview of all aspects of this unit and to create interest in using money wisely.

To develop interest in the unit, the teacher may cause the students to discuss our monetary system by explaining the different types of money used now and in the past. From a discussion of types of money, one can understand the background of our monetary system.

This unit should follow the unit on labor laws. It will further help prepare students to enter the world of work.

Suggested Learnings (Competencies) to be Developed

1. To develop an understanding of our monetary system

Background of our monetary system

a. The barter system
b. Medium of exchange today

Advantages and disadvantages of each
Basis of the monetary system
Substitutes for money

a. Checks
b. Money orders
c. Promissory notes
d. Other (credit cards, for example)

2. To construct a budget

Steps in constructing a budget

a. List goals, in order of importance

- Immediate
- Future

b. Keep accurate records to know how money is spent
c. Know how much money is available
d. List expenses
e. Adjust expenses to income
f. Allow some income for savings

Construct a budget

a. Allot income for various areas of concern

- Food
- Clothing
- Housing
- Recreation
- List other items

b. Determine how to allot income

- Fixed expenses
- Variable expenses

c. Construct a personal budget

- Income
- Expenses

d. Construct a family budget

- Family size
- Income expected
- Expenses

3. <u>To purchase goods and services</u>

Determining quality of a product

a. Compare products
b. Read and interpret labels

Compare prices

a. Brand names
b. Discount houses

- Advantages
- Disadvantages

4. <u>To use credit wisely</u>

Types of credit available

a. Service credit
b. Charge accounts
c. Installment credit

d. Consumer financing
e. Commercial or industrial credit

Plans to make before using credit
Evaluate the types of credit
How to figure interest rates

a. Mathematical process
b. Comparison of interest rates of loan companies with those of banks

How to make a loan

a. Determine source
b. Steps to follow

- Application
- Collateral
- Payment plan

How to establish a credit rating

5. <u>To understand our banking organization and its services</u>

Organization

a. Federal Reserve System
b. Function of a clearinghouse

Banking services

a. Types of accounts

- Checking
- Savings

b. Procedure to follow in using checking accounts

- Signature card
- Making deposits
- Writing checks
- Keeping correct balance

c. Safe deposit boxes
d. Loans

<u>Teaching Learning Activities and Other Resources</u>

Have students keep a record of their spending for one week before beginning this unit.
Use the filmstrip, "You and Your Money," with Learning 2.
Have a bank official discuss how to apply for a loan with the class. Have the students fill out an application form used in making loans.

Ask each student to write a check and fill out a check stub. Each student should also fill out a deposit slip.

References

Books

General Business for Everyday Living, Price, Musselman, Hall, and Weeks, Third Edition, Gregg Publishing Company, McGraw-Hill Book Company, Manchester Road, Manchester, Missouri
20th Century Bookkeeping and Accounting, 22nd Edition, by Carlson, Forkner, and Boynton, Southwestern Publishing Company, 5101 Madison Road, Cincinnati, Ohio
Fundamentals of Selling, Wingate and Nolan, 8th Edition, Southwestern Publishing Company, 5101 Madison Road, Cincinnati, Ohio

Booklets

"It's Your Money," Mr. Frances A. Kalbacher, Educational Services Division, National Consumer Finance Association, 1000 Sixteenth Street, N. W., Washington, D. C. (Free)
"Consumer Credit and You," address same as above (Free)
"Facts You Should Know About Your Credit," address same as above (Free)
"Miracles of Credit," address same as above (Free)

Charts

Who Uses Consumer Credit?
Why Do People Use Consumer Credit?
Who Provides Credit to Consumers?
What is the Consumer's Net Worth?
Educational Services Division

Filmstrips

"You and Your Community Bank," Cross Media Products, St. Albans, West Virginia
"You and Your Money," Household Finance Institute
"Your World and Money," Household Finance Institute

Transparencies

Bookkeeping Transparencies, prepared by Mrs. Mavis Sparks, Instructional Materials Laboratory, University of Kentucky, Lexington, Kentucky

UNIT: TAXES AND SOCIAL SECURITY

Major Teaching Objective

To understand the basic aspects of our tax system and social security

Suggested Learnings (Competencies) To Be Developed

1. To understand the need for taxes in our economy
2. To know what taxes we pay
3. To understand the various tax forms
4. To understand social security, and the need for it

UNIT: TAXES AND SOCIAL SECURITY

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

Everyone complains about taxes without realizing why taxes are paid, and how they are used. Our economy would fail without the services provided by tax funds. There would be no money for government, schools, roads, or parks. There would be no law enforcement agencies and even the garbage collectors would fail to function. Without taxes not only would a large percentage of our total population be unemployed, choas would exist.

Young people embarking on a career need to take a broad look at our tax system. They should understand what social security means to them. They should also understand the need for social security payments to have an income when they retire, and other benefits.

This unit should be dealt with before young people begin working.

Suggested Learnings (Competencies) to be Developed

1. To understand the need for taxes in our economy

How taxes are levied

a. Who decides
b. How the amount is determined

How tax money is spent

a. Things supported by tax money
b. How tax money is allocated
c. Who has the authority to use tax money

Strengths and weaknesses of our tax system

a. Who pays taxes
b. Amount of taxes paid

2. To know what taxes we pay

Federal
State
Local
"Hidden" taxes
The amount of each an individual pays
When taxes are paid
How taxes are paid

3. To understand the various tax forms

The 1040A form

a. The short form
b. The long form

Other forms to use in paying taxes
When to use the long form in filing income tax
Who should file tax forms
Who should help an individual complete his tax returns

4. To understand social security and the need for it

What social security is
When it can be used
Benefits of social security

a. Retirement
b. Disability
c. Survivor's benefits
d. Medicare

Teaching Learning Activities and Other Resources

Each student should fill out an application form for a social security card if one has not been secured.
Have each student to fill out a 1040A income tax form. Needed information should be provided to all students before having them complete the form.

References

"Your Social Security," U. S. Department of Health, Education, and Welfare, Social Security Administration

UNIT: DEVELOPING QUALITIES OF DEMOCRATIC LEADERSHIP

Major Teaching Objective

To develop the effective ability to become democratic leaders

Suggested Learnings (Competencies) To Be Developed

1. To understand the importance of democratic leadership

2. To become an aggressive democratic leader

3. To use correct parliamentary procedure in conducting business in organized groups

UNIT: DEVELOPING QUALITIES OF DEMOCRATIC LEADERSHIP

Suggested Teaching Time

Number of class periods for group teaching:

In the classroom, at school . . . . . _____
Outside the classroom, at school . . . . . _____
Field trip, away from school . . . . . _____
Total . . . . . _____

Month(s) _____

Place of the Unit in the Course of Study

Check the learnings you plan to secure. Add any learnings you care to attain which have been omitted. Change the learnings, if necessary, to make them fit your situation. If this unit is a part of the course of study, it may be included with the first year inter-disciplinary class. In any case, the form attached to the back of the unit should be of help. This unit should be dealt with late in the year.

Suggested Learnings (Competencies) to be Developed

1. To understand the importance of democratic leadership

Meaning of leadership

a. Examples of leadership -- what it is, how it develops, what it does
b. Formal and informal leadership

Necessity for democratic leaders
Autocratic leadership for quick action -- in emergencies, disasters, military operations, and the like
What makes a democracy?

a. Characteristics of a democracy
b. Outcomes desired in a democracy
c. Basic concepts upon which a democracy is founded

The democratic leader functions to --

a. Give all persons a chance to say what they wish (promotes freedom of speech)
b. Be fair in his deliberations, decisions, and actions
c. Base decisions upon the will of the majority (by majority vote)
d. In the broadest sense, enable all people to attain the fullest life possible
e.

2. <u>To become an aggressive democratic leader</u>

Qualities or characteristics of a good leader

a. Believes in the worth of the individual
b. Respects the rights of others
c. Believes in the democratic way of life
d. Is able and willing to accept responsibility
e. Has initiative, optimism, and enthusiasm
f. Works well with people
g. Is open-minded, yet has convictions
h. Is able to communicate effectively
i. Feels a responsibility for service to his fellow man
j. Is well informed -- able to learn and size up situations quickly
k. Has the respect of the group in which he is a leader
l. Has a sense of humor

Setting worthy goals of leadership

a. The first step -- an honest evaluation of the qualities of leadership that one possesses
b. Setting goals to improve the qualities or areas of leadership in which one is weak
c. Areas in which improvement may be needed -- striving to be a hard worker, developing into a good person, getting along with others, having the confidence and respect of others, having the desire to help people improve themselves and their way of life, increasing in ability to work with people (add others)
d. To become a good discussion leader

- Prepare for the discussion
- Organize the group
- Introduce the topic
- Keep the discussion on the topic
- Keep the discussion moving forward
- Give all a chance to contribute
- Keep the discussion from becoming too heated
- Stimulate discussion
- Summarize the discussion at the end of the meeting
- Announce the next topic for discussion

Opportunities to develop as good leaders

a. At home (in usual activities)
b. At school (in usual activities)
c. In the community, as a good citizen
d. In organizations -- school, church, civic, community, etc.

3. <u>To use correct parliamentary procedure in conducting business in organized groups</u>

Reasons for using parliamentary procedure in conducting business

a. It is democratic
b. It is organized and systematic
c. The procedure is standard and may be learned by anyone
d. Decisions are based upon the desires of the group -- an effective way to get results

Basic elements of parliamentary procedure

a. Motions -- proposals for action
b. Discussion -- to get information and evaluate the proposed action
c. Voting -- to arrive at a decision and a plan for getting it carried out

Skills most frequently needed in parliamentary procedure

a. Receiving and disposing of a motion
b. Handling amendments
c. Using points of order
d. Appeals from the decision of the chair
e. Laying a motion on the table
f. Removing a motion from the table
g. Reconsidering a motion
h. Using motions of privilege -- to adjourn, to recess, and the like
i. Other useful skills -- asking for the previous questions, postponing motions, making a parliamentary inquiry, suspending rules, objecting to consideration of a motion, nominating, being recognized by the chair
j.

For each parliamentary skill, consider --

a. Its purpose
b. How to carry it out -- use at a meeting
c. When the skill is in order, is recognition from the chair necessary?
d. Additional considerations --

- Does it require a second?
- Is it debatable?
- Can it be reconsidered?
- Does it require a vote?
- What majority is needed if a vote is required?
- Others --

Using parliamentary procedure in all meetings

a. Usual order of business

- Minutes of the previous meeting
- Orders of the day

- Officers' reports
- Special features
- Unfinished business
- Committee reports
- New business

b. Responsibilities of officers in the meeting
c. Responsibilities of a member

- Attends all meetings
- Is on time
- Participates in the discussion
- Is attentive and alert
- Welcomes new-comers and visitors to chapter meetings
- Accepts his responsibility to share in the business at hand
- Respects the ideas of others
- Carries out responsibilities assigned to him
- Others

Teaching Learning Activities and Other Resources

As a result of this unit, students should set as their goal to become democratic leaders in their home, school, and community. They should be alert to opportunities for leadership. They should acquire the "know-how" necessary to conduct or participate in a business meeting where parliamentary procedure is used.

To secure the learnings in this unit, several problems will be needed. Perhaps you will desire to use problems similar to these:

1. How important is democratic leadership in our community, state, and nation?

2. What can we do to become effective democratic leaders?

3. What makes parliamentary procedure an effective way of conducting the business of an organization?

4. How use parliamentary procedure in participating in a class meeting?

5. How preside at a business meeting?

6. How become good citizens?

Practices Helpful in Getting Skills Developed in Parliamentary Procedure

1. See that students are convinced that democratic leadership is necessary in a democratic society -- including state and nation

2. Have students understand that using parliamentary procedure is a truly democratic way to do business (when all those participating have a knowledge of this procedure)

3. Give students practice in developing parliamentary skills, both as one participating in the meeting and as the presiding officer

4. Cause students to understand how good parliamentary procedure can result in more effective meetings

5. Get students to see the opportunities for democratic leadership in the home, school, and community

6. Get students to see that through practicing good leadership they can help promote vocational education (it will also improve the opinions that persons in the school and community have of the program)

7. Show that democratic leadership is related to being a good citizen

References

Books

A More Effective FFA, Wall (Interstate Printers and Publishers, Danville, Illinois -- 1956), 207 pp.
Your Opportunities in Vocational Agriculture, Phipps (Interstate Printers and Publishers, Danville, Illinois -- 1957), 171 pp.

THE CORRECT WAY TO PRESIDE OR PARTICIPATE IN BUSINESS MEETINGS
ACCORDING TO THE RULES OF PARLIAMENTARY PROCEDURE

Kind of Action	Is it in order when someone has the floor?	Does it require a second?	Is it debatable?	Can it be amended?	Is a vote required?	What majority vote is needed?
Privileged						
To call for the order of business	Yes	No	No	No	No	---
To adjourn	No	Yes	No	No	Yes	Majority
To take a recess	No	Yes	No	Yes	Yes	Majority
Subsidiary						
To lay a motion on the table	No	Yes	No	No	Yes	Majority
To move the previous question, close debate	No	Yes	No	No	Yes	Two-thirds
To postpone a motion -- to a definite time	No	Yes	Yes	Yes	Yes	Majority
-- indefinitely	No	Yes	Yes	No	Yes	Majority
To refer a motion to a committee	No	Yes	Yes	Yes	Yes	Majority
To amend a main motion, amendment, or amendment to the amendment	No	Yes	Yes	Yes	Yes	Majority
Incidental						
To rise to a point of order	Yes	No	No	No	No	---
To appeal from the decision of the chair	Yes	Yes	Yes	No	Yes	Majority
To call for a division of the house	Yes	No	No	No	No	---
To call for a point of information	Yes	No	No	No	No	---
To suspend the rules	No	Yes	No	No	Yes	Two-thirds
To object to the consideration of a question	Yes	No	No	No	Yes	Two-thirds
To nominate a person for office	No	No	No	No	No	---
To close nomination	No	Yes	No	Yes	Yes	Two-thirds
To determine the method of voting	No	Yes	No	Yes	Yes	Majority

FORMS

INTER-DISCIPLINARY INSTITUTE

EVALUATION

DIRECTIONS: Please indicate your feelings about the Institute which you justed participated. Do not sign this questionnaire. Draw a circle around the "X" that most clearly expresses how you feel.

1. To what degree did you understand the objectives of the Institute?

Very Clearly	Clearly	Reasonably Well	Not Very Well	Not At All
X	X	X	X	X

2. To what extent were the stated objectives accomplished?

Fully	Adequately	Fairly Well	Inadequately	Not At All
X	X	X	X	X

3. To what degree was the Institute planned?

Very Well Planned	Well Planned	Adequate	Inadequate	Very Inadequate
X	X	X	X	X

4. As a result of the Institute, my concepts of how to participate in a pilot program (Inter-disciplinary) have been:

Greatly Clarified	Improved	Slightly Modified	Unchanged	Confused
X	X	X	X	X

5. To what extent were you given an opportunity to participate in the Institute?

Every Opportunity	Many	Some	Few	Almost No Opportunity
X	X	X	X	X

6. The physical arrangements seemed to be:

Perfect	Good	Adequate	Fair	Poor
X	X	X	X	X

7. List the Institute's strong points.

8. List the Institute's weaknesses.

9. What was most important and useful to you?

10. Additional comments (attach).

PILOT PROGRAM

(Inter-disciplinary)

"Interest Questionnaire"

Name_____ Grade_____ Date _____

Check below your plans after high school:

_____ Attend College
_____ Work
_____ Other (Specify)_____
_____ Armed Forces
_____ Marriage
_____ Trade or Technical School

What occupational area or job would you like for your life's work?_____

_____ Undecided_____

Have you held any job(s) for which you have received wages? Yes____ No ____
If "yes", list below: _____

_____

_____

Are you interested in finding a part-time job in your senior year? Yes _____
No _____ Undecided _____

Are you familiar with the Inter-disciplinary class here? Yes _____ No _____

Would you like to have more information about these classes? Yes ____ No ____

Would you want to attend a group meeting to get an explanation of how the Inter-disciplinary class operates? Yes _____ No _____

Check one:

Do you presently plan to enroll in the Inter-disciplinary class next year?
Yes_____ No_____ May be interested, but am not sure _____.

You are not required to enroll in the senior course, "Experiences in Occupations," which involves working part-time.

APPLICATION FOR OBSERVATION

Name _____
(Last) (First) (Middle)

Address _____ _____ _____ Telephone No. _____ __
(Street & Number) (City) (State)

Position Desired _____ Social Security No. _____

How long have you lived at the above address? _____ Do you live with your parents? _____ Date and place of birth _____
Yes/No Month Day Year

Citizen of the United States? _____ Weight _____ Height _____ Right or left handed_____ No. of dependents other than self _____.
Yes/No lbs. Ft./In.

Single ( ) Married ( ) Widowed ( ) Separated ( ) Divorced ( )

EDUCATION

SCHOOL					
Kind	Name	Address	From Year	To Year	Graduating Degree
Elementary					
High School					
Others					

PREVIOUS EMPLOYMENT Date of Graduation _____

From Mo. Yr.	To Mo. Yr.	Name and Address of Employer	Position	Salary	Reason For Leaving

PERSONAL REFERENCES

Name	Address	Occupation

3800 Signature _____

PILOT PROGRAM

(Inter-disciplinary)

Student Information Sheet

Name _____ Home Phone _____ Date _____

Address _____ Age _____ Date of Birth _____

Parent or Guardian _____ Business Phone _____

Occupation of Parent or Guardian _____

Number of Brothers _____ Number of Sisters _____

Is transportation available when needed? _____

Check below any activities that you participate in: Fellowship of Christian Athletes ___, Student Council ___, Band ___, Choir ___, Basketball ___, Cross Country ___, Football ___, Tennis ___, Track ___, Wrestling ___, Church Youth Group ___, Scouts ___, Future Teachers ___, FBLA ___, FFA ___, FHA ___, Others _____

What occupational area or job would you like to make for your life's work? _____

_____

What careers has your parents indicated they would like you to enter after graduation? _____

Have you held any job(s) for which you have received wages? Yes ___ No ___.
If yes, list below: _____

_____

SCHOOL PROGRAM - First Semester

	Subject	Room	Teacher
1.			
2.			
3.			
4.			
5.			
6.			

Second Semester

Subject	Room	Teacher

Write a paragraph on each of the following topics:

A. Why I enrolled in the Inter-disciplinary course.

B. What I expect to get out of this course.

List 4 occupations you would like to observe this year.

PILOT PROGRAM

Study of an "Interest" Occupation

The following questions are designed to increase student knowledge of an occupation in which he or she desires to do exploratory experience as a supplement to "Commonalities."

Name _____ Date Due _____ Date Submitted _____

Name of job (occupation) _____

Type of firm preferred for exploratory experience _____

1. What are the duties of persons engaged in this occupation?

2. What high school subjects are most useful in preparation for this job?

3. What type of firms offer employment in this occupation?

4. What preliminary experience is needed or helpful in preparing for this job?

5. What is the minimum educational requirement for this job?

6. Does the preliminary experience include an apprenticeship?

7. In what specialized trade, technical or other schools may training be secured for this job? How much time would be needed? What would it cost?

8. What special aptitudes or qualifications are necessary for this job?

9. Does the work demand the ability to get along with people? _____

   Does it involve the ability to lead others? _____

   Does it require the ability to carry responsibility? _____

10. Income Possibilities

    a. What income may be expected per year?

    b. What are the working hours?

11. Possible Hazards (Briefly explain each of the questions below.)

    a. Are there health hazards?

    b. Is the work safe?

    c. Does the work offer security?

    d. Is the work seasonal?

12. What are the opportunities for advancement?

13. What is the supply of workers who are qualified for this occupation as compared to the demand?

PILOT PROGRAM

(Inter-disciplinary)

Exploratory Experience Agreement

Student Observer _____ Social Security No. _____
Address _____ Telephone No. _____
Exploratory Job _____ Exploratory Firm _____
Firm Address _____ Telephone No. _____
Department in which exploring _____ Supervisor _____
Dates of exploratory experience _____ to _____
Time each day (Hours) _____ to _____
Chairman _____ Telephone No. _____

The exploratory experience is one phase of the course. Its principle objective is to permit the "Student-observer" to explore an occupation in which he believes he has a career interest.

Terms of the Exploratory Agreement

1. The status of the student, while observing, shall be that of student-observer.
2. The student agrees to abide by all agreed and implied terms included in this exploratory agreement.
3. The student-observer will observe for a period of time without pay, the activities of this occupation under the supervision of the assigned individual(s) at a cooperating firm and the coordinator. The period of time will be that normally devoted to the above class by the student-observer, cooperating firm and the coordinator.
4. The cooperating firm shall move the student-observer from job to job within his interest area in order that he or she may become better informed.
5. The parents are responsible for transportation arrangements, if needed.
6. The coordinator will assist with any problems of the student-observer.
7. If the coordinator, or other individuals concerned in this agreement, deems conditions warrant, the student-observer will be removed from the exploratory experience when such action is for the best interests of all parties.

We, the undersigned, indicate by our signature we have read and understand the purpose for the exploratory experience.

_____	_____
Student	Parent
_____	_____
Respresentative-Cooperating Firm	School Principal or Chairman of the Program

(Copy to: Cooperating Firm, Student-observer, Coordinator)

PILOT PROGRAM

Exploratory Experience Evaluation

Name _____ Job _____ Business _____

1. How many people work in this job at this firm?

2. A. What are the duties of this job in this business?

   B. On the average, how much time is devoted to each duty each day?

3. A. What other jobs in this firm have important duties similar in nature to this one?

4. What training and experience do I presently have that would be useful in this job?

5. What additional training and/or experience should I obtain before I would be employable at this job with this firm or at a similar job with another firm?

6. A. Do I need to belong to a union to enter or to continue this job at this firm?

   B. If so, what are the steps to follow in joining and belonging? What dues are necessary?

   C. What "fringe benefits" are provided?

7. A. On the average how many hours are spent on the job each week?

   B. How many hours are spent at tasks related to the job while off work?

C. Is this job affected by seasonal layoff?

8. A. If I were hired to work full time at this or a similar job after leaving high school, what is the salary range?

B. What is the estimated salary range five years from now?

9. A. Does this firm hire high school graduates?

B. Are they hired for this job?

C. Is is likely that a job in this area will be available a year from now?

D. Do I need post-high school training? If yes, how much and what type is needed?

E. Must I pay for this training or is it provided at the expense of the firm?

10. A. Do people advance from this job to other jobs within this or other firms?

B. If so, what are some typical job advancements?

11. A. Does this firm have part-time jobs where I or a member of my commonalities class might be employed this year or next summer?

B. If so, name the jobs.

12. A. What do you like about this job? Why?

B. What do you dislike about this job? Why?

13. Give the names and titles of your supervisors during this exploratory experience.

14. What particular hazards are connected with this job?

PILOT PROGRAM

(Inter-disciplinary)

Student's Self-Evaluation of Exploratory Experience

Name _____ Date _____

Job _____ Firm Name _____

1. From my observation of this job, would I be content to work at this job as a career? Yes ____ No ____ Undecided ____ Ten years from now? Yes ____ No ___ Twenty? Yes ____ No ____

   A. What advantages would affect my decisions?

   B. What disadvantages would affect my decisions? (Be sure to consider working conditions, health or safety hazards, social and economic factors, marital and family responsibility, existence of job, etc.)

2. At this time, would I want to spend my work experience in this or a similar part-time job next year? Yes ___ No ___ Undecided ___ Impossible ___. State your reasons.

3. What self-improvement would be helpful for me to be more successful when I start to work? (Include such things as health, habits, grooming, attitudes, education, training, experience, etc.)

4. Has the exploratory experience been of value? Yes _____ No _____ Why?

5. Could the exploratory experience have been improved? Yes___ No___ If Yes, how?

6. What did you find most interesting about the occupation?

7. What did you dislike about the occupation?

8. What occupation do you plan to observe next?

9. Describe any problem that may have developed during your observation at the observation station involving you and the employer or supervisor.

10. Describe any problem that developed between the employer and an employee, client, or customer, if any.

PILOT PROGRAM
(Inter-disciplinary)

EMPLOYER'S EVALUATION REPORT

Explanation

This form is used to assist the school in determining the student's progress and his capacity for practical work. It is an important part of the student's permanent record and is considered in determining his grade for the on-the-job training.

It is suggested that the person having the most knowledge of the student's work make the rating. Keep in mind that the student is a learner.

1. WILLINGNESS TO FOLLOW DIRECTIONS--Does he listen carefully? Does he ask questions for clarification? Is he prompt in carrying out directions?

2. PERFORMING ROUTINE WORK JOBS--Does he have to be told each time? Does he do jobs thoroughly, for example, oiling machinery, sharpening tools, set-ups, and the like?

3. THINKING THROUGH WORK--Can he independently do a complete job on his own level?

4. ATTITUDE TOWARD THE JOB--Does he appear to enjoy his work? Does he gripe about what is to be done?

5. EMPLOYER-EMPLOYEE RELATIONS--How well does he get along with his fellow workers?

6. HOUSEKEEPING--Does he keep things (tools, equipment, supplies) neat, clean, and orderly?

7. SAFETY CONSCIOUSNESS--Does he use all safety devices provided? Does he indulge in "horseplay"? Does he observe the safety rules and policies of the company? Does he wear safety clothing required on the job?

8. PERSONAL APPEARANCE--Are his clothes appropriate for the job? Does he keep adequately clean and presentable?

9. SPEED--Does the student perform his work with speed and efficiency or is he slow and sluggish? Does the student work fast, average, or slow?

10. CONFIDENCE--Does the student believe in his own abilities to get his work or job done? After a job is done, is the student sure that the job was done correctly?

11. RELIABILITY--Can the student be counted upon to do what is expected or required of him? Is he reliable, dependable, trustworthy, and truthful?

12. JOB KNOWLEDGE AND PROGRESS--Has he made satisfactory progress in understandings and skills for the time he has been in training?

After the Employer's Evaluation Report has been completed, please evaluate it with the student-learner. Point out his weak and strong points. This will help make the student-learner aware of the qualities needed to be a more proficient worker for this job.

Student Name _____ Occupation _____

Training Station _____

PILOT PROGRAM
(Inter-disciplinary)

Report On Student-Learner

Name _____ Date _____

Characteristics	Superior	Above Average	Below Average	Average	Unsatisfactory
Willingness to follow directions					
Performance of routine jobs					
Ability to think through work					
Attitude					
Employer-employee relations					
Housekeeping					
Safety consciousness					
Personal appearance					
Speed					
Confidence					
Reliability					
Job knowledge and progress					
Punctuality					

Remarks _____

_____

Signature _____ Position _____ Date _____

PILOT PROGRAM

(Inter-disciplinary)

Employer's Evaluation

Student's Name _____ Date _____

Employer or Supervisor _____

Observation Station _____

Item	Above Av.	Av.	Below Av.	No Opportunity to Observe	Suggestions for Improvement
Appropriate dress					
Appropriate hair style					
Appeared poised and confident					
Used correct grammar					
Indicated desire to learn					
Handwriting easily readable					
Asked for proper person					
Proper cosmetic usage					
Arrived at correct time					
Applied for specific job					
Spelled words correctly					
Ability to get along with others					
Cooperativeness					
Disposition					
Enthusiasm					
Leadership ability (initiative)					

How did the letter of application and the interview impress you? ( ) Favorable
( ) Unfavorable

From this brief association with the student-observer, what is your opinion of this person's chances for success at this job? ( ) Good ( ) Average ( ) Poor.

This information will be held in strict confidence.

PILOT PROGRAM

(Inter-disciplinary)

Time Sheet

Name _____ Firm _____

Name of supervising person in firm _____

Record of Time Spent in Exploratory Activity With Above Firm

Day	Month	Date	Time of Arrival AM or PM	Time of Departure AM or PM	Total Hrs. Per Day	Type Work Observed
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Other						

Total hours spent in this exploratory experience _____

The above time record appears to be correct.

_____
Signature, Exploratory Experience
Supervisor

PILOT PROGRAM
(Inter-disciplinary)

Student Record in Part-Time Work Program

Name _____ Home Phone _____ Class _____

Address _____ Age _____ Date of Birth _____

Parent or Guardian _____ Business Phone _____

Occupation of Parent or Guardian _____

Part-Time Employment Data

Firm _____ Phone _____

Address _____

Employer _____ Supervisor _____

Occupation of part-time student _____

_____ Year in part-time program _____

Number hours per week; on job _____ In school _____

Pay schedule of student; per hour _____ Per week _____

School Program First Semester

Period	Subject	Room	Teacher
1			
2			
3			
4			
5			
6			

Time Due on Job _____

WORK SCHEDULE

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Total Hours Per Week

Home Room _____

PILOT PROGRAM
(Inter-disciplinary)

Experiences in Occupations

Weekly Work Report

Name _____ Business _____

Date _____ Through _____

DAYS OF WEEK	HOURS WORKED
MONDAY	
TUESDAY	
WEDNESDAY	
THURSDAY	
FRIDAY	
SATURDAY	

TOTAL HOURS _____

School _____

Class _____

Date _____

*NARRATIVE REPORT

The narrative should include, but not be limited to, such things as:

- How the students are progressing their interest and enthusiasm, problems and difficulties encountered, and solutions to problems

- How the observation is working out in the various businesses, difficulties encountered and action taken, and appearance of the program by business concerns

- Report of meetings of the advisory committee, procedures, things dealt with, decisions reached

- Discussions with principals, superintendents, guidance counselors, and other school people

- Meetings with groups interested in the program

- Periodic evaluations made of the:

  a. Students
  b. The program

- Course of study

  a. Team teaching
  b. Keeping up to date
  c. Changes

- How the supervised work-experience is working out in the various businesses, difficulties encountered and action taken, and acceptance of the work experienced by business concern

*Prepare three (3) copies. Give one to the principal, forward one, by the 5th of the month, to Herbert Bruce, and keep one for the departmental file.

PILOT PROGRAM

DO OR DO NOT

DO

1. Be neat and well groomed.
2. Be courteous and polite.
3. Have respect for superiors.
4. Arrive promptly at work.
5. Speak and think in a positive manner.
6. Know and observe company and employees policy, and system.
7. Learn the names of your customers, and use them.
8. Study bulletins, and read periodicals about your merchandise or company.
9. Know the location of store merchandise.
10. Be fair and truthful to customers, co-workers, and your employer.
11. Abide by all safety and all fire rules.
12. What your employer says, that is what he pays you for.
13. Attend meetings offered by your employer.
14. Keep secrets entrusted to you.
15. Use good judgement when talking about business and customers.
16. Keep your employer informed about work absences or work lateness.
17. Be honest with merchandise, money, and time.
18. The job that the employer expects to be done rapidly, neatly, and completely.
19. Clean up and straighten up your work area when finished with a job.
20. Observe accepted customs regarding dress and style.

DO NOT

1. Chat or talk with friends while working.
2. Use the store telephone for personal business, unless urgent. (60 sec.)
3. Have friends or family call by telephone, unless urgent. (60 sec.)
4. Draw money against future wages.
5. Misrepresent or criticize your company or store's merchandise.
6. Criticize a competitor's merchandise.
7. Break in on another salesperson's presentation.
8. Argue or antagonize a customer, or client.
9. Push your duties on someone else.
10. Run down your store or your employer.
11. Argue with superiors.
12. Charge merchandise unless absolutely necessary, and then very sparingly.
13. Hesitate to admit that you do not know.
14. Be afraid to admit a mistake or accept criticism.
15. Be a clock watcher. (Be a clock watcher and know the exact minute you are fired.)
16. Wear an excessive amount of cosmetics.
17. Lean on the counter.
18. Chew gum while on duty at work or eat anything while working.
19. Smoke in the presence of an employer, or while on duty.

20. Chew your fingernails.
21. Use distracting mannerisms.
22. Spend time in front of a mirror while on duty.
23. Invite friends into the store or place of work to visit.
24. Get involved in activities which interfere with work.
25. Wear extreme styles of dress.
26. Forget the words, "Please and THANK YOU," and use them.
27. Forget to be pleasant at work.
28. Forget to use the time clock at proper times.

SECOND YEAR

Teacher Handbook

3818

INTER-DISCIPLINARY PROGRAM IN

Vocational EDUCATION

TABLE OF CONTENT

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General Guidelines

1. Each teacher will be assigned students who are working on the job in their vocational area.

2. Students are to meet with the teacher at least one time each week to work out plans for the week.
   - Each Monday morning is probably the logical time for the weekly meeting.

3. If a teacher and student need to work together for an extended time, this may be done during the period the first year class is meeting.
   - A teacher will not be able to do this when he is teaching the first year class.

4. Early in the school year the group should meet together as a class to do the following:
   (a) Discuss policies and procedures to follow.
   (b) Review some things covered during the first year.
      - How businesses operate
      - Dress and appearance of employees
      - Ethics
      - Responsibility of the students in the program

5. Each student should draw a floor plan of the business where he works.
   - In addition to a plan, he should describe the business and list the employees, manager(s), and owner(s).

6. Each student should keep a notebook. The notebook should have the following:
   (a) Weekly assignments
   (b) Procedures and policies to follow
   (c) Cooperative training agreement
   (d) Self-rating sheet
   (e) Record of work done in the business
   (f) List of responsibilities the student is not performing, but should perform.

7. The group (teachers and students) should meet together at least once each grading period to clarify procedure and to discuss problems.

8. The teacher should provide periodic supervision for each student he has been assigned.

9. The employer should be contacted during each grading period to get his evaluation of the student, and to give his impression of the program.

10. The student will be evaluated each grading period in the following manner:
    - Employer's evaluation will count approximately 1/3 of the grade.

- The teacher's observation of the student's performance on the job should be approximately 1/3 of his grade.
- The individual assignments a student is asked to complete and turn in will be the rest of his grade.

11. Each student will be expected to keep a record of his experiences.

12. The chairman of the program should arrange for local publicity of the program.

On-The-Job Training

1. The chairman will assign students to teachers on the basis of the kind of training he desires.

2. It is the student's responsibility to get a job for his on-the-job training.

3. The student should be working within two weeks after school begins or have the promise of a job.

4. Each teacher should assume the responsibility of arranging for interviews his students make in securing a job.

5. Students may do on-the-job training without pay.

6. Students should work a minimum of eight hours per week.
   (a) A student must work a minimum of 180 hours per year plus his class assignments.
   (b) When possible, the student should work the whole year.

7. Some jobs are not acceptable for on-the-job training.

Visitation Procedure

1. Visitors should write or call the chairman of the program at least a week before visiting the school.

2. Visitors should report to the principal of the school and the chairman of the program before visiting the class.

3. The chairman should assume the responsibility of showing and explaining the program to visitors.

4. Visitors should have an opportunity to observe a portion of the class.

5. Teachers should be available to discuss their responsibilities in the program.

6. A few students should explain their attitude of the program to visitors.

FORMS TO USE

THE

SECOND YEAR

TO EMPLOYERS AND STUDENTS

School _____

PROCEDURES AND POLICIES--Job related class work and part-time work experience.

Before starting to work, the student should make definite arrangements with the employer as to a work schedule. The work schedule must be on file with the chairman. If the student is in a club activity, make certain that the employer is aware of the day that the activity meets.

Each student will be assigned to a cooperating teacher. Students will meet with the teacher once a week at a time designated by the teacher. All assignments will be given to increase the student's knowledge of his job and to help the student to become a better employee. Students are in the "Interdisciplinary" program to receive training in their chosen occupation. The school will supply related instruction in cooperation with the employer.

1. If a student is going to be LATE or ABSENT to work, he is to notify both the school and the employer in advance or as soon as possible. Students ABSENT from school without permission will not be allowed to go to work that day.

2. Students absent from school during the morning because of illness should get permission from principal or chairman to report to work that day.

3. If a student is dropped from the class, he will be required to terminate his employment at the training station during school hours.

4. At the end of the school year, the student may or may not, at the discretions of the employer, be employed for full-time work.

5. Students should realize that the employer is doing a favor by permitting them to learn as well as earn in his place of business.

_____, Program Chairman

PILOT PROGRAM
(Inter-disciplinary)

STUDENT'S COOPERATIVE TRAINING AGREEMENT

I. I have accepted the position of _____ with _____ as my employer.

II. The hours required by this employer are satisfactory and I shall expect to adjust my schedule to his requirements for time not occupied by my school classes.

III. I understand this part-time training opportunity can serve as the practical experience required for enrollment in the cooperative course providing I do the following:

1. Remain with the employer for the school year which ends on _____, providing the employer is willing to keep me and the chairman advises me not to quit.

2. Discuss my problems or difficulties on the job with the chairman and receive his approval of a plan of action.

3. Perform my duties satisfactorily to keep from being fired because the cooperative course requires both successful class work and employment to receive school credit for the course.

4. Report to the school and the employer by telephone if anything causes absence from school or work.

5. Keep a record of hours of employment and earnings as requested by the chairman to be checked by the employer as to its accuracy, because a minimum of 180 hours per year is required for the course.

6. Receive satisfactory grades. Student progress will be evaluated at the end of each grading period.

7. Have my parents understand the cooperative plan and sign below after talking with the chairman.

Signed by _____ and _____
Student Parent

PILOT PROGRAM
(Inter-disciplinary)

Self-Rating Sheet

Name _____ Date _____

Item	Above Av.	Av.	Below Av.	Suggestions for Self-Improvement
Ability to accept criticism				
Ability to get along with others				
Ability to make decisions				
Ability to see a job through				
Appreciate work which is well done				
Confidence in self				
Cooperativeness				
Creative ability				
Dependability				
Enthusiasm				
Health				
Leadership ability				
Initiative				
Loyalty to group				
Personal appearance				
Perseverance				
Responsibility				
Scholastic standing				
Tolerance				

WORK EXPERIENCE EVALUATION BY

EMPLOYER OR SUPERVISOR

Student's Name_____ Supervisor_____

Address _____ Business_____

Tel. No. _____ Address_____

Date_____

Would you rate this student learner by placing a check mark in the column of your choice.

APPEARANCE neatness, dress, health, personality	Excellent	Good	Fair	Poor	Comments
ATTITUDE alertness, eagerness to assume responsibilities, manners					
DEPENDABILITY absence, tardiness, trustworthiness, consistency					
COOPERATION ability and willingness to work with others					
ABILITY TO FOLLOW INSTRUCTIONS AND CARRY OUT alertness in grasping instructions					
INITIATIVE Desire to get ahead					

Date: Salary Per Hour:

	What I Did Today	Hours Worked
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		
	Total Hours for Week:	
	Total Salary for Week:	

Name of Business: _____

Name of Supervisor: _____

Name of Student: _____

Problems encountered or special help needed:

JOB ANALYSIS SHEET

What duties, other than those you now have, exist in your place of employment that you could or would like to perform?	What would you need to know or learn in order to perf these duties?
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.

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Annual Summary of Work Experiences

Month	Experiences	Hours Worked	Salary
August			
September			
October			
November			
December			
January			
February			
March			
April			
May			
	Total		

Place Employed _____

Name of Supervisor _____

Name of Student _____

ASSIGNMENT SHEETS

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Regardless of your job, you should know if the stock is in yet, if it will be late, or when you can expect it. Receiving is important to the retail store because goods must be received on time and in good condition for the store to be operated efficiently and profitably.

1. On the back of this sheet, draw a floor plan of your store and show where the receiving area is located. Also show where the merchandise is to be stocked.

2. Using, as a guide, the floor plan, tell why you think the receiving area is located where it is.

_____

_____

_____

_____

_____

_____

_____

3. What changes would you make in the receiving area? Why? Draw a floor plan you think would be more effective.

_____

_____

_____

_____

_____

_____

_____

STORE LAYOUT

200

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

There are certain basic facts you should know. Why? Because you will get along better with co-workers when you know who they are and what they do. You will also want to give some information to your parents for use in any emergency.

Name of store_____

Address_____

Telephone_____

Owner's name or manager's name_____

The following people work in my department or store:

Name of Department_____

	Name	Position or title
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Number of employees in the store_____

Store hours: Opening time_____ _____

Closing time_____ _____

My hours are:	Beginning Time	Ending Time	Hrs. Worked
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Every store has its own employee rules and policies. Sometimes, however, employees do not find out about them until they break one. Let's get the jump on our jobs by knowing "what's what." Then you will know what is expected of employees.

1. What are your store's rules pertaining to:

   (a) Visiting with people during working hours?_____

   _____

   _____

   (b) Chewing gum?_____

   _____

   (c) Smoking?_____

   _____

   _____

   (d) Eating while working?_____

   _____

   (e) Other activities?_____

   _____

2. What are the rules for:

   (a) Signing in and out?_____

   _____

   _____

   (b) Leaving store during working hours?_____

   _____

(c) Dress and grooming?_____

_____

_____

(d) When and how you will be paid?_____

_____

_____

(e) Using the telephone for personal business?_____

_____

_____

(f) Lunch time?_____

_____

_____

(g) The language you use?_____

_____

3. What should be done:
   (a) If you are absent or late?_____

   _____

   _____

   (b) If you become ill while working?_____

   _____

   _____

   (c) If you want time off?_____

   _____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Upon graduation, you may wish to stay with your present employer. On the other hand, your present job can be a "steppingstone" to a job.

1. What are the advantages and disadvantages of your present place of employment.

   (a) Advantages_____

   _____

   _____

   _____

   _____

   (b) Disadvantages_____

   _____

   _____

   _____

   _____

2. Explain how the experiences you are getting while working in your present job will be useful in future jobs.

_____

_____

_____

_____

_____

_____

_____

3. You may feel that your training station is not the best one for you. If you have this feeling, discuss the matter with your coordinator. List the weaknesses of your job so you and your coordinator may evaluate them.

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

"A place for everything and everything in its place." Each of you will be given specific duties to be completed in particular ways so that your work will fit into the complete store operation. You should be willing to follow the system.

1. List all the types of sales transactions that take place in your training station.

   (a)_____

   (b)_____

   (c)_____

   (d)_____

   (e)_____

   (f)_____

   (g)_____

   (h)_____

   (i)_____

2. List the people whose duty it is to take further action on the sales slip you have filled out. Give a brief description of what each of these people will do.

People Taking Action	What They Do with the Sales Slip

3. List the various types of information on the sales slip and give reasons for the presence of each item.

Information on Sales Slip	Reasons for Item on Sales Slip
Example: Salesperson's Name	To show who made the sale and deserves sales credit.

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Honesty is a virtue every employee should pcssess. It's possible that some employees do not know what honesty means; or, in some instances may misinterpret situations.

1. Describe what conduct your employer would consider as dishonest regarding the following situations:

   (a) Handling money_____

   _____

   _____

   (b) Discount privileges_____

   _____

   _____

   (c) Coffee breaks_____

   _____

   _____

   (d) Lunch hours_____

   _____

   _____

   (e) Punching in and out_____

   _____

   _____

   (f) Relationship with other employees_____

   _____

   _____

(g) Other _____

_____

_____

2. What are your company rules in regard to punishment of employees for dishonesty?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

You should be willing to do the best job you can for the employer. He expects you to be an asset to his business.

1. What methods are used by your employer to insure safe working conditions?

_____

_____

_____

_____

_____

_____

_____

2. What is the policy regarding rest periods and breaks?_____

_____

_____

_____

_____

_____

_____

3. What would you do if you will be delayed and late for work?_____

_____

_____

_____

_____

_____

4. What would you do if you are sick and unable to work?_____

_____

_____

_____

_____

_____

5. What would you do if you decide to leave your job in the near future?

_____

_____

_____

_____

_____

_____

6. What would you do if you knew another employee was not honest?

_____

_____

_____

_____

_____

_____

7. What would you do if you knew a way to improve the store's operation or method of doing something?_____

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

An employee should be able to talk the language of his supervisor and co-workers. You will feel more at ease on the job, and will be better understood.

1. During the next few days, alert yourself to the simple but useful words of the trade. Learn the meanings as used in your store. Then write the words and meanings on this assignment sheet.

Word or Phrase	Meaning

2. During the school year you will hear additional words or phrases. Add them to your list. When the year is out, you will be speaking the "language of your trade."

Word or phrase	Meaning

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

What is "fair trading?" Who gets hurt when unfair trading is practiced? Many problems for the consumer and businessman have been solved through fair-trade laws or codes.

1. What fair-trade laws are in effect in your state?

   (a) Name the law and give the intent of the law._____

   _____

   _____

   _____

   _____

   _____

   (b) What items are sold that are covered by these laws?_____

   _____

   _____

   _____

   _____

   (c) Does the employer feel that these laws are helpful to him?_____

   _____

   _____

   _____

   (d) Are these laws enforced? If so, what are the penalties for violating them?_____

   _____

   _____

   _____

   _____

2. Does the employer have a fair-trade agreement with any of the manufacturers who serve him? Explain briefly the provisions of the agreement.

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE _____

Collections are an important process when a firm extends credit. If a bill is not paid, no profit can be made. It is imperative for the employee to realize this and know when to extend credit and what procedure to follow in collecting "bad debts."

1. Who handles the collection duties at your place of employment?

   (a) Describe the procedures to follow when an account is overdue._____

   _____

   _____

   _____

   _____

   (b) What changes in the collections procedures, if any, would you recommend?

   _____

   _____

   _____

2. Ask your employer (if he will tell you) about the following situations:

   (a) About what proportion of his credit accounts are uncollectible:_____%

   (b) Why some of the accounts were deemed uncollectible._____

   _____

   _____

   _____

   (c) Whether or not the firm uses the services of a collection agency--why or why not?_____

   _____

   _____

   _____

3. What do the following terms mean?

(a) garnishment: _____

_____

_____

(b) bankruptcy: _____

_____

_____

(c) deficiency balance: _____

_____

_____

(d) others _____

_____

_____

4. Write what you would consider a superior collection letter.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

A cash or sales register has many functions. It does more than keep a record of sales. This information is transferred to accounting records, and forms the basis for management decisions.

1. Describe the type of register used in your firm (or department). What basic functions does it serve?

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. List the types of information that the register prints on the receipt and how this information is used.

Information	How Information is Used

3. List the kinds of information that the register stores. Describe how each item of information is used by your employer.

Information	How the Information is Used

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

The cash register is an expensive tool that protects money and records transactions. Like most tools, the register is as good as the person operating it.

1. If your register is the type that calculates the amount of change to be returned to the customer, should you count it back to her or not? Why? Would your answer be different if you operated a register that does not calculate change?

_____

_____

_____

_____

_____

_____

_____

2. Describe the correct procedure to follow in:

(a) Correcting an "over ring"_____

_____

_____

_____

_____

(b) Correcting an "under ring"_____

_____

_____

_____

(c) Using the "no sale" key_____

_____

3. Describe the housekeeping duties that you can do to keep your register in top operating condition.

(a)_____

(b)_____

(c)_____

(d)_____

(e)_____

(f)_____

(g)_____

(h)_____

4. List key policies that your manager insists you observe in operating the register.

(a)_____

(b)_____

(c)_____

(d)_____

(e)_____

(f)_____

(g)_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

It is the responsibility of the employee to convince the customer of a product's value in terms of benefits that he will receive. The information about products is available from many sources. You should be specific in explaining how long the product will last, how it works, how to use it, and how to take care of it.

1. Write down the titles of the trade journals (which have useful merchandising information) available to you in your store or department.

Journals	When They Can Be Secured

2. Summarize the information from an article you read in a trade journal. (The article should be about a product you sell).

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. Summarize the information given on the label of one of the products you sell.

_____

_____

_____

_____

4. Another source of product information is the experienced sales personnel in your own store. List three people whom you feel confident are able to give worthwhile product information.

Name	Position

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Many people today carry more credit cards, charge plates, and other credit information than actual cash. In fact, more than half of all sales today involve credit. How does your firm serve people who buy on credit?

1. Describe the features of the various credit plans offered by your training station.

Credit Plans	Features of the Plan

2. What part do you take in the promotion of credit applications and credit sales?

_____

_____

_____

_____

_____

_____

3. Who makes the final decision on a credit application? _____

_____

_____

_____

_____

_____

4. What is the procedure for refusing credit? _____

_____

_____

_____

_____

_____

_____

5. What type of identification is used for credit customers? If possible, bring a sample of the identification to class.

Identification	How It Is Used

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

New ideas are always needed in advertising an item or product. Since, you are in closer touch with your customers, try your hand at writing creative ideas that have a local and personalized appeal.

1. Item to be advertised:_____

2. Write three possible headlines for this item.

   (a)_____

   (b)_____

   (c)_____

3. Describe the illustration(s) you will use in the advertisement.

   _____

   _____

   _____

   _____

   _____

   _____

4. Write three possible opening statements for your copy that follow the ideas of your three headlines. Use, a short, simple statement that refers to the reader's interests.

   (a)_____

   _____

   (b)_____

   _____

   (c)_____

   _____

5. Next, take the headline and one of the opening statements and complete the story.

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

One of the best methods of reaching large groups of people is through advertising.

1. Select a newspaper advertisement from your store. Analyze, what it is saying.

   (a) List the one outstanding idea._____

   _____

   _____

   (b) Appropriateness to the time or year and season:_____

   _____

   _____

   _____

   (c) Are the facts about the merchandise important to a potential customer? Explain.

   _____

   _____

   (d) Is emphasis placed upon one major benefit the customer will acquire? Explain.

   _____

   _____

   (e) Is this benefit repeated to the reader? Explain._____

   _____

   _____

   (f) Is the reader urged to action? If so, how is this done?_____

   _____

   _____

(g) Has the advertising done a good job of explaining to the reader what is important? Why or why not?

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

You should be anxious to make good on the job. What does your employer or supervisor like to see in a beginner? Look at yourself and begin to improve your shortcomings.

1. Ask your employer what traits he would like you to develop in order to do a good job for him. List the traits he thinks are important.

Skills	Knowledge	Attitudes

2. What things have been the most frequent causes of dismissal where you work? Which ones appear to be the most important?

List of Things Causing Dismissal	Most Important Ones

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Filling out a sales slip is part of the retail selling procedure in many stores. It is important to fill out the slip correctly.

1. Write up a typical sales transaction for each of the following:

   (a) a cash sale
   (b) a cash send
   (c) a charge take
   (d) a C.O.D. sale
   (e) a will call or layaway sale (assume a deposit)
   (f) a cash sale with an employee discount
   (g) an even exchange transaction
   (h) an uneven exchange transaction

   How do you void a sales slip in your store?_____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

   _____

2. What errors are most frequently made in writing sales slips?

   (a)_____

   (b)_____

   (c)_____

   (d)_____

   (e)_____

   (f)_____

   (g)_____

   _____

   _____

3. (a) Who will be using your sales slip or its carbon copies?

Person Using Sales Slip	Purpose

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Every businessman faces many risks. His building, stock, customers, and employees, can be damaged, injured, or destroyed. He must be prepared to absorb losses or protect himself against risk by insurance.

1. Make a list of the kinds of risks your firm faces. For each risk, indicate the kind of insurance that could be carried for protection.

Risks	Insurance that could be Carried
(a)_____	_____
(b)_____	_____
(c)_____	_____
(d)_____	_____
(e)_____	_____
(f)_____	_____
(g)_____	_____
(h)_____	_____
(i)_____	_____
(j)_____	_____

2. Do you feel there is a need for more or less protection? Why?

3. How can the employer protect himself against risks that insurance usually will not cover?

Risks	Ways to Protect

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Usually a firm uses the wage plan which best fits the worker. There are several plans that can be used. Each can work well if it is applied in the right situation.

1. Explain how you are paid. Give the advantages and disadvantages of this type of wage plan. Is there a better plan for you? If so, describe it.

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

What deductions are made from your check? These deductions may seem very large. However, most deductions usually benefit you.

1. Do you pay FICA benefits?. . . . . _____%

2. What is the current FICA (old age benefits) tax rate paid by you? _____ your employer _____%

3. Does your store have a retirement plan for part-time workers? . . . . . _____%
   If so, answer the following questions:

   (a) How long do you have to work before becoming eligible to participate in the store's retirement plan? . . . . . _____

   (b) What percentage of your gross earnings must you contribute to the plan? . . . . . _____%

   (c) What percentage of your gross earnings must your employer contribute to the plan? . . . . . _____%

4. What other benefits do you receive from your employer? (Check all that apply)

   (a) Employee discounts _____

   (b) Profit-sharing plan _____

   (c) Insurance policy _____

   (d) Vacation time _____

   (e) Educational benefits _____

   (f) Others (Name them) _____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Shoplifting is a problem in many businesses. Have you ever wondered how shoplifters are caught? Unfortunately, all shoplifters are not caught. As a responsible employee, it is your duty to watch for these people.

1. How does your store prevent theft?_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. How should you report a theft if you observe a shoplifter stealing goods? What precautions are needed?

_____

_____

_____

_____

_____

_____

_____

_____

3. How does your store safeguard against employee theft?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

4. What per cent of sales is lost from theft in a year's time? _____%

5. What is the penalty for shoplifting?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

All business concerns are in more or less constant contact with government in one form or another. At every turn some government agency--local, county, state, or national--may be concerned with what a business is doing or planning to do. Governments also may regulate, limit, or prohibit certain business operations. You will need to know how the law protects you, your customers, and your store, and how to avoid needless trouble.

1. What do you think about government regulations which affect prices for the business you work?

_____

_____

_____

_____

_____

2. Do government regulations affect credit policies? If so, how?_____

_____

_____

_____

_____

3. What goods cannot be sold even though customers might want them?

_____

_____

_____

_____

4. (a) What safety regulations are observed?_____

_____

(b) How are inspections made and enforced?_____

_____

5. (a) What regulations concerning weights and measures must your employer obey? Who enforces the weights and measures regulations and makes the required inspections?

_____

_____

(b) What penalties are involved?_____

_____

6. What are the health requirements for employees?

_____

_____

_____

_____

7. What is the minimum wage your employer can pay to a part-time employee? $_____ per hour.

8. What regulations concerning safety must your employer obey?

_____

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Taking a physical inventory is actually counting the amount of stock on hand. Usually this task takes place only once a year. However, some stores take inventory every day by means of a stock control system.

1. (a) How often does your store take a physical inventory?_____

   (b) Explain how the inventory is taken.

_____

_____

_____

_____

_____

_____

_____

2. What other systems of inventory, other than a physical inventory, are used in your business? Describe them.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. (a) Who is responsible for taking the inventory?

_____

_____

_____

(b) Describe your duties, if any, in taking an inventory?

_____

_____

_____

4. Who is responsible for ordering new merchandise?

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

In most states there are taxes levied on all or some of the merchandise sold. It is important that the employee know what taxes are to be added to the retail price. If he should fail to add on the tax, someone will have to suffer the loss.

1. State taxes

   (a) How much state tax is levied on the sale of retail merchandise in your community?_____

   _____

   (b) Are there any items which are exempt from the state sales tax? List the items.

   _____

   _____

   _____

   _____

   _____

   (c) Are any persons or organizations exempt from the state sales tax? If any, list them.

   _____

   _____

   _____

   _____

   _____

   _____

(d) What forms, if any, must you fill out for those persons or organizations that are exempt from paying sales taxes? (List the forms).

_____

_____

_____

_____

_____

_____

2. Federal taxes

(a) What merchandise do you sell that require the paying of a federal tax? (List the merchandise).

_____

_____

_____

_____

(b) What is the percentage of federal tax that must be added on to the sale of this merchandise?

_____%

(c) Figure the total taxes when the merchandise has both a state and a federal tax. Assume that the retail price is $20.

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Today, many customers purchase merchandise on credit. This requires the use of a good record and billing system.

1. Explain how and when your store bills customers. If your store uses "cycle billing", explain how this system works.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

2. How does your employer schedule his payments so as to take advantage of cash discounts?

_____

_____

_____

_____

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Usually, the salesperson makes decisions about a sales transaction without securing approval from the employer. However, in a number of cases, the employer must give approval before certain phases of the sale can be completed.

1. Under what circumstances must a sale made by the employee be approved? For each of these situations, explain:

   (a) Who makes the decision to approve._____

   (b) Why an approval is necessary._____

   _____

   _____

   _____

   (c) What the person who approves the sale takes into consideration in making a decision.

   _____

   _____

   _____

   _____

2. (a) What is the procedure for handling a personal check offered by a customer?

   _____

   _____

   _____

   _____

   _____

   (b) Why has this procedure been set up?_____

   _____

   _____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Many of your friends, who have been recently graduated, are now working. Their experiences in getting work can be helpful to you in securing your job.

1. List those factors that helped them to get their first job.

_____

_____

_____

_____

_____

_____

_____

_____

2. What mistakes did your friends make when first looking for a job.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. List those things that your friends felt most employers expected of an applicant.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Assignment Sheet

NAME_____

PLACE OF EMPLOYMENT_____

DATE DUE_____

Responsibility for the week_____

_____

Plan to follow:

1. Jobs to be done (name them)

   (a)_____

   (b)_____

   (c)_____

   (d)_____

   (e)_____

   (f)_____

2. Information needed in doing the jobs.

   (a)_____

   (b) _____

   (c) _____

3. Summary of the accomplishments for the week. (by jobs performed)

_____

_____

_____

_____

_____

_____

_____

Record of Supervision

Student's Name_____

Date_____

Purpose of the Visit:

Preparation of Visit:

Conditions Found:

Recommendations:

Need for Assignments and Help from Teachers:

Things Accomplished:

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ABSTRACT - Designed for use by persons interested in examining the present state of cooperative training efforts, this booklet describes 15 training programs for the disadvantaged as selected from more than 60 programs identified in a previous nationwide survey. It is intended to demonstrate what has been done and to offer to the imaginative reader a glimpse of what can be done in the future. Program categories of (1) Disadvantaged In-School Youth/Potential Dropouts, (2) School Dropouts, (3) Hard-Core Unemployed, (4) Company Employees, (5) Prospective Employees, and (6) School Counselors, were arbitrarily selected by the investigators to provide a representative picture of cooperative training efforts. Each program description includes: (1) Beginnings, (2) Program Facts, (3) Problems and Solutions when appropriate, (4) Results, and (5) a contact address for additional information. (GR)

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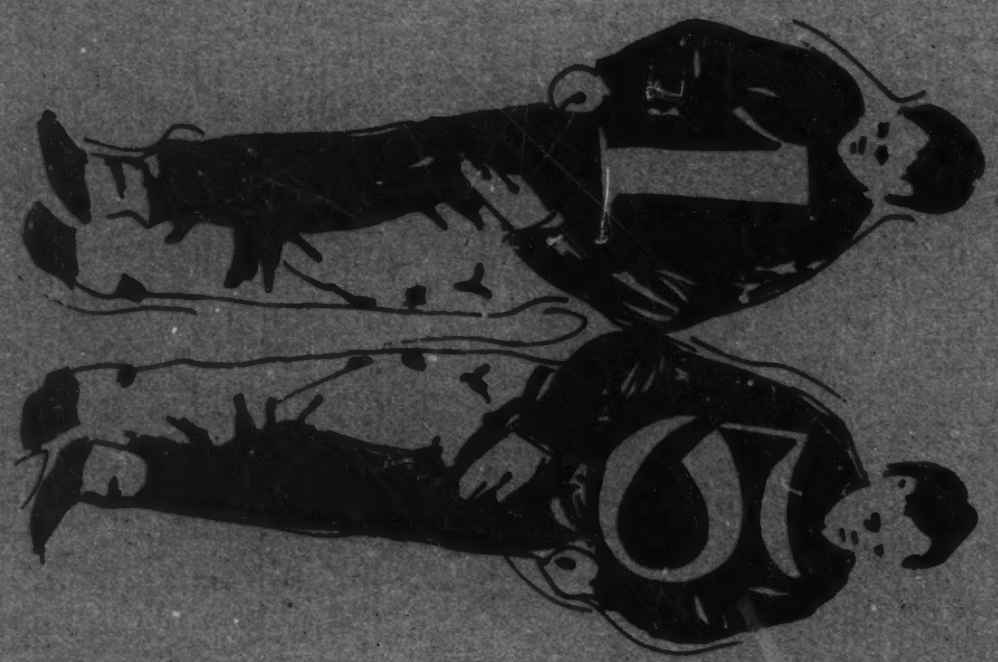

INDUSTRY AND SCHOOLS COOPERATE IN 15 DIFFERENT WAYS

Compiled by
Linda G. Douglass
June, 1969

This booklet was prepared pursuant to a contract with the Office of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official Office of Education position or policy.

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INTRODUCTION

Included in this booklet are 15 training programs for the disadvantaged which are considered by the investigators to be excellent examples of cooperation between the schools and industry. This small sample of 15 was selected from the more than 60 programs identified in a previous nationwide survey of cooperative job-oriented education programs for the disadvantaged--an investigative phase preliminary to the present undertaking of dissemination. Questionnaire responses solicited both from company and from school personnel for a single program provided information on a total of 64 cooperative programs.

This booklet is a product of the initial information quest and its purpose is to illustrate what can be accomplished when industry and the schools work together. The presentation of information is designed for persons interested in examining the present state of such cooperative training efforts for purposes of establishing other similar programs. It is intended to demonstrate what has been done and to offer to the imaginative reader a glimpse of what can be done in the future.

Although each of the 15 programs selected for the sample is among the best of the 64 identified by the investigators, individual programs were not selected solely on the basis of excellence. Indeed, if excellence were the only criterion, much redundancy would have resulted since many excellent programs were too similar to provide the representative picture desired. Therefore, a multiple criterion for program selection was used with the primary aim of providing the reader with a representative picture of a diverse field.

Admittedly, much that went into program selection was arbitrary. The cutoff number for the list of "exemplary" programs was arbitrarily set at 15. It was arbitrarily determined that geography should influence program selection since the general goal of representativeness is capable of being met on many dimensions. The size of a program, i.e., in terms of enrollment, teaching staff, etc., was another minor (but again arbitrary) determinant, and the variety or novelty of program offerings was also considered and weighed judgmentally. A more significant determinant was the amount and clarity of reporting by respondants. Thus, for purely practical reasons, programs which were well reported received more attention by the investigating staff. The most important determinants, however, were based on a classification scheme (organization of programs by target population and approach or program type) which emerged for analytical purposes from the initial report for Phase I.

Thus, each of the programs was aimed at one or more targets and for each of the target population, typically, several approaches to training existed. Of the six categories of target populations, Disadvantaged In-School Youth (including potential dropouts) were served by such different approaches as curriculum planning assistance, industry visitation, school adoption, and work experience (and/or job training) and education. School Dropouts were served by a vocational guidance approach and by work experience and education. The Hard-Core Unemployed category included two program types: job training and education, and job training with general orientation training.

Company Employees were trained by four approaches: diploma-oriented academic work, basic education, retraining, and upgrade training. Prospective Employees were served by means of job fairs, pre-employment remedial education and skills training. And School Counselors were served by means of vocational guidance institutes.

To provide as representative a picture as possible, investigators attempted to select one well-reported program per category. Obviously, then, many highly effective programs were excluded from this booklet. It can only be emphasized that the efforts, time, energy and enthusiasm of scores of people--in addition to money, equipment, professional services, etc.,--were required for every one of the 64 programs. Thus, in a sense, each of the 64 programs is truly "exemplary".

Of incidental concern is the fact that investigators regret the necessity of establishing contact with only one of the participating companies in those situations where cooperative school-company programs were characterized by numerous participating companies. This tactic was necessary because of time limitations. Furthermore, it was feared that an attempt to canvass all companies involved in a single program would result in a diffusion of efforts and might perhaps hinder the goal of effective communication.

It is noteworthy, also that while drafts or program descriptions were submitted for review both to company and to school personnel to insure accuracy of reporting, it is not inconceivable that mistakes and errors filtered through these editing activities--perhaps because of, rather than in spite of, such a massive editing effort. If so, the investigating staff is properly contrite and must assume full responsibility.

Finally, it occurs to the reader to ask, "What use may be made of this booklet?" The booklet is designed for use by (1) seminar planning directors and seminar planning committees in selecting the exemplary programs to be included at their respective seminar programs and (2) seminar participants at the local level so that a more extensive picture may be provided them of the current cooperative efforts being made throughout the country than is possible through presentations made at the local seminar.

June 1969

WORK EXPERIENCE/JOB TRAINING/EDUCATION
for DISADVANTAGED IN-SCHOOL YOUTH/POTENTIAL DROPOUTS

Chase Manhattan's
Business Experience Training Program

Beginnings

The Business Experience Training Program (BET) was initiated by the Chase Manhattan Bank in New York City in response to the high dropout rate in area high schools. Chase's attempt at corrective action was designed to expose students to the business world by providing part-time employment for potential high school dropouts from disadvantaged areas in the city. The program was perceived as a means of meeting company staffing needs through pre-employment training as well as "part of corporate civic responsibility to attempt to solve social problems."

Program Facts

The purposes of the program are (1) to provide students with part-time work in order to enhance their employability and (2) to encourage them to complete their high school education and to compete in college.

The State Employment Agency is involved in this project, but all funds are provided by Chase and the program is conducted solely on bank premises. Participating schools and the Employment Security Agency are primarily involved in recruitment, screening, and selection although Chase makes all final selection decisions. Screening procedures emphasize interviewing rather than test results (two separate interviews are conducted at different times for each applicant). After interviewing, BET program officials select the number of participants needed from lists provided by two different schools.

At present, a total of 100 male trainees are involved in the 84-week program. Trainees are junior and senior class students from the inner-city, most of whom are Negro or Puerto Rican. They work a three-hour day (about 13 hours a week) and receive an hourly wage of $2.10. The training offered is broad and student exposure is varied through job rotation techniques based on departmental needs. Group orientation for trainees is held at the beginning of training and is conducted periodically during the following five months.

More than 75 company personnel are involved in this program, including one staff member (the assistant coordinator) who is from the target population. Company personnel are given orientation training by Chase's training department; this includes first-line supervisors and middle management personnel in addition to the personnel department.

Each participant is assigned to a co-worker who acts as a job training coach. Participants are also provided with individual counseling on a regular basis which is concerned both with problems of job performance and

those of a more personal nature. Such counseling is available to participants after they have completed training and are employed in the bank.

Results

BET has been in operation since 1964 and has trained over 150 young people. Of the 19 original trainees, 14 are working full-time, and each of the 14 intends to further his education with the help of Chase's Tuition Refund Plan. One of the 14 was selected to participate in Chase's Accelerated Career Training Program which trains superior high school graduates and outstanding employees.

The company considers BET to be a relatively inexpensive program and feels that the greatest advantage of working with the schools is that of ease of recruitment. The school, on the other hand, cites as the outstanding positive feature the fact that "this selected group has been encouraged to go on--they have found they can get involved in higher level work."

For information, contact

BET Administrator
Chase Manhattan Bank
One Chase Manhattan Plaza
New York City, New York

COMPREHENSIVE ACTION for
DISADVANTAGED IN-SCHOOL YOUTH/POTENTIAL DROPOUTS

The Chrysler-Northwestern Program

Beginnings

Following the 1967 summer civil disturbance in Detroit, many responsible individuals in various religious groups, governmental activities, social action organizations, and private business and industry ogranized the New Detroit Committee to study and evaluate community problems and recommend remedial actions. Chrysler Corporation took an active part in this effort.

In addition to its involvement in "New Detroit," Chrysler Corporation approached the Detroit Board of Education and offered to undertake a program of comprehensive action aimed entirely at Northwestern High School, a predominantly Negro school located in one of the areas hardest hit by the 1967 rioting. The Chrysler proposal was carefully considered by the Board of Education and Northwestern school administrators who soon became convinced that it was completely sincere and in no sense paternalistic or a bid for publicity.

Thereafter a working arrangement was established wherein project needs were submitted by the school for Chrysler's consideration, and other offers of project assistance were submitted by Chrysler for consideration by Northwestern High School. A high degree of cooperation now exists, with the clear understanding that Chrysler Corporation does not dictate educational policy. Instead, its primary role is one of financial assistance and, where applicable, expert counsel and guidance.

Program Facts

The first proposal involved assistance in placement of Northwestern graduates. To meet the need, Chrysler renovated a wing of the school and established a placement office, the Chrysler Action Center, where testing and interviewing activities are conducted by Chrysler personnel. Thus, all graduating seniors are tested and interviewed for job placement either in Chrysler's Detroit locations or in available openings with other companies. The Chrysler program of assistance began in January 1968, and half of Northwestern's 1968 graduating class was placed. Vocational counseling is also offered and is perceived as a profitable experience whether or not graduates are seeking employment.

The testing and interviewing activities undertaken at the school-based Chrysler Action Center revealed certain weaknesses in the existing school curriculum. For example, placement of male graduates was not efficient, more realistic training for office work was required, and general orientation in job seeking was also needed. On the basis of such feedback, school administrators began to offer general orientation with special emphasis on how to complete an application. Further, electric typewriters and key punch and data processing equipment were provided by Chrysler to update office work training. And, finally, a modern shop for auto mechanics training was designed and equipped by Chrysler personnel to help achieve better placement results for male graduates.

In June 1968, a special summer program was instituted in which auto shop training and language arts were offered to 94 potential dropouts who received a $5 a day stipend while attending. Of the 94 trainees, 88 completed the special program and were offered part-time jobs the following school year with

the Boron Oil Company. A total of 42 students accepted employment with Boron and received both job experience and training to upgrade their performance.

Since reading weaknesses are a serious problem among Northwestern students, a reading program is presently being financed in which Wayne State University reading specialists teach Northwestern teachers to instruct reading in their own classes, regardless of course content. Program costs are underwritten by Chrysler.

A third approach to improving education is Chrysler's "Secretary for a Day" program in which students spend a day in an actual job at Chrysler under the supervision of a Chrysler employee. The Chrysler Corporation has also established a reading clinic for adults in the neighborhood and has extended the services of the data processing center to adults during the evenings. Furthermore, the company has provided the school with a library of paperbacks by and about blacks to encourage reading interests.

Several other noteworthy examples of Chrysler-Northwestern cooperation exist. For example, those students who do not plan to attend college but who are interested in attending trade school may apply for Continuing Education Funds for as much as $500.

Creative teaching grants of $300 are available to teachers who wish to develop educational programs. An example is the "zero hour" program--"zero hour" because class is convened prior to the "first hour" of 8:00 a.m.--which was initiated by a Northwestern teacher for the purpose of exposing honor students to special educational materials.

Additionally, the Northwestern Men's Club sponsors a summer basketball league for 14- and 15-year-old boys in the area (not just Northwestern students) to provide a positive recreational outlet for the youth.

Also, thanks to Chrysler, Northwestern is the only public high school in Detroit with its own bus. The 60-passenger bus was requested by the school for field trips to supplement class work.

Finally, Project 75, a motivational program, is another good example of Chrysler-Northwestern cooperation. Project 75 entails grouping 75 Northwestern High School students with 25 Chrysler sponsors on the basis of a common interest and on a three-students-to-one-sponsor ratio. Each sponsor is proficient in a specific activity (e.g., bowling, sewing, ping pong, chess) so that he will be able to teach the students that particular skill. The activity allows sponsors and students to have a mutual interest in their initial contacts. The main objective of Project 75 is to develop a strong relationship between the three students and the Chrysler sponsor so that the students will feel free to talk about their goals in life, problems they may have, the world of work, or just the philosophy of life.

Problems and Solutions

One of the most significant adjustments which cooperation between Northwestern and Chrysler has required is a change in scheduling. Since participants spend three hours a day on the job and four hours in the classroom, the school schedule has had to be adjusted to the job situation. This has required

the services of a coordinator working with counselors to plan a school schedule compatible with the work schedule.

Inadequate transportation to the job has also created problems. One solution to such problems involved allocating school bus tickets to participants who could not afford transportation costs. Another approach involved establishing car pools which, in some cases, were provided at a small fee by retired union men.

A third area of concern, consisting of the various personal and job-related problems that arise from the work environment itself, was handled by instituting job sponsors for one to five candidates during the 90 day trainee probationary period. The sponsor's responsibility extends to assisting candidates with problems arising from any phase of their jobs--whether personal or strictly job related.

Further, the sponsor is responsible for contacting each candidate weekly throughout the probationary period and for submitting monthly progress reports on the candidates to the Chrysler-Northwestern Administrator. Additional contact with the Administrator is encouraged only when the sponsor disagrees with the candidate's treatment and has no authority to rectify the situation.

For information, contact

Administrator,
Program of Assistance to
Public Schools
Chrysler Institute
Chrysler Corporation
341 Massachusetts Avenue
Highland Park, Michigan 48213

OR

Principal
Northwestern High School
6300 Grand River
Detroit, Michigan 48208

CURRICULUM PLANNING ASSISTANCE
for DISADVANTAGED IN-SCHOOL YOUTH/POTENTIAL DROPOUTS

North American Rockwell
and the
Downey World of Work Program

Beginnings

Present needs for trained manpower and realistic training programs caused the Downey Unified School District (Downey, California) to develop new approaches to vocational education. The resulting "World of Work" Program (WOW) is an educational system involving the total community in discovering and developing each student's talent for the work world.

Traditional methods of preparing students for jobs have focused on the departments of agriculture, home economics, business education and industrial education. Because of the typical direction these courses take, numerous constraints are placed on today's educational programs. For example, Home Economics has traditionally included such job areas as tailoring and power sewing, medical services, cosmetology, and food services; and yet these areas are not comfortably grouped together under Home Economics. Still, this is the nature of the present structure. In the industrial education department, "craft" occupations--which include toolmakers, experimental machinists, modelmakers, etc. -- are among the most demanding kinds of work; but many students are eliminated from industrial education programs because of the difficulties of the "craft" approach. Other problems exist within the traditional structure and hinder development of an efficient vocational education program. Downey's program emerged in response to such problems after a lengthy and difficult struggle with the traditional organization of schools.

The Downey Unified School District is replacing these traditional practical arts departments with a new program which embodies primary industrial functions. Included are the elements of design (the creative planning procedures, products and/or services), marketing (processing data in finding, controlling and distributing designs, products and/or services), manufacturing (changing materials to make quantities of useful products), and servicing (caring for living things or maintaining products). These four elements represent the major functions of business and industry and each is dependent on one or more of the others for efficient operation. Fundamental occupational groups can be found in each category.

North American Rockwell, Space Division, is assisting the Downey Unified School District in conducting the program by providing consultative assistance, specialists to teach courses where needed, equipment for student shops within the school, and instructional materials that will make learning as closely related to the actual job situation as possible.

Program Facts

Currently, the Downey school district has a vocational mechanics instructional program operating according to the WOW concept. Plans are underway (1) to convert the junior high school industrial arts programs of woodworking, metalworking, crafts and drafting to industrial design, manufacturing and servicing; and (2) to change the graphic arts, metals, office occupations and electricity-electronics programs in the high schools to conform to the WOW concept. Additionally, new courses are being developed which serve as "models" of cooperative effort between the school and the local North American Rockwell Corporation in basic manufacturing processes, plastics fabrication, and structure assembly.

At the junior high school level, the WOW program began in the fall of 1968 with the opening of a Servicing Center in the industrial education department of one of the Downey junior high schools. Learning activities in the Servicing Center follow three tracks: the servicing of mechanical devices (bicycles, small engines, mowers, etc.), electrical systems (wiring and repair), and buildings (cleaning, painting, and plumbing). Initially students cover all three tracks for general and exploratory learning; but as a student discovers an area for which he has demonstrated talent and interest, he is allowed to specialize and may continue in the vocational education program in the high schools.

Classroom activities for occupational exploration consist of working with bicycles and other familiar devices. Students first learn to repair and maintain this equipment and then graduate to more complex devices. The students also repair malfunctioning and broken household appliances that have been donated to the PTA Thrift Shop by parents and friends.

At the high school level, a plastics program was developed in September 1968. The purpose of the program was to improve the quality of workers hired and to reduce in-plant training requirements and turnover at North American Rockwell. One hundred students, primarily white males, participated in plastics fabrication and structure assembly instruction for five hours a week.

Results

The realism of the World of Work Program has much to recommend it. School personnel feel that it is a highly relevant educational program and that it has provided students with more efficient and worthwhile course content. North American Rockwell has also expressed satisfaction in being involved in a program which is giving every participant a marketable skill.

For information, contact

Training Specialist
North American Rockwell
Space Division
12214 Lakewood Boulevard
Downey, California 90241

OR

Supervisor of Vocational
Education
Downey Unified School District
11627 Brookshire Avenue
Downey, California 90241

INDUSTRY VISITATION
for DISADVANTAGED IN-SCHOOL YOUTH/POTENTIAL DROPOUTS

Penn Mutual and the
School District of Philadelphia

Beginnings

Educators and business firms in Philadelphia are involved in a cooperative effort entitled "A Two Week Look at Business." The program started on a limited basis four years ago with only 36 students from three high schools, but the undertaking has proven so successful that both employers and school administrators are eager for expansion. The principle industries involved are banking, insurance, and utilities. The Penn Mutual Life Insurance Company is one of the 16 firms cooperating with the Philadelphia Board of Education in the program. Included among the remaining firms are Atlantic Richfield (refining), the Curtis Publishing Company, and Bell Telephone of Pennsylvania.

Program Facts

Originated by the Division of Vocational Education's Cooperative Office Education Advisory Committee (of which the above-mentioned four companies comprised a subcommittee) in response to a request by the schools, "A Two Week Look at Business" was designed to acquaint students early in their high school careers with opportunities available to them upon graduation. Basically, the two-week summer program allows business education or "commercial" students in their senior year to "try out" different jobs in order to learn about business expectations with respect to workers. Thus, the "Look at Business" is intended to motivate high school students to stay in school and to improve their school records.

Ten students are typically assigned to each firm. (In the Penn Mutual phase of the program, the ten participants were female inner-city residents under 18 years of age: 60% Negro and 40% white.) Screening is performed exclusively by school personnel: teacher-coordinators examine school records and contact students who appear to be underachievers. Students usually spend six hours a day on the job, although the hours may vary. Since the project is considered to be an extension of school training, no salaries are provided. However, car fare and lunch expenses are paid by the firm so that no student will be excluded because of insufficient finances. A buddy system is in operation to provide students with a friend to whom they can go for advice and for answers to their questions. At the end of the two-week exposure to the work world, a closing ceremony with parents and school personnel in attendance is held. The total estimated company expense for the program is about $50 per student and includes transportation costs, meals, and staff salaries.

Problems and Solutions

Since the program is conducted on a voluntary basis during summer vacation, students with insufficient motivation may forego the opportunity to gain exposure to the world of work. These students must be approached on an individual basis and encouraged to participate.

Results

Approximately 300 students have participated in the program since its inception. School personnel report that a substantial number of participants have shown improvement in their school work after having gained exposure to the realities of the business world.

For information, contact

Assistant Director
School District of Philadelphia
2600 North Broad Street
Philadelphia, Pennsylvania 19132

OR

Personnel Director
The Penn Mutual Life Insurance Co.
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19105

WORK EXPERIENCE/JOB TRAINING/EDUCATION
for DISADVANTAGED IN-SCHOOL YOUTH/POTENTIAL
DROPOUTS

The Smith, Kline and French
Business Experience and Education Program

Beginnings

The Division of Vocational Education of the School District of Philadelphia operates a number of motivational school-work projects for disadvantaged students from inner-city schools. The students are offered a paid, supervised work experience in conjunction with their schooling, and counseling and supplementary tutoring and training are provided by approximately twenty participating Philadelphia firms.

The school-work projects are collectively termed the Business Experience and Education Program (BEEP). The program was actually developed at a Philadelphia bank and was an adaptation of Chase Manhattan's BET program. It was initiated in the business-industrial climate but was introduced to the Philadelphia school system so that it might be included in the schools' on-going operations.

In 1968 Smith, Kline and French Laboratories, a major producer of pharmaceuticals, became a BEEP employer. In "selling" BEEP to employers, the President of the Philadelphia Board of Education usually writes to the company president initially to obtain his cooperation; but in the case of Smith, Kline and French, the company made the first move and offered to participate in the program. Twenty young men, only two of whom are over 18 years of age, are involved in the Smith, Kline and French program. Sixteen of the youths are Negroes, two are Puerto Rican and two are white. They are drawn from two inner-city high schools where the dropout rate exceeds 40%.

Program Facts

Recruitment for the program is conducted by the participating schools. Both school and company conduct screening, selection, placement, and individual counseling for BEEP participants.

Teachers and work-experience supervisors are Board of Education employees and are paid by the school system; student-employee wages of at least $1.60 an hour and salaries of company supervisors for the program are paid by the company.

Monday through Friday during the school term students attend classes in four major subjects from 8 a.m. to 2 p.m. each day; they then work three hours a day at Smith, Kline and French. During the summer program participants work full time at the company. In addition to on-the-job training, the company also brings the 20 students together for weekly conferences which include guidance and individual counseling by company supervisors, personal orientation, company information, group discussions, and field trips.

Jobs for the BEEP program were specially "created" for high school student employees since the normal high school student typically lacks the skills and experience needed for existing company positions. The jobs were

carefully chosen to call only for basic skills initially, then for more skill and more involvement as education and experience progress. In effect these jobs were designed to facilitate the movement of the student employee through a necessary, and often difficult, transition period. Seventeen different job titles, including Purchasing Trainee, Printing Trainee, Apprentice Draftsman, Lab Helper, Mail and Stockroom Trainee, and Marketing Research Clerk are listed for the 20 BEEP participants--job titles which did not exist in the employment milieu at Smith, Kline and French prior to BEEP. The training required for these positions is scheduled to take 21 months. Wages are paid by the hour.

Although no advisory committee exists for the BEEP program, one school supervisor is designated as the liaison between school and company. This supervisor is a work-experience teacher-coordinator with experience in occupational education and administration.

Company training staff provided half-day general orientation sessions for first-line supervisors involved in the program. No special training sessions are conducted for school staff but their experience in working with BEEP is considerable.

Problems and Solutions

The company has experienced some difficulty in communicating its needs to school personnel but the school is attempting to respond through increasing flexibility in scheduling and other school policy matters. School supervisors are also devoting time to expediting communication and cooperation between school and company personnel involved in the program.

Results

Too little time has elapsed since the Smith, Kline and French program began for evaluative data to be made available. However, both school and company personnel have expressed satisfaction with the program and take pride in having developed a means of aiding disadvantaged youth in finding a productive niche for themselves in society.

For information, contact

BEEP Administrator
Smith, Kline & French Laboratories
1500 Spring Garden Street
Philadelphia, Pennsylvania 19130

WORK EXPERIENCE/JOB TRAINING/EDUCATION
for SCHOOL DROPOUTS

The Double E Program and
Carson Pirie Scott & Co.

Beginnings

When the president of the Carson Pirie Scott & Co. Department Store approached the Superintendent of Chicago schools in search of potential "executive trainees" from among high achieving senior students, the superintendent suggested that the president alter his plans and work with dropouts instead. The result was the Double E Program (Education and Employment), a cooperative work-study program for unemployed out-of-school youth. The underlying rationale for the program is that dropouts need a unique, realistic, and financially rewarding experience to stimulate their interest in learning.

When the program was initiated in the summer of 1961, the City of Chicago, the Ford Foundation, and Carson Pirie Scott sponsored it. After the first year, the Board of Education assumed program costs. Over the years, the number of cooperating employers has varied, but as many as 80 have been involved, with CPS remaining as the company offering the largest number of positions. The department store's contribution to the Double E Program has been so significant that Readers Digest and the National Retail Merchants Association presented Carson Pirie Scott & Co. with the "Retailing Serves America" national award.

Program Facts

The Double E Program is in operation 48 weeks per year and induction of new students occurs every ten weeks. Participants spend twelve hours a week in class and from 24 to 32 hours a week on the job in merchandising, clerical, or other entry-level positions. Classes are held in English, social studies, business training, and basic mathematics. Class content is both job-oriented and academically-oriented. High school credit is given, and of those who complete Double E training, 20% receive high school diplomas. Workshops are established for independent study in required subjects or elective subjects when class demand is insufficient to warrant operating regular classes.

The ratio of males to females is four to three and the majority of students are either Negro or Puerto Rican. Approximately 300 students participate in the program at any given time, although the figure may vary. Since the program began, over 3000 students have participated.

Teachers, curricula, and the physical environment are all structured to fit the needs of the student: (1) Since the quality of teachers and supportive personnel is considered to be one of the most important factors in the adjustment and eventual success of the student, all Double E teachers receive intensive on-going in-service training (4 hours weekly). (2) Whenever possible, subject matter is complemented by realistic learning experiences. (3) The physical environment is deliberately different from the typical school setting. Classes are conducted in a downtown office building, surroundings are cheerful, and the atmosphere is casual. The primary aim

is to provide support for youth who are willing to continue their education but may not be ready to survive the competition in a standard educational environment.

The Employers Advisory Council, a group of Double E employers, meets monthly with school representatives and serves as a link between the particpating companies and the school. The council works actively with the school staff to structure the program and to solicit new employers. In the past, members of the council have exposed students to a more realistic view of work by means of a career orientation program which included company visits and workshop discussion of job possibilities. The council has also assumed a leadership role in disseminating the information to such interested parties as members of government, industry, and communications media. Participating employers are Carson Pirie Scott & Co.; Peoples Gas, Light & Coke Co.; the Western Electric Company; the Illinois Bell Telephone Company; the John R. Thompson Co. (restaurants); the Prudential Insurance Company; and Science Research Associates, Inc.

Results

The philosophy of the Double E program is that normal progress comparable to that of a well adjusted student in a regular school is desired--not spectacular gains. The greatest service provided by Double E is "to assist youths to understand themselves and reevaluate their future goals in life".

A final, noteworthy item is that many of the recommendations for educating school dropouts which emerged from the operation of the Double E Program have been incorporated in the Manpower Development and Training Act (MDTA) and the Vocational Education Amendments of 1968.

For information, contact

High School Work Study Coordinator Carson Pirie Scott & Co. 1 South State Street Chicago, Illinois 60643	OR	Urban Youth Program Chicago Public Schools 201 North Wells Street Chicago, Illinois 60643

WORK EXPERIENCE/JOB TRAINING/EDUCATION
for SCHOOL DROPOUTS

Prudential and the
Education Center for Youth

Beginnings

The Education Center for Youth has been called the most prestigious high school in Newark, New Jersey. Essentially it is a high school for dropouts which offers work-school experience on a "learn-and-earn" basis.

The Center received its initial impetus largely through the efforts of the Senior Vice President of the Prudential Insurance Company of America who, on behalf of seven Newark business organizations, requested that the Newark Board of Education establish a separate high school for one hundred out-of-school youths.

On the strength of this request, an investigating team representing the Board of Education, the State Employment Service, and the school system was dispatched to study several programs operating in the Chicago area. The resulting reports and recommendations eventually became the basis for the proposed Education Center for Youth.

The plan for the "Center" was subsidized with $50,000 of special state education monies. Professional help was offered by the State Education Commissioner's staff, the State Department of Labor, and the County Superintendent of Schools.

In December 1964, the school opened on a site in the downtown area of Newark. The student body consisted of 100 unemployed out-of-school youths ranging in age from 16 to 21. These candidates had been screened by the Youth Career Development Center of the New Jersey Employment Service, the Guidance Department of the New Jersey Secondary Schools, and the chief administrator of the Education Center for Youth.

Program Facts

Basically the Center is a special high school designed to encourage completion of secondary education by providing work-study experience for dropouts. Students are recruited through the schools and by newspaper advertising, radio, TV, and word of mouth. Outreach is also accomplished by means of close cooperation with civil rights groups and the State Employment Service as well as with regular high schools in the city. Facilities are donated by a church in the downtown Newark area adjacent to the main library and the museum; and the rooms loaned for high school study are the same rooms used by the church for Sunday School sessions. At the outset and until the regular furniture and supplies arrived, necessary equipment was provided by the participating business organizations and the Board of Education (e.g., desks, bookcases, typewriters, textbooks, and even lighting).

One hundred students participate during a normal training cycle (approximately 40% male and 60% female). The students are primarily Negro, although white and Puerto Rican students also participate. The students work and study during alternate weeks; and, while 50 students attend school, the other 50 work.

One hundred jobs are guaranteed for the students by the seven participating local businesses for the duration of the program. Participating companies and their respective job functions are as follows: Bambergers--sales clerk, wrapper, marker, and stock checker; Humble Oil and Refining Company--service station trainee (Esso); New Jersey Bell Telephone Company--telephone operator, clerk; Prudential Insurance Company of America--duplicating machine operator, messenger, clerk; Public Service Electric and Gas Company--keypunch trainee, librarian trainee, clerk; Western Electric Company--bench machine operator, detail maker's assistant, stock chaser, photographer trainee, keypunch trainee, engineer-drafting trainee, clerk; Westinghouse Electric Corporation--printing trainee, engineer-drafting trainee, clerk.

In some cases, the jobs offered were not available originally but were "fractured" and thus adapted to the needs of the program operation. Otherwise, the students who work as employees of the various companies receive no special treatment, nor do they replace any regular company employee. Both work and attendance records must be satisfactory. The company pays the basic starting salary; and the total expenditure for all companies is $155,000 annually. No company is obligated to offer employment to a student after he has completed the Center program.

Like work standards, school standards are also high. Thus, the student must maintain above average attendance records. The school calendar year does not parallel the typical academic year but corresponds instead to the industrial schedule; consequently, the student studies and works throughout the summer and during other regular school vacations including Christmas and spring holidays.

The program curriculum is the same as that offered in a regular high school, e.g., English, mathematics, social studies, and business education are offered. The difference is that the courses are adapted to the needs of the Center student. Since individual differences range from perhaps a ninth grade to an incomplete twelfth grade education, each student works at his own rate of speed. Instruction is geared to individual rates of development and no time limit exists for course completion. To facilitate such individual pacing, classes are small with a maximum enrollment of ten students.

The faculty members involved in the program are experienced Newark high school teachers. The entire Center staff includes five subject-matter specialists, two part-time work-study coordinators, two full-time guidance counselors, a social worker, and a part-time nurse. Additionally, any professional services which are ordinarily available to the Newark schools are at the disposal of the Center.

Results

The Center has operated successfully since December 21, 1964, and approximately 350 students have been enrolled. Of the total, 190 have earned their high school diplomas, 100 are still participating, and 76 have dropped out. This 60-65% retention rate compares very favorably with that of regular Newark high schools, especially when it is remembered that the Center students are already alienated from school and could be expected to produce a zero retention rate.

Of the 190 students who received high school diplomas, 121 are employed, 8 entered the military service, 15 are homemakers, 20 have undertaken college work (at least on a part-time basis), and only a handful are unemployed.

Warm approval of student performance, both in school and on the job, has come from employers and teachers alike. These young people apparently have been inspired to seek new goals and the results seem to indicate that the dropout can become an able, willing, and successful worker. In the words of the Center Director, "these students have become givers rather than takers."

For information, contact

Senior Community Relations
Consultant
The Prudential Insurance Co.
of America
Prudential Plaza
Newark 1, New Jersey 07101

OR

Director
The Education Center for Youth
15 James Street
Newark, New Jersey 07101

3909

State Farm Insurance Company and the
Bloomington-Normal Employment Opportunity Program

Beginnings

In June 1968, representatives of the Home Office (i.e., corporate headquarters) of State Farm Insurance Company met with other interested business persons in the community to discuss the black employment problems in Bloomington-Normal. Subsequent discussions led participants to examine the feasibility of establishing a program to hire and train Negroes in the area. Through a selected group of Negro leaders who obtained information on the extent of Negro unemployment, it was determined that approximately 30 to 50 Negroes were in need of skills for jobs.

As a result of this information, the Bloomington-Normal Personnel Council (a long-standing community group of professional personnel people who assist in implementing sound personnel practices) undertook a project to find and train non-student Negroes who lacked the skills necessary for employment. Participating employers included the following: Biddle Advertising Company, Illinois State University, Firestone Tire and Rubber Company, Illinois Agricultural Association & Affiliated Companies, the Eureka Williams Corporation (a division of Union Electric Corporation), the General Telephone Company of Illinois, Brokaw Hospital, the Daily Pantagraph, the State Farm Illinois Office, and the State Farm Home Office.

Program Facts

In May 1968, local high school and college guidance counselors assisted personnel representatives in conducting individual counseling sessions for interested Negroes. Many of the fifty Negroes who attended the session were qualified for direct job placement and simply needed encouragement in applying for employment.

In June of the same year, 19 unskilled Negro females began clerical training sponsored by the Bloomington-Normal Personnel Council. The women ranged in age from 17 to 45, and the majority were married and had families. Some trainees lacked high school diplomas but began to attend adult education classes to prepare for the General Educational Diploma. (Even though girls were assured employment for the program, the importance of this diploma was emphasized because of its contribution to advancement.)

The 8-week program exposed the trainees to typing, filing, mail handling, office machines and office etiquette. Pre-vocational orientation and training in office behavior were also offered; thus, employment application procedures, dress, and techniques of communication were taught. Six hours a day were required on the job while two hours were spent in class. Member firms paid all trainees the minimum wage of $1.60 an hour.

The program is locally financed with funds provided by the Bloomington-Normal Personnel Council. The Bloomington school system provides classroom space at a local junior high school in addition to providing necessary equipment.

Results

Of the 19 women who began classes in June, all trainees successfully completed the training program, and 15 were employed (four at State Farm).

The company considers the program to be relatively inexpensive--the cost to participating firms is $45 per employee. Company representatives cite working with the schools as a distinct advantage since the schools can easily provide space and equipment for training.

The experience gained from this initial undertaking may result in certain program changes, e.g., officials say they may open the program to both whites and Negroes in the future and that they will also advertise more widely.

For information, contact

Home Office Personnel Director
State Farm Insurance Company
112 East Washington Street
Bloomington, Illinois 61701

Houdaille-Duval-Wright Company's Leadership Training Course for Leadmen

Beginnings

The Houdaille-Duval-Wright Company, a division of Houdaille Industries in Jacksonville, Florida, cooperated with Florida Junior College to conduct an experimental one-time course in leadership training for leadmen. The leadman, an hourly employee, is a "straw boss" or informal leader selected from the work crew to assist the foreman. The H-D-W Company, a manufacturer of prestressed concrete construction products, originated the idea for the company employee upgrade training in response to the need to (1) develop supervisory skills, and (2) improve leadership attributes and job responsibility levels among minority group employees.

Program Facts

The program was designed to foster personal development and to improve supervisory techniques and leadership abilities among plant leadmen (primarily non-whites) and other interested employees. In conducting the program, the company cooperated with both a secondary school and a junior college.

The company performed the upgrade training and is conducting follow-up of participants. Also provided by the company were general orientation training (e.g., grooming, punctuality, etc.) and basic education. The school's primary contribution was basic education; additionally, it offered general orientation.

The program was conducted on school premises. The company paid all direct costs (except the teacher's salary) including reimbursement for participants. The junior college provided the teacher; and the county high school provided classroom space in addition to supervisory time for curriculum planning with company officials and for overseeing classroom activities.

Participants attended class three hours two nights a week for a six-month period at New Stanton Senior High School.

The Future

Although the program was initiated and conducted strictly on an experimental basis, it is nevertheless expected to be continued as the need for such training recurs.

For information, contact

Assistant Manager,
Industrial Relations
Houdaille-Duval-Wright Co.
1000 Riverside Avenue
Jacksonville, Florida 32201

OR

Coordinator of Evening Studies
Florida Junior College
Cumberland Campus
Jacksonville, Florida 32205

Leaf Brands and the Chicago Board of Education

Beginnings

The Leaf Brands Division of W. R. Grace & Co., a candy-making organization in Chicago, Illinois, cooperates with the Chicago Board of Education, Division of Adult Basic Education, to provide a job-oriented education program for disadvantaged persons. The program was initiated in response to high turnover, the need for basic education to improve job status, and lay-offs indirectly attributed to language handicaps.

The local federal anti-poverty agency, state employment agency, and the National Alliance of Businessmen are involved in the program. Union approval was also obtained prior to the establishment of the program. Funding is divided, with 60 per cent provided by schools and 40 per cent by industry. Federal funds are used under a Manpower Administrator (MA) contract.

Program Facts

The Leaf Brands program involves basic education for functional and complete illiterates, English as a second language, and preparation for citizenship. It is designed for inner-city residents and is directed toward Spanish-speaking persons: thus, 25 per cent of the participants are South American immigrants, Mexican-Americans, or Puerto Ricans; 60 per cent are Negroes; and 15 per cent are white Appalachian migrants. Approximately 200 trainees, ranging in age from 20 to 40, participate in a typical 39-week training cycle. Jobs for which training is offered include packer, warehouseman, and serviceman. Participants spend an average of 7½ hours per day on the job and 1½ hours in the classroom. They are paid for the 9-hour working day by the company.

The program is conducted on company premises, with teachers supplied by elementary and adult basic education schools. Eight instructors are provided part-time by the school--four in basic education (communications skills, including English as a second language; basic arithmetic; etc.) and four in regular academic subjects. Five company personnel are utilized in the program. Sensitivity training is conducted for all levels of management on a continuing basis. Each trainee attends a counseling session at least once a week in which is offered counseling for psychological purposes, health problems, and academic and career planning. The counselors are regular Chicago Public School counselors who are recruited and paid by the company for this additional guidance activity.

The program is open to all employees who volunteer to participate. For some positions, the program is a requirement. Trainees are screened and selected according to job requirements and promotional training needs.

Disadvantaged individuals are recruited for the program through public employment agencies, the Concentrated Employment Program (CEP), religious organizations, social and fraternal groups, and the Urban Progress Center (a federally-sponsored community clearing house, located in 125 major cities, which conducts training, administers exams, and provides other job preparation).

Problems and Solutions

Cooperation between Leaf Brands and the Chicago schools has resulted in certain changes in school teaching methods, particularly with respect to the use of industrial mathematics in regular math programs. Special school problems encountered have been attendance and conflicting work schedules. Through group guidance and immediate follow-up, the attendance problem was improved; conflicting work schedules were eased by rescheduling work. Problems encountered by participants, e.g., keeping regular hours and working toward long-term goals, were also dealt with through group guidance programs. Finally, flexibility of school scheduling was required to accommodate plant needs.

Results

Since its initiation in August 1968, the Leaf Brands program has reportedly reduced absenteeism and employee turnover. Participating employees also seem to be more interested in their work. The company considers the program to be relatively inexpensive since the lower rate of turnover, improved product quality, and lower insurance rates (made possible by lower accident rates) offset the initial outlay of funds.

For information, contact

Training Director
Leaf Brands Company
1155 North Cicero
Chicago, Illinois 60465

JOB FAIR
for PROSPECTIVE EMPLOYEES

Detroit Public Schools
and the Bank of the Commonwealth

Beginnings

Since total employment remains one of Detroit's most persistent problems, the Guidance and Counseling Department of the Detroit Public Schools and the Michigan Employment Security Commission (MESC) met together to investigate the feasibility of a community effort to train and hire persons from the inner-city. Specifically, the investigators explored ways for maximizing the employment opportunities of graduating high school seniors.

The result was a cooperative approach to employment services for June graduates unable to find employment; and a pilot project, involving a city-wide job fair, was initiated as a technique for bringing employers and job seekers together on neutral ground for satisfaction of their mutual needs. The Bank of the Commonwealth was one of the many employers contacted by MESC which subsequently participated in the Job Fair. (In addition to its participation in the Job Fair, the Bank of the Commonwealth is also involved in two other community activities. One activity involves a co-op program in which students enrolled in business courses attend formal high school classes for half a day and work as part-time bank employees for the remainder of the day. In the second community activity the bank provides a specialized occupational information presentation to schools upon invitation which concerns job opportunities available at the bank and the requisites for employment.)

Program Facts

The two-day Job Fair which resulted from Detroit community cooperative efforts took place two weeks after graduation (mid-July 1968) to avoid any conflict of interest with commencement activities. Students had first been encouraged to find their own jobs, and the Job Fair was actually geared to securing employment for those unable to find jobs. A total of 503 students participated; the majority of participants were female minority group members.

The Detroit Job Fair was coordinated under the direction of the Guidance and Counseling Department of Detroit Public Schools. The Institute of Labor and Industrial Relations of Wayne State University provided the space for the activities, and the Wayne State Guidance Department provided the counseling services of graduate students enrolled in a summer-session occupational information class. Orientation for the 48 student counselors was undertaken by personnel from the Detroit Public School System and MESC. It included treatment of such items as punctuality, personal appearance, and references, in addition to the importance of entry jobs. The use of student counselors provided a good opportunity for in-service training and was a helpful contribution since regular school counselors were vacationing.

MESC arranged for the participation of the employer. A total of 32 employers participated with representation including department stores, food stores, banks, hospitals, automobile companies, an airline, a beverage company, a clothing store, a bedding manufacturer, a telehpone company, an employment agency, and a government agency.

For publicity purposes, fliers were distributed to all seniors enrolled in Detroit's public and parochial high schools. Officials also alerted television and radio personnel to the Detroit Job Fair. And finally, publicity was provided by Detroit's Youth Opportunity Center.

The first day's activities were based on a Readiness Clinic which included small group and individual counseling, coaching and a film on job-seeking techniques, and issuance to each applicant of three introduction cards for scheduling interviews with prospective employers. The second day's activities consisted of interviews conducted by employers.

Results

As a result of the Job Fair, more than 200 graduates were given employment: 119 were hired on the spot and 80 more were later hired. Unsuccessful job seekers were to be contacted by MESC for additional testing, counseling, and referral.

Projected Improvements

Experience with the Job Fair pilot project led to a number of suggestions for improvement. It was suggested, for example, that for efficient operation, the Clinic Day and the Employer Day should be a few days apart; that company application forms should be completed on Clinic Day to allow as much time as possible for interviews during Employer Day; that a central scheduling approach should be used to establish appointment time and information for both applicant and employer; that placement of interview tables should offer the interviewee maximum privacy; and, that employers should provide complete job descriptions for use by counselors prior to the Fair.

For information, contact

Employment Supervisor
Bank of the Commonwealth
719 Griswold at Fort
Detroit, Michigan 48226

OR

Detroit Job Fair
Detroit Public Schools
5057 Woodward Avenue
Detroit, Michigan 48202

SKILLS TRAINING
for PROSPECTIVE EMPLOYEES

Goldsmith's Department Store
and the Memphis City Schools

Beginnings

Goldsmith's Department Store of Memphis, Tennessee, in cooperation with the National Alliance of Businessmen (NAB) and the Memphis school system's Distributive Education Department, has instituted a program designed to help "unemployable" persons acquire and maintain jobs in retailing.

Goldsmith's is a member of the Federated chain, and in the summer of 1968 Federated held a conference for training directors from all member stores for the purpose of stimulating the establishment of training programs for the disadvantaged. Goldsmith's training director responded by initiating a program to aid the inner-city minority disadvantaged of Memphis--a city of some 600,000--in learning job skills. The program is conducted in cooperation with the Distributive Education Department at Memphis Carver High School.

Program Facts

The Goldsmith program is aimed at "unemployables" aged 22 to 45 who have received screening approval from the local federal anti-poverty agency. The store conducts recruitment, screening, and selection activities, and pays all program costs; the school system provides an instructor and various educational materials. Since Goldsmith's hires almost all trainees, the program is designed to fill jobs available within the store.

Instruction, which takes place on store premises, includes initial orientation, skills training, and brief sensitivity sessions. Sensitivity training is conducted not only for trainees but also for department heads. Counseling is a regular part of the program and is offered throughout the training session. Concepts of social responsibility toward the community are also explored and good grooming techniques are dramatized by providing participants with "cleaniness kits" (deodorant, soap, etc.).

A typical training cycle lasts six weeks and has included from 5 to 12 trainees. A "buddy" system is used to aid the trainees' adjustment; thus information is provided both in terms of job requirements and personal needs. Trainees are paid by the employer on a daily basis initially to provide exposure to budgeting needs and techniques.

Problems and Solutions

Before program operations were underway, it was anticipated that trainees might experience various problems with money, e.g., lack of bus fare, lunch money, etc. Accordingly, a petty cash fund was established so that trainees could obtain loans to handle such contingencies. Monetary arrangements were also made for medical, dental, and clothing needs. Additionally, lectures and films illustrating money management were provided.

Results

Since the program's inception in June 1968, no major problems have arisen with either initial or subsequent training groups. Goldsmith's personnel are well pleased with the results of their efforts, and the store intends to continue the program on a permanent basis.

For information, contact

Training Department
Goldsmith's Department
Store
123 South Main
Memphis, Tennessee 38101

OR

Distributive Education Department
Carver High School
1591 Pennsylvania
Memphis, Tennessee 38109

Mobile Industrial Training Units: The New Jersey Approach to Work Experience Programs

Beginnings

The New Jersey State Department of Education has developed a unique approach to providing work experience for children from seasonal and migrant families. Every summer a substantial number of such families come to New Jersey to seek summer work on farms; and, due to the large number of children in these families (as many as 3600), a mobile training program was initiated to provide them with knowledge of and exposure to the world of work.

Because the migrant or educationally disadvantaged child is beset with many problems in making the transition from his present pattern of living to that of a complex American industrial society, a buffer zone is needed to aid the adjustment process. Otherwise the frustration generated from an abrupt move from one world to another would probably lead to failure.

To minimize the effects of the transition, a buffer is provided by the New Jersey State Department of Education through an introductory program of instruction, exposure, and guidance provided by mobile units. The mobile units, 10' x 60' and completely self-contained, travel to the various school districts in the state where they park and offer several services.

Three mobile approaches exist. In addition to the industrial approach herein reported (i.e., Exposure to the employment process and to manufacturing processes), a business education learning lab was established to familiarize students with the operations, functions, and duties involved in the use of various business machines. Skills are not taught. Rather students are conditioned to become confident in the use of office machines. A third approach, the multi-occupational training unit, is planned which will provide training for supermarket checkers and for automotive tune-up specialists two occupations which are currently in demand.

Program Facts

The mobile units operate year round, serving five migrant education centers and ten school districts within the state. The success of the mobile unit approach depends on the close cooperation of industry, business, local school districts, and the State Department of Education.

All instructional techniques are relevant to the total operation. Therefore, the student sees not only the relationship between training lessons and immediate program objectives but also the connection between training and the ultimate objective of getting and holding a job.

Program Content: Orientation Phase

Program content for the industrial approach is aimed at teaching industrial concepts and includes everything in the employment process from the application form to job placement. Emphasis is primarily on development of the attitudes, values, skills, and habits necessary for obtaining a job

and advancing in the position.

As a preliminary step, the employment application is explained. Next, telephone techniques for scheduling employment interviews are practiced with a "prospective employer." Representatives on loan from local industry conduct short employment interviews which are video-taped for diagnostic purposes. A critique by the interviewer provides the student with a professional assessment of his performance in the interview process. Finally, each "applicant" is hired and instructed to report to work the following day. Punctuality and attendance are emphasized and the student is instructed in the use of the time clock and its function in the determination of pay.

Program Content: Production Process

The work component in this work-experience program is extremely realistic. Raw materials are obtained from various industries within the area and the work closely parallels that of industry. Materials are collected by a truck which accompanies the unit, and the technique is used to familiarize students with processes of shipping and receiving, loading and unloading, and also procedures required for filling out shipping orders.

When raw materials are received, goods are stacked and inventoried in preparation for the assembly process. Goods are fabricated by means of a 20' conveyor belt which is equipped with variable speeds. A quality control station monitors production and traces defects revealed in the control process. Completed quality products move to bulk packaging, the conveyor belt is reversed, and the products are loaded on the truck for shipment.

The primary emphases in the production process are teamwork, efficiency, accuracy, and human relations. The production process and the skills are important, but secondary. Safety is also stressed throughout the operation. And finally, exposure is maximized by rotating students on each job.

Related Program Efforts

Information supplemental to the production process is provided in two areas: payroll procedure and consumer knowledge. Areas pertinent to the payroll procedure include computation of wages and hours, piecework computation and related mathematics. The math program, conducted on an experimental basis in cooperation with Olivetti Underwood, consists of using calculators to solve problems which arise as a result of the industrial process. Paychecks are computed and students receive non-negotiable checks. Banking and budgeting are explored in an attempt to aid the student in handling his personal finances, and a local bank representative is invited to instruct students in cashing checks and opening bank accounts.

Results and Implications

The mobile training program has been in operation since summer 1968. And, although no formal data have been reported, ten students have been successfully placed on assembly lines in two of the cooperating companies.

The implications of the mobile approach to training are many. Conceivably, the approach could be applied to (1) working with mentally retarded, physically handicapped, emotionally disturbed and slow-learning students; (2) adult education for rural poor, urban disadvantaged, migrants or seasonal workers; (3) evaluation stations for individuals entering sheltered workshops; and (4) pre-vocational orientation stations at industrial sites.

For information, contact

Administrative Assistant
Vocational Programs for Migrant & Seasonal Families
New Jersey State Department of Education
Trenton, New Jersey

PRE-EMPLOYMENT REMEDIAL EDUCATION/SKILLS TRAINING
for PROSPECTIVE EMPLOYEES

T A T:
the Training and Technology Project

Purpose

The Industrial Skill and Technical Training Program of the Training and Technology (TAT) Project at Oak Ridge, Tennessee is a 52-week program providing advanced level industrial skills and technical training for the underemployed and unemployed. TAT has the dual purpose of providing fuller utilization of human resources while also filling some of the critical manpower needs of modern industry. It is based on the concept that excess training capacity of industry can be used in combination with resources of education and government to expand and expedite manpower training.

The program is being conducted by Union Carbide Corporation-Nuclear Division, operating contractor of the U. S. Atomic Energy Commission (AEC); the University of Tennessee; and Oak Ridge Associated Universities (ORAU) in cooperation with the Tennessee Department of Employment Security, the Tennessee Division of Vocational-Technical Education, and organized labor. It is supported by funds from the U. S. Department of Labor and the Atomic Energy Commission.

Program Facts

Training occurs in six occupational areas: physical testing technology, mechanical engineering technology, general mechanics, machining, welding (2 sections of 26 weeks each), and electronic technology. The program has a total of 190 twelve-month "slots" or training positions, the average training time being six or seven months. As trainees are graduated to jobs, new trainees are brought in to fill the vacant slots. In this way over 300 persons are trained during the year. Approximately 41% of the trainee population is comprised of minority group members (mostly Negroes, a few Cherokee Indians). Seventy-five percent of the population is within the 18-25 age group; the remaining 25% is aged 25 and over.

Participants are paid weekly, subject to reduction for absenteeism, by MDTA (Manpower Development and Training Act) funds. An average of three hours per day is spent in classroom instruction and the remaining five hours are spent in shop and laboratory instruction. Individual counseling for program participants is provided on a regular basis and includes both academic and personal counseling. The company staff is comprised of 60 personnel (most of whom are part-time), and the school staff consists of 12 ORAU personnel.

Results

A total of 524 trainees (85% of those who began the program) completed the first phase of TAT, which operated from June, 1966 to July, 1968. Of those who have completed the program and are employed by the company, all are on the job for which they were trained. Turnover

is approximately the same as among regular employees, and trainee satisfaction is reportedly high. The program is considered to be relatively inexpensive since use is made of existing facilities and equipment.

As a result of the success of the TAT program, the Department of Labor and the Atomic Energy Commission are jointly supporting a new program, TAT-Phase II. Under this program, AEC and the Department of Labor, using MDTA funds, jointly support a program to find, prepare, and train local disadvantaged people to qualify them for entry-level employment. Educationally deprived trainees are identified through a recruitment intake network of cooperative linkages with the Neighborhood Youth Corps, the Bureau of Work Training Programs, and other agencies. Trainees participate in special part-time job-preparatory programs which offer instruction in mathematics, communications, and "trade science." About 200 trainees per year from these preparatory programs, along with trainees recruited elsewhere, receive full-fledged occupational training for six to twelve months in the regular TAT-Phase II program. Trainees are then placed on industrial jobs where they receive further specialized training.

For information, contact

Training Director
Y-12 Plant
Union Carbide Corporation,
Nuclear Division
P. O. Box Y
Oak Ridge, Tennessee 37830

OR

Oak Ridge Associated
Universities
Badger Avenue
P. O. Box 117
Oak Ridge, Tennessee 37830

VOCATIONAL GUIDANCE INSTITUTE for SCHOOL COUNSELORS
INDUSTRY VISITATION for DISADVANTAGED IN-SCHOOL YOUTH

Goodyear Tire and Rubber Company
and the Akron Public Schools

Beginnings

Goodyear Tire and Rubber Company (in addition to Firestone Tire and Rubber Company, Ohio Bell Telephone, the Akron hospitals, and Summit City Building Trades) cooperates with the Akron Public School System to provide summer work experience for high school counselors from Akron inner-city schools. The goal of the program is to familiarize counselors with the jobs available for the disadvantaged and the training needed for those jobs. This unique approach was initiated in an effort to inject realism into counselor training and to render counselors more capable of properly guiding inner-city youth and of improving students' knowledge of job opportunities.

Program Facts

Several Akron secondary schools participate in the three-year old program. The schools are responsible for recruitment, screening, and selection activities while the companies provide occupational information, placement, and on-the-job training on company premises.

Students were included in the program of exposure so that, hopefully, they could relay credible information to their classmates through a slide presentation of their experiences. Thus from each participating school, students recognized as leaders of below average or average school classes were selected to participate with the counselors in order to provide for credibility and to optimize identification of fellow students with the student participant.

Counselors and students spend from six to eight weeks in the company for eight hours each day during the summer. They observe, question, and investigate the entry-level job opportunities available in these companies for students out of school. Both counselor and student trainees are paid by the employer. In a typical program cycle, 75% of the participants are white and 25% are black.

The use made of program offerings by the counselors is relatively individualized. Each participating counselor adapts the program to the particular needs of the students he serves. Since many of the same counselors participate every year, program officials try to enrich the program by adding new elements yearly. Furthermore, counselor critiques are requested and the resulting feedback is used to improve the program.

Results

According to school officials, the most significant change which cooperation with industry has effected is in the mathematics curriculum and

in counseling. One of the greatest benefits of the program has been the establishment of better communication. Reportedly, the counselors and the business people each have begun to understand and appreciate the positions of the other.

For information, contact

Manager, Management Training
Goodyear Tire & Rubber Co.
114 East Market Street
Akron, Ohio 44316

OR

Director, Child Services
Akron Public Schools
70 North Broadway
Akron, Ohio 44316

VT 012 218
Ognibene, Gerald L., Ed.
Sources of Occupational Information.

Ohio State Dept. of Education, Columbus. Div. of Guidance and Testing.
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ABSTRACT - Locating appropriate up-to-date occupational and related educational information is one task which persistently faces counselors, school libraries, and teachers of group guidance units or courses. To help with this problem by providing information concerning the range of present resources, this resource guide was prepared with both a title index and a supplier index. References are grouped according to (1) United States Government, (2) State Sources, (3) Military Sources, (4) Commercial Sources, and (5) National Associations. Many of the documents listed include an annotation. (JS)

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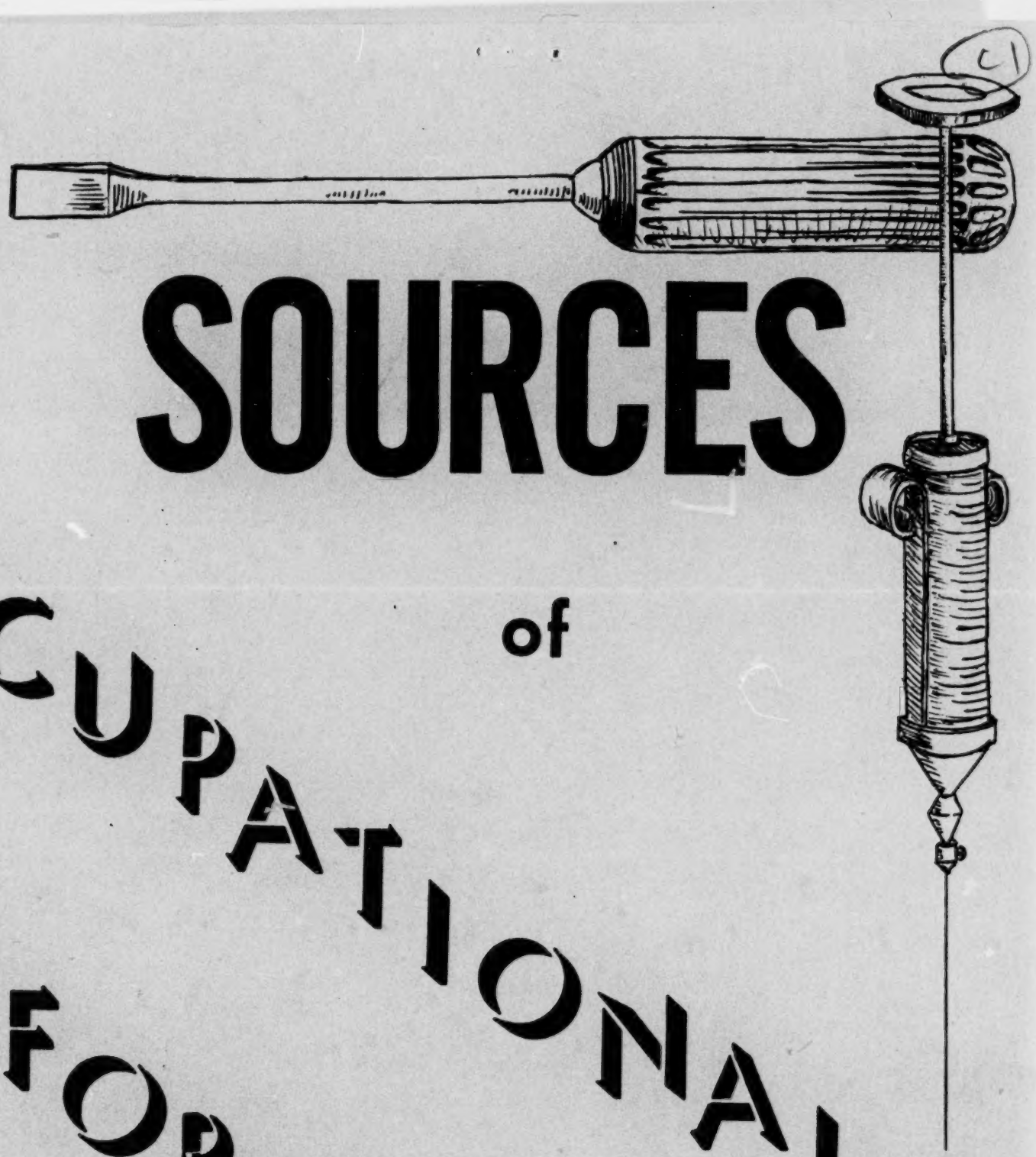
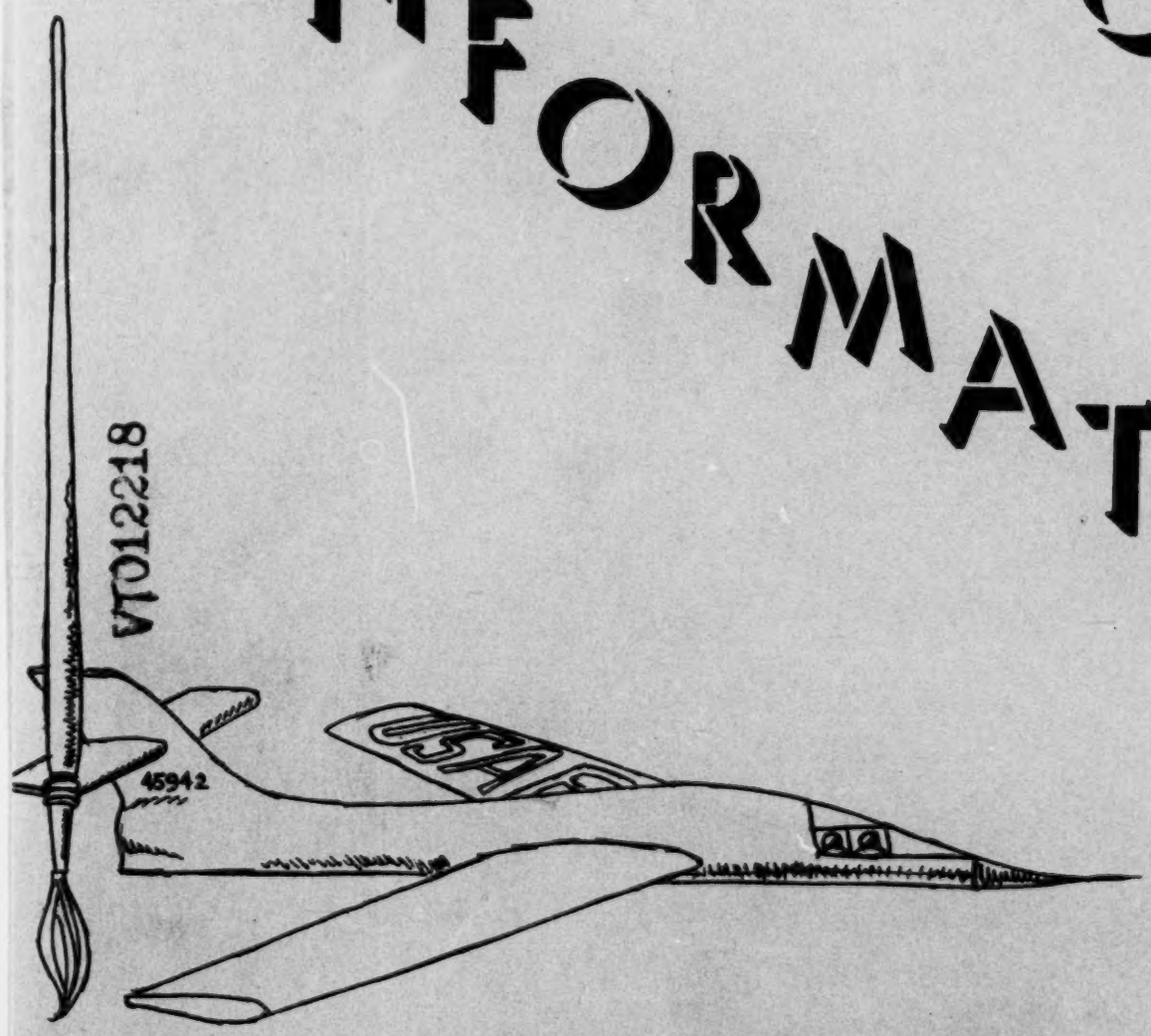
SOURCES of OCCUPATIONAL INFORMATION





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3927

SOURCES OF OCCUPATIONAL INFORMATION

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State Superintendent of Public Instruction

Published by

Division of Guidance and Testing
State Department of Education
751 Northwest Boulevard
Columbus, Ohio 43212

September, 1970

3928

Foreword

Locating appropriate up-to-date occupational and related educational information is one of the tasks which persistently faces counselors, school librarians, and teachers of group guidance units or courses. The purpose of this publication is to identify some of the many sources of occupational information and to describe some of the representative publications which are available. Hopefully, counselors will become better informed of the range of present resources and better equipped to evaluate new materials through use of this publication.

In preparation for this publication, an inquiry was sent to all contributors to our 1968 edition of Sources of Occupational Information, to others who since that time have provided the Division of Guidance and Testing with copies of recent publications or information regarding such publications, and to any publishers of materials believed to be appropriate for listing in this edition. All references included have been published recently, contain general sources of information, and meet one or more of the following objectives:

1. Present sources of available occupational information.
2. Identify materials presenting occupational information for students, counselors, and others involved in educational services.
3. Describe techniques for gathering, organizing, and using occupational information.

References are grouped according to source in order to eliminate duplication in listing publishers. Two separate indexes have been prepared - one by title and one by supplier - in order to provide easy access to the information.

JGO/jv
September, 1970

John G. Odgers, Director
Division of Guidance and Testing

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US GOVERNMENT SOURCES

MANPOWER ADMINISTRATION
U.S. DEPARTMENT OF LABOR
WASHINGTON, D. C. 20210

Following is a selected list of publications on manpower and related matters. Unless otherwise indicated, single copies can be obtained free by writing or telephoning the Manpower Administration, U.S. Department of Labor, Washington, D. C. 20210. For publications not available free and for multiple copies of all priced items, write the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402, and enclose payment.

Apprenticeship: Past and Present - This pamphlet traces development of apprenticeship from early days up to the present time and points to some directions of future activity. $ .25.

Breakthrough for Disadvantaged Youth, 1969 - A report which analyzes the experiences of 55 Manpower Administration projects, identifying successful concepts, procedures, and organizational forms. $2.00.

The report is divided into the following areas:

Impact on the Community
Recruitment and Community Penetration
Testing, Counseling, and Supportive Services
Basic Education
Prevocational and Vocational Training Programs
Job Placement, Creation, and Development
Using the Non-professional
Research

Counselor's Guide To Occupational and Other Manpower Information - An annotated bibliography of selected government publications. Up-to-date and accurate occupational and other manpower information is essential to wise vocational decisions. In recognition of this need, Federal, State, and Local government agencies are issuing an increasing number of publications which have implications for career decisions. $1.00.

Dictionary of Occupational Titles - Third Edition, in two volumes. Volume I (1965, 809 pp.) lists in alphabetical order over 35,000 job titles in the American economy. Provides definitions for almost 22,000 individual occupations. $5.00.

Volume II (1965, 656 pp.) arranges jobs according to a combination of work field, purpose, product, subject matter, and industry. It also groups jobs according to abilities and traits required of workers. $4.25.

Selected Characteristics of Occupations (Physical Demands, Working Conditions, Training Time), A Supplement To The Dictionary of Occupational Titles, Third Edition. (1966, 280 pp.) - Lists individual physical demands, working conditions, and training time data for all jobs defined in the Dictionary. The information provides additional source material for determining job relationships in such activities as vocational counseling, personnel and manpower activities, training, rehabilitation, and placement. $2.75.

Selected Characteristics of Occupations By Worker Traits and Physical Strength, Supplement 2 To The Dictionary of Occupational Titles, Third Edition. (1968). - A rearrangement of the data contained in the first supplement. The data is presented by the worker trait groups contained in Volume II of the Dictionary. They are then subgrouped by level of strength required. The supplement will be useful in counseling and placement activities, particularly in determining utilization, transfer, and placement possibilities for handicapped and aged workers. $1.25.

Training Manual For The Dictionary of Occupational Titles, Third Edition. Part A, Instructor's Guide (1965, 23 pp.) - Provides a guide to instructors for initiating and conducting the self-training program covering the Dictionary. $.25.
Part B, Trainee's Workbook (1965, 323 pp.) - A self-instructional text, presented in the form of a linear program, covering the contents, structure, arrangement, and use of the Dictionary. $1.75.

An Employer's Guide To On-The-Job Training - Employer's step-by-step guide to obtaining financial and technical on-the-job training assistance under the Manpower Development and Training Act.

Guide to Local Occupational Information (1969, Third Edition). - This publication is a directory of selected State employment services' studies intended to provide current local occupational information for use in designing training programs, for counseling in local public employment offices and schools, and to offer individual jobseekers and vocational counselors concrete information on job opportunities in specific occupations or groups of occupations.

Health Careers Guidebook (1969). - Written and designed to appeal to young people who are interested in planning a career in the health field. Describes more than 200 jobs in this field and contains information about educational, training, and licensing requirements; job prospects; salaries and working conditions; personal qualifications required; and sources of additional information. $1.75.

How To Train Workers On-The-Job - This pamphlet is designed to help the skilled worker become a skilled instructor. It is a bridge between doing and teaching. Revised 1970.

Interviewing Guides for Specific Disabilities: Alcoholism. 1969, 9 pp. - This interviewing guide, prepared by the United States Employment Service is designed to acquaint the counselor with the nature of alcoholism and to assist him in understanding the medical and psychological aspects of the disease. The guide will be useful in determining whether or not an alcholic may be considered recovered for purposes of employment and in helping other alcoholics to achieve employability. $ .10.

Interviewing Guides for Specific Disabilities: the Mentally Restored. 1969, 16 pp. - This interviewing guide prepared by the United States Employment Service is designed to acquaint the counselor with the nature of mental illness and to assist him in understanding the medical and psychological terminology associated with it. The guide will be useful in assessing a mentally-restored applicant's employment capacities in relation to a suitable field of work or specific job. It is not intended to be used for the purpose of diagnosing any mental or emotional disurbance. $ .10.

Job Guide for Young Workers (1969-70) - Presents highlight information on entry jobs or fields of work frequently held by young people leaving high school. Provides information on employment prospects, qualifications for jobs, usual duties, characteristics of the jobs, and how and where jobs are obtained. Also directs the young jobseeker to Federal and State agencies which can provide job information and counseling. Includes selected readings and some tips on how to get a job. $1.50.

Manpower - The official monthly periodical of the Department of Labor's Manpower Administration. $7.50 a year.

Manpower and Operations Research Studies of the U.S. Employment Service and State Employment Services, 1958-67 - Covers research in job market conditions and developments, occupational analysis techniques, job opportunity information services to employers and workers, and counseling and testing.

Manpower Programs - Following is a series of pamphlets and flyers describing manpower programs. Flyers and single copies of the pamphlets may be obtained without charge from the Manpower Administration, U.S. Department of Labor. Pamphlets may be purchased in larger quantities from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. $. 15.

Apprentice Training-Sure Way to a Skilled Craft

The Concentrated Employment Program-Total Service for the Unemployed and the Underemployed

Cooperative Area Manpower Planning System-Concentrating Manpower Services Against Poverty

The Experimental and Demonstration Program-Exploring New Approaches to Manpower Problems

The JOBS Program-An Assault on Hard-Core Jobless Problems

Manpower Development and Training-Preparing People for Good Jobs

The Neighborhood Youth Corps-Hope and Help for Youth

New Careers-Jobs with a Future and a Profession

Older Workers-Manpower Programs for Senior Citizens

Public Service Careers-Jobs and Advancement in Public Agencies

Work Incentive Program-From Welfare to Wages

Work Training in Industry-Training Out-of-School Youth for Available Jobs

Youth Opportunity Centers-Focus on Youth and Jobs

Manpower Report of the President - including a report on manpower requirements, resources, utilization, and training. $2.00.

Merchandising Your Job Talents, 1969 - This brochure offers suggestions on: self-appraisal, preparing a resume, letter of application sources of job information, and the job interview. $ .25.

The National Apprenticeship Program - Its aims, organization, and how it operates.

Occupational Analysis of Computers in Medical Sciences - Brings together in one 90-page pamphlet information on new computer technology as applied to medical sciences. Describes 19 computer occupations in this field.

Occupational Guides - Oceanography; Optometry - First two of a series. Each guide contains summary of occupational opportunities; statement of education, training, and experience required; description of worker traits; and job market information. $1.00.

Occupations in the Care and Rehabilitation of the Mentally Retarded - Discusses problems peculiar to the care and rehabilitation of those afflicted with mental retardation; also describes 27 occupations involved in such care and rehabilitation. $ .35.

Occupations in Electronic Computing Systems (1965, 72 pp.) - Describes 23 different occupations peculiar to the electronic computing field. Gives the education, training, and characteristics required of the worker by the job, and lists the physical activities and environmental conditions usually encountered. Also has a glossary of technical terms, a bibliography, and a listing of organizations, colleges, and universities where additional information about electronic computing systems may be obtained. $ .30.

Occupations in the Field of Library Science - Presents occupational descriptions, special worker characteristics, and working conditions for 22 occupations in Library Science. Also included is staffing pattern of typical library. $ .30.

Selected Occupations Concerned With Atomic Energy - Information on 14 jobs in the peaceful application of atomic energy, including worker trait requirements. $ .25.

Setting Up An Apprenticeship Program - This booklet is a step-by-step guide for use by employers and joint employer-labor committees. It explains the qualifications, requirements, and attainments of apprentices, the organization of employer and joint committees, minimum training standards, job instruction, cost factors, examples of records and occupations, apprenticeship agreements, Federal and State goverment assistance available.

Technical Report on Occupations in Numerically Controlled Metal-Cutting Machining - Discusses the changes in these machining occupations due to introduction and use of automatically controlled machine tools, implications for future, and descriptions of 14 new and changed jobs. $ .45.

Train for a Skilled Trade Through Apprenticeship - Flier addressed to veterans soliciting interest in apprenticeship.

Training and Reference Manual for Job Analysis, (May, 1965) - Basic guide for occupational analysts and other personnel workers concerned with the techniques and procedures for collecting source data essential to development of occupational information materials. $ .60.

Transition From School to Work in Selected Countries - Bureau of Labor Statistics booklet surveys transition from school to work in more than a dozen other countries, selected on basis of comparability to U.S. with regard to political and personal freedom, economy, institutions, and availability of data. Covers role of general education in preparation for work, vocational guidance and counseling, vocational education and training, and young worker on job threshold and on the job.

Vocational Education and Occupations - U.S. Office of Education/ U.S. Training and Employment Service, jointly, 1969, 307 pp. A two-way conversion document that links occupations and their worker trait groups with vocational-technical education programs of State and local schools. $2.25.

OCCUPATIONAL OUTLOOK SERVICE
BUREAU OF LABOR STATISTICS
U. S. DEPARTMENT OF LABOR
WASHINGTON, D. C. 20212

Bureau of Labor Statistics Catalogue of Publications, January-June 1969 - A semiannual listing of all publications issued by the BLS during the six preceding months.

Looking Ahead to a Career, 1967 - A set of 36 color slides (2" x 2", 33 mm.) that show the changing occupational and industrial mix and what it forecasts over the next decade for manpower developments, education, and training. A correlated narrative accompanies the slides.

Occupational Outlook Handbook - More than 700 pages are well illustrated with pictures and charts, and provide information on about 700 occupations and 30 major industries. The occupational statements describe employment outlook, nature of work, and tell where to get additional information. $4.25.

Occupational Outlook Handbook Reprints - A series of 119 reprints of sections of the Handbook on specific occupations and industries. For free price list of these reprints, write to the above address. Prices range from $ .05-.15.

Occupational Outlook Quarterly - Issued four times during the school year, this magazine provides a means of keeping current on developments affecting employment trends and outlook between biennial editions of the Occupational Outlook Handbook. Annual subscription, $1.50.

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U. S. CIVIL SERVICE COMMISSION
WASHINGTON, D. C. 20415

A variety of public information pamphlets are used by the Commission to inform its publics about Commission programs and activities; describes opportunities in the Federal Service, and explains employee rights and benefits.

Information about specific job opportunities may be obtained from the Interagency Board of U. S. Civil Service Examiners at the following addresses: 1909 East 13th Street, Cleveland, Ohio 44114; Knott Building, 7 East Fourth Street, Dayton, Ohio 45402; and Room 1523, Federal Office Building, 550 Main Street, Cincinnati, Ohio 45202.

U. S. Civil Service Pamphlets - #4, "Working for the U.S.A." (General information about Federal employment), $ .15; #5A, "Thinking About Your First Job?" (Acquaints high school students with employment opportunities in the Federal service); #29, "Federal Jobs Overseas" (To answer questions about employment in United States territories and in foreign countries), $ .10; #35, "Federal Careers for Women" (General information about career opportunities for women in the Federal service, with emphasis on technical and professional positions), $ .10; #51, "Reemployment Rights of Federal Employees Who Enter Active Duty in the Armed Forces" (Explains rights of Federal employees who leave their jobs to enter the Armed Forces), $ .05; #58A, "Opportunities in Trades and Crafts with the Federal Government" (Information on jobs for skilled and unskilled workers, apprentices, helpers, and laborers); #64A, "Opportunities in the Federal Civil Service for Returning Peace Corps Volunteers"; #65, "Equal Opportunity in Federal Employment", $ .05; #66A, "Civil Service and the Nation's Progress" (The role of the civil servant in the progress of the Nation).

WOMEN'S BUREAU
WAGE AND LABOR STANDARDS ADMINISTRATION
U. S. DEPARTMENT OF LABOR
WASHINGTON, D. C. 20210

Publications of the Women's Bureau - A price list of publications including those on employment opportunities for women, with brief annotations of recent publications. Currently Available Free.

Why Not Be An Engineer? - A leaflet describing various opportunities for women in the field of engineering, qualifications needed, salaries, and working conditions. Single copies free. Available in quantity, U. S. Government Printing Office, Washington, D. C. 20402. $ .05.

STATE SOURCES

ALABAMA DEPARTMENT OF
INDUSTRIAL RELATIONS
MONTGOMERY, ALABAMA 36104

Alabama Job Guide for Young Workers - October, 1966. Available upon request.

Occupational Guides - Selected demand occupations, published monthly. Available upon request.

ARIZONA STATE EMPLOYMENT SERVICE
P. O. BOX 6339
PHOENIX, ARIZONA 85005

Arizona Occupational Briefs - Part I (1967) and Part II (1968). The briefs include job descriptions, training and other qualifications, earnings, lines of advancement, where employed, and the Arizona employment outlook. These briefs are designed for students of the secondary and post-secondary level.

Mini Guides - A series of 125 Guides, designed for the low-level reader, on all types of occupations from low-skilled to professional. Pictorial materials rather than narrative are used in the presentation.

CALIFORNIA DEPARTMENT
OF HUMAN RESOURCES DEVELOPMENT
SACRAMENTO, CALIFORNIA 95814

About 400 "Occupational Guides" are published indicating the status of particular occupations in various sections of the state. An "Occupational Guide Index" is available upon request.

GEORGIA STATE
DEPARTMENT OF EDUCATION
STATE OFFICE BUILDING
ATLANTA, GEORGIA 30334

Items listed are available in single copies at no charge. Requests should be addressed to:

Leadership Services
Division of Vocational Education
State Department of Education
Atlanta, Georgia 30334

Area Vocational-Technical Schools of Georgia - Second Edition, 1967. A catalog listing the State and area vocational-technical institutions of Georgia, with course offerings, school regulations, course descriptions, entrance requirements, etc. 91 pages.

Career Information for Counselor's and Students - Occupational Information Center for Education - Industry. Provides a description of jobs available within industries in the greater Atlanta area. Includes brief description of the employing industry, description of work, job requirements, job preparation, and opportunities for additional training and advancement.

Conference Report, Conference on Ways the Area School Personnel Worker and the High School Counselor Can Work Together, 71 pages.

Conference Report, First National Conference on Student Personnel Services in Area Vocational-Technical Schools, 1967.

Counselor's Guide to Area Vocational-Technical Schools of Georgia - Existing edition is currently under revision, 1965. This 37-page booklet provides data enabling the counselor to use the Dailey Vocational Test scores in assisting students to relate abilities to course offerings in area vocational-technical schools.

Developing a Program of Student Personnel Services for Area Vocational-Technical Schools - Final Report, Research Project 236, 1969, 261 pages.

Formulation of Models for Preparing Occupational Materials for Pupils from Various Socio-Economic Levels in Grades Three Through Eight - Includes personal and vocational information designed to motivate students to remain in school until they have received vocational training.

High School Counselor's Guide for Vocational-Technical Night - Guide for orientation program for high school students wishing to learn about post-secondary area vocational-technical schools. To be used by high school counselors, 20 pages.

Objectives, Structure, and Implementation of Georgia's Program of Educational and Career Exploration - Rationale, approach, procedures, evaluation, and current status of the Georgia Program of Education and Career Exploration (PECE). PECE is a career exploration program for the middle grades, 11 pages.

Teacher's Guide for Vocational Education Telelessons - Guide to 16 television films to be used in programs of career exploration. Includes suggested pre- and post- film activities, 61 pages.

Teachdays information packet - This packet of materials includes copies of "Coordinator's Handbook for TEACHDAYS," TEACHDAYS brochures, sample letters and response documents for mailing to Georgia businesses, and related data. (TEACHDAYS is Georgia's vocational-technical job placement program.)

The In Crowd, 1967 - An eighteen-page booklet describing high school vocational education offerings for late-elementary and early junior high Georgia students. The material is presented in light, informal style, and large amounts of photography and line drawings are employed.

INDIANA EMPLOYMENT
SECURITY DIVISION
10 NORTH SENATE AVENUE
INDIANAPOLIS, INDIANA 46204

The Division publishes numerous occupational guides about specific job areas. List available upon request.

IOWA EMPLOYMENT SECURITY COMMISSION
1000 EAST GRAND AVENUE
DES MOINES, IOWA 50319

Occupational and Manpower Information - A resource publication which lists and describes the informational materials available upon request. Among the many publications listed is the "Job Guide Series" consisting of five different career area booklets:

Careers in Food Service
Careers in Health Services
Apparel and Furnishing Careers
Careers in Clerical Occupations
Selected Construction Crafts

Each includes an area - of - work narrative which discusses trends, outlook, the effects of technological change, and the comparative advantages and disadvantages of the occupational area.

KANSAS EMPLOYMENT SECURITY DIVISION
RESEARCH AND INFORMATION DEPARTMENT
401 TOPEKA AVENUE
TOPEKA, KANSAS 66603

Kansas Job Guides - A publication which lists 85 selected occupations in Kansas requiring a high school education or less. Information is provided on the nature of the work, working conditions, wages, entry requirements, employment outlook, and method of entry. Free upon request.

Kansas Job Opportunities - A quarterly publication which presents job market developments within the state. Free upon request.

MAINE COOPERATIVE
EXTENSION SERVICE
UNIVERSITY OF MAINE
ORONO, MAINE 04473

Let's Explore Your Career - Is designed to assist young people in self analysis from standpoint of interests, ability, and personality with relation to occupational choice. Leader's guide also available, 1968.

BUREAU OF GUIDANCE AND SPECIAL EDUCATION
STATE DEPARTMENT OF EDUCATION
AUGUSTA, MAINE 04330

Bibliography of Career Books, May 1965 - An annotated listing of fictional and non-fictional books dealing with careers. Includes both elementary, and secondary sources.

BUREAU OF VOCATIONAL EDUCATION
DEPARTMENT OF EDUCATION
COMMONWEALTH OF MASSACHUSETTS
182 TREMONT STREET
BOSTON, MASSACHUSETTS 02111

The Career Information Service: A Guide to Its Development and Use - Bureau of Vocational Education, Department of Education, Commonwealth of Massachusetts, May 1968. This publication was selected by Robert Hoppock as one of the ten best books on vocational guidance in 1968. It elaborates on how to set up a career information service as the project does in Newton High School. Copies are three dollars and may be secured by writing to:

Career Information Service
Southeastern Regional Vocational-Technical School
250 Foundry Street
South Easton, Massachusetts 02375

MOVE - Massachusetts Opportunities in Vocational Education. The Division of Occupational Education, Department of Education, Commonwealth of Massachusetts, December 1968. Dwyer, William A., and Morine, John P. A pictorial and written account of occupational-technical education in Massachusetts. Copies are free and may be procured from:

MOVE
Blue Hills Regional Vocational-Technical School
100 Randolph Street
Canton, Massachusetts 02021

Wheels of Change - A 26 minute color-sound motion picture of opportunities in occupational-technical education in Massachusetts developed by the Division of Occupational Education. Has been used for occupational classes to show many occupations in the trade and technical fields as well as youth considering occupational education. May be secured by writing:

Visual Aids
Department of Education
182 Tremont Street
Boston, Massachusetts 02111

MICHIGAN EMPLOYMENT
SECURITY COMMISSION
7310 WOODWARD AVENUE
DETROIT, MICHIGAN 48202

The Michigan Job Brief Series - Index is available upon request. The 107 Job Briefs relate to careers in the skilled through professional area.

MINNESOTA DEPARTMENT
OF EMPLOYMENT SECURITY
369 CEDAR STREET
ST. PAUL, MINNESOTA 55101

Publications relating to the following occupations are available: drafting, keypunch, and tabulating. In addition, the following publications are available upon request:

Minnesota Health Service Survey
Minneapolis-St. Paul Area Shortage Occupations Study
Summary of Current Economic Facts and Labor Force Data
Minnesota, Minneapolis, St. Paul Metropolitan Area Occupational Employment
Minnesota Shortage Occupation Study
Minnesota County Wage Data
Minnesota County Work Force and Wage Data, 1964-1968

MISSISSIPPI EMPLOYMENT SECURITY COMMISSION
EMPLOYMENT SERVICE DIVISION
P. O. BOX 1699
JACKSON, MISSISSIPPI 39205

Forty-one statewide Occupational Guides describing a variety of career fields are available free upon request.

NEW JERSEY DEPARTMENT OF LABOR AND INDUSTRY
DIVISION OF PLANNING AND RESEARCH
LABOR AND INDUSTRY BUILDING
TRENTON, NEW JERSEY 08625

The Agency publishes numerous "Job Guides" on a variety of occupations. Each booklet presents information on a particular occupation in format similar to the Occupational Outlook Handbook.

NEW MEXICO EMPLOYMENT
SECURITY COMMISSION
505 MARQUETTE, N. W.
P. O. BOX 1928
ALBUQUERQUE, NEW MEXICO 87103

New Mexico Labor Market Trends, and Occupational Guides for numerous fields are available. Also, the publication Occupational Demand in New Mexico - A study of job openings unfilled due to a lack of qualified applicants.

NEW YORK STATE
DEPARTMENT OF LABOR
DIVISION OF EMPLOYMENT
370 SEVENTH AVENUE
NEW YORK, NEW YORK 10001

Guide to Preparing a Resume - This publication includes an analysis of models of resumes.

OHIO STATE
BUREAU OF EMPLOYMENT SERVICES
145 SOUTH FRONT STREET
COLUMBUS, OHIO 43215

Choosing Your Occupation - This booklet is slanted toward high school students about to enter the labor market. The use of the Ohio Bureau of Employment Services is stressed in making an occupational choice. A self-inventory is also provided.

How to Apply for a Job - This publication presents in outline form, information on each of the following areas:

Where to Get Information on Job Vacancies
The Personal Interview
Good Grooming
Filling In the Job Application Form
The Job Letter, with samples

Ohio Employment Information Series - There are three parts to this publication:

PART I - OCCUPATIONAL BRIEFS

Part I contains informative releases describing many widely distributed occupations in Ohio. These releases contain such information as a brief summary of the nature of the work, the possibilities for future employment and advancement, the general kinds of industries and businesses which employ such people, the remuneration offered, the requirements for entry into the field, the general working conditions involved, and sources of additional information.

PART II - TRAINING DIRECTORY

Part II presents training programs available through public and private facilities in Ohio. The types of programs described include those offered in colleges and universities, in business schools, through apprenticeship training, in training schools, through home study, those in special vocational education programs, and several federal and state funded training programs.

PART III - LICENSED OCCUPATIONS AND BUSINESSES IN OHIO

Part III describes the licensing requirements and procedures for all occupations and businesses for which a state license is issued. The occupations are discussed in terms of the education and training required, the legal requirements governing licensure, the fees required, procedures for out-of-state applicants, examination schedules, and the name of their licensing agency as a reference source. Businesses are discussed in terms of the legal requirements governing licensure, the reciprocity agreements, the fee involved and the name of their licensing agency as a reference source.

The Ohio Employment Information Series - Is available free of charge, in limited quantities, to Ohio schools and libraries upon individual request. Selected occupational briefs are also available to people seeking information for a specific occupation or occupational area. Requests may be directed to the Counseling Division of the Ohio Bureau of Employment Services, at the above address.

Shortage and Surplus Occupations - A quarterly report, available from the Divsion of Research and Statistics of the Bureau of Employment Services.

OHIO STATE DEPARTMENT
OF EDUCATION
DIVISION OF GUIDANCE AND TESTING
751 NORTHWEST BOULEVARD
COLUMBUS, OHIO 43212

The Ohio Apprenticeship Notebook - Building For A Greater Ohio - This 98 page publication is a result of the combined effort of the Ohio State Apprenticeship Council, the Bureau of Apprenticeship and Training of the United States Department of Labor, Division of Vocational Education and Division of Guidance and Testing, Ohio Department of Education, to supply school counselors with sufficient information about apprenticeship programs and the opportunities they offer for high school graduates, March 1970. Free of charge.

The Ohio Higher Education Notebook - The 97 page handbook, developed as a public service for Ohio School Counselors, contains descriptions and information concerning Ohio colleges and their branches and academic centers, junior, technical and community colleges, and United States service academies. Included for each college and academy is a profile of data concerning entering freshmen classes, selection factors, admissions requirements, procedures, and other information to supplement available information published by many college information guides. This publication is revised annually during August. The Ohio Higher Education Notebook is available for purchase outside the State of Ohio. $1.25 per copy.

Ohio Vocational Education Notebook - A counselor's resource notebook of 118 pages, containing descriptions and information regarding 60 vocational education programs existing in Ohio high schools, 1967.

Bibliography For Your Guidance Library - A bibliography of new free, and low cost guidance materials published five times during the year for distribution with Ohio Guidance News & Views, 4 pages each issue.

Cooperative efforts with the Division of Guidance and Testing include seminars, student vocational interest surveys, and other projects throughout the State. Consultative services are also available.

OHIO STATE DEPARTMENT
OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
65 SOUTH FRONT STREET
COLUMBUS, OHIO 43215

Rewarding Careers in Dynamic Industry - Agriculture - This booklet describes agricultural opportunities for high school students.

Vocational and Technical Agriculture in Ohio - A brochure which outlines the types of training available through vocational agriculture, and the areas of employment related to that training.

THE COLUMBUS HOSPITAL FEDERATION
HEALTH MANPOWER DIVISION
P. O. BOX 2239
COLUMBUS, OHIO 43216

Health Career Information - Materials available for nearly 100 health careers. On a limited basis, this material is furnished free. A speakers'list is available. A list of all schools in Ohio offering health careers courses is also available. Information and help in planning health career days and health clubs is available upon request.

OKLAHOMA EMPLOYMENT
SECURITY COMMISSION
OKLAHOMA STATE
EMPLOYMENT OFFICE
WILL ROGERS MEMORIAL
OFFICE BUILDING
OKLAHOMA CITY, OKLAHOMA 73105

Selected Labor Market Publications - Indicates available releases to be sent upon request.

STATE OF OREGON
EMPLOYMENT DIVISION
402 LABOR AND INDUSTRIES BUILDING
SALEM, OREGON 97310

Oregon Occupational Guides - Each release presents information on a particular occupation, describing the occupation, employment outlook, wages, etc. for the State as a whole.

Careers in the Logging Industry - Describes the various jobs and relationships in the logging industry.

Manpower Resource Studies - Resource studies of occupations, manpower, or Applicant Occupational Potential and Economic Base Reports for various counties and areas in Oregon.

The Guides and Manpower Resource studies are prepared periodically for various occupations and counties in Oregon. Copies are free.

Licensed Occupations in Oregon - A brief description of licensing requirements, fees, where to apply, etc. for licensed occupations in Oregon.

COMMONWEALTH OF PENNSYLVANIA
BUREAU OF EMPLOYMENT SECURITY
TECHNICAL SERVICES DIVISION
LABOR AND INDUSTRY BUILDING
SEVENTH AND FORSTER STREETS
HARRISBURG, PENNSYLVANIA 17121

Job Opportunity Guides are available in the following areas:

Stenographer and Secretary
Sewing Machine Operator
Beauty Operator
Clerk Typist
Food Service Occupations
Health Careers
Nursery and Turfgrass Industries
Licensed Practical Nurse
Automobile Service Work

These guides, prepared in simple pictorial form, contain a description of the tasks in a field of work or particular occupation. They list the basic requirements for entry into the field of work and list some of the advantages and disadvantages. They are available without charge.

SOUTH CAROLINA EMPLOYMENT
SECURITY COMMISSION
1225 LAUREL STREET
P. O. BOX 995
COLUMBIA, SOUTH CAROLINA 29202

The following publications are available:

Manpower Requirements and Resources in South Carolina, Industry and Occupation, 1969 - Highlights of the publication include; population and labor force, industry and occupational employment trends, manpower requirements and resources.

TENNESSEE DEPARTMENT OF
EMPLOYMENT SECURITY
CORDELL HULL BUILDING
NASHVILLE, TENNESSEE 37219

The following publications are available:

Tennessee Manpower: A Look into the 1960's, 1961

Manpower and Employment Trends in Tennessee, 1964

Occupational Shortages, Vocational Training Needs, and Related Turnover and Expansion Data for the Chattanooga Labor Area, July 1967 - August 1969, and Related Turnover and Expansion Data for the Chattanooga Labor Area, January - June 1967, August 1967

Population, Labor Force and Income Trends in the Nashville Area, August, 1967

Tennessee Manpower, Current Trends and Future Projections, 1967

WISCONSIN STATE EMPLOYMENT
PROGRAM DEVELOPMENT AND RESEARCH
P. O. BOX 1607
MADISON, WISCONSIN 54701

Publications List - Available upon request, and includes career guides, career information, and job forecasts.

WYOMING EMPLOYMENT
SECURITY COMMISSION
P. O. BOX 760
CASPER, WYOMING 82601

Career Library, September 1968 - A bibliography of free and inexpensive occupational information and other counseling aids.

Occupations and Professions Licensed by Wyoming State Boards, July 1968 - A guide for Employment Counselors.

MILITARY SOURCES

DEPARTMENT OF DEFENSE
HIGH SCHOOL NEWS SERVICE
BUILDING 1-B
GREAT LAKES, ILLINOIS

High School News Service Report - Military Service Information. The HSNS Report is designed primarily as a reference source for counselors and others who are called upon to furnish students with specific information of current personnel programs of the United States Armed Forces. The first issue of the year describes basic facts about military service while the remaining monthly issues contain illustrated articles featuring various facets of modern military techniques, organization, and specialized skills required for men and women in uniform today. Except for the initial issue on basic facts about military service, the "Report" is intended primarily for student readership; articles are printed in detachable form to facilitate posting and classroom use. The High School News Service Report is published monthly during the school year by the High School News Service and distributed free of charge to high schools requesting the service.

U. S. AIR FORCE HEADQUARTERS
RECRUITING SERVICE
RANDOLPH AIR FORCE BASE
TEXAS 78148

Let's Go Air Force, A Guide to Air Force Opportunities - This booklet describes an airman's life from the time he or she enters basic military training at Lackland Air Force Base, San Antonio, Texas, until assignment to regular Air Force duties. Outlines many of the technical courses available.

Officer Career Occupational Handbook - This booklet covers highlights of Air Force history, showing the role of the Officer in today's Air Force, and explains how commissions may be earned, describes the utilization fields in which the officer may serve, and a section showing related academic subjects and degrees.

Officer Training School Pamphlet - This pamphlet explains how young men and women college graduates may obtain a commission as an Air Force Officer through Officer Training School.

Pilot and Navigator Brochure - A full-color brochure with a detailed description of pilot and navigator training, varied aircraft now flown by Air Force pilots and a description of the major commands to which a pilot or navigator may be assigned after obtaining his wings.

Science and Engineering Officer Booklet - This booklet contains general information about opportunities in the Air Force for those men or women with a scientific background, and a section outlining opportunities for engineers with the United States Air Force.

United States Air Force Airman Occupational Handbook - A comprehensive 44-page manual designed primarily for guidance counselors, although it is also of interest to students. It describes qualifications, training and career fields for the U. S. Air Force. Also included are procedures for obtaining a commission through The Air Force Academy, Air Force Reserve Officers Training Corps, and Officer Training School.

Women In The Air Force Brochure - This booklet contains a resume of opportunities available to Women in the Air Force (WAF). Separate brochures for high school graduates and those graduating from college.

U. S. ARMY
ARMY OPPORTUNITIES
HAMPTON, VIRGINIA 23369

Army Opportunities - These handbooks describe opportunities in the United States Army. They are designed primarily for counselors, teachers, librarians and others who have a stake in helping young people make sound career decisions. These books may be obtained, free of charge, by writing to the above address. The following handbooks describe opportunities in the United States Army.

1. The Secret of Getting Ahead
2. Education In Leadership
3. A Guidance Handbook for Counselors
4. Meet Today's WAC Officer
5. A New Life. A New World.
6. U. S. Army Opportunities
7. Educational Opportunities and Financial Assistance for Nursing Students

U. S. MARINE CORPS
LOCAL RECRUITING STATIONS

A Guide to Occupational Training - United States Marine Corps. Available from local U. S. Marine Corps Recruiting Stations. This publication is a 48-page pamphlet containing descriptions and pictures of occupations within the United State Marine Corps. It is designed primarily for the use of high school counselors to explain the many and varied occupational opportunities within the Marine Corps.

Marine - A publication describing what U. S. Marines are doing throughout the world.

U. S. NAVY
BUREAU OF NAVAL PERSONNEL
WASHINGTON, D. C.

Navy Career Planner - Sixth Edition (provided solely for the use of school counselors and guidance workers). This manual provides an extensive description of Navy enlisted occupations, including duties and responsibilities, skills and knowledge required, places of work, qualifications and preparation, training provided, and related civilian positions. This handbook has been correlated with the Armed Services Vocational Aptitude Battery (ASVAB) which provides composite scores in the Electrical/Electronic, General Mechanics, Motor Mechanics, Clerical/Administration, and General Technical Areas. Manual and information on ASVAB available from local United States Navy Recruiting Station.

Guidebook, Special Navy Enlisted Tours - (a pocket-size edition of the Navy Career Planner designed primarily for students' use). This book provides a brief description of the duties, responsibilities, training, qualifications, and related civilian jobs for each of the Navy enlisted occupations. It is also correlated with the ASVAB and is available in quantity from local United States Navy Recruiting Stations.

It's Your Choice - This brochure lists the many military programs available to volunteers for military service. This brochure and additional pamphlets pertaining to the various, specific programs of the military services are free of charge and may be obtained from any of the military addresses listed above.

OHIO STATE DEPARTMENT OF EDUCATION
DIVISION OF GUIDANCE AND TESTING
751 NORTHWEST BOULEVARD
COLUMBUS, OHIO 43212

Ohio Higher Education Notebook - This is published annually and contains admissions data on the U. S. Service Academies. The Ohio Higher Education Notebook is available for purchase outside the State of Ohio. See STATE publications. $1.25 per copy.

COMMERCIAL SOURCES

AIR TRANSPORT ASSOCIATION
LIBRARIAN
1000 CONNECTICUT AVENUE, N. W.
WASHINGTON, D. C. 20036

Your Career With The Airlines - This brochure includes a listing and brief description of a variety of airline jobs.

Airline Industry Directory of Publications - The publication's directory is designed to provide information and to answer inquiries about the U. S. scheduled airline industry. Included are: descriptions of topical brochures, booklets and reports; speech reprints; lists of aviation publications available from government sources; and special industry studies, manuals, and handbooks.

AMERICAN GUIDANCE SERVICE, INC.
PUBLISHERS BUILDING
CIRCLE PINES, MINNESOTA 55014

Planning My Future - Prepared by the guidance staff of National Forum Foundation, Bernice L. Neugarten, et al., 3rd Edition, 1964, 368 pages. The text is designed for use anywhere at the junior and senior high school level, where a broad overview of the vocations is desired. The text not only treats career planning, relating occupational choice to individual interests and abilities and to job opportunities, but it also considers avocations, personal needs and relationships, social responsibilities and other aspects of preparing for a creative, productive adult future. $3.25.

Seeing Ourselves - Prepared by the guidance staff of National Forum Foundation, W. Russell Shull, et al., 1st Edition, 1965, 319 pages. The text is designed to be the core of an elementary developmental guidance program at the upper elementary level, and through its supplementary reader qualities, can be used to integrate the reading and guidance program. Vocations are treated in a very broad way. Sixth grade youngsters look at various people in various jobs. These youngsters then come to the realization that there are many different sorts of work and many fields of endeavor. $3.07.

BELLMAN PUBLISHING COMPANY
P. O. BOX 172
CAMBRIDGE, MASSACHUSETTS 02138

Career Monographs - Currently 40 titles in print. Each is 6" x 9" and contains 20 to 48 pages. Price per monograph, $1.00. Purchase of full set at 20% discount. Free Bellman Publishing Company catalog contains listings of these and other guidance publications.

Pathways to Your Future - The Job Resumé and Letter of Application by Kenneth R. Adler. 1964, 33 pages, $1.75. Additional copies of resumé work sheet, 50 copies to a package, $1.50 per package. Fourteen sample job resumés and 8 letters of application plus easy to follow directions for writing your own resumé and letter of application. Written for students, experienced workers or returnees to the labor force.

Teachers Guide to Group Vocational Guidance - By Bruce Shertzer and Richard T. Knowles. 1964, 94 pages, $4.00. Additional packages of two appendices, $1.50 per 50 copies per appendix. Written for use by trained guidance counselors or newly appointed guidance counselors. Forty lesson plans grouped into three units of "The World of Work," "Knowing Yourself," amd "Securing a Job and Progressing in It."

The Job Finder - It Pays to Advertise - by S. N. Feingold. 1966, 37 pages, $2.25. This book is to help old and new job seekers pick up the techniques of "Job Hunting" in today's competative world.

CHANNING L. BETE CO., INC.
GREENFIELD, MASSACHUSETTS 01301

About Getting A Job - A 16-page booklet covering jobs available, both skilled and unskilled; applying for a job; self-inventory; job interview; writing resume; part time jobs, holding a job. The booklet is written in easy - to - understand scriptographic style. $1.00.

BRUCE PUBLISHING COMPANY
400 N. BROADWAY
MILWAUKEE, WISCONSIN 53201

Industrial Arts and Vocational Education - Monthly periodical. $4.00 per year.

For a list of current books in specific industrial trade occupations, contact Trade Books Division, Bruce Publishing Company.

CAREERS, INC.
POST OFFICE BOX 135
LARGO, FLORIDA 33540

Business Careers Kit - A timely, easy-to-use unit, neatly packaged and containing over 120 briefs, summaries, and current reprints on careers in the field of business; including one year's subscription to appropriate titles. $34.50, f.o.b. Largo.

Career Briefs and Summaries - $18.00 per year. Individual titles available at 20¢ each for summaries and 35¢ each for briefs.

A set of 125 career items, all current, released on a montly basis through the normal school year ... nine packets. Titles range from non-skilled, through semi-skilled, semi-professional, and professional occupations.

A complete set of 190 Briefs is priced at $32.00.
A complete set of 355 Summaries is priced at $42.00.

A complete set of Briefs and Summaries in a file box with alphabetical tab cards, plus one year's subscription to Briefs and Summaries. $65.00, f.o.b. Largo.

Semi-Skilled Careers Kit - Contains 150 career briefs, summaries, and job guides on semi-skilled careers, plus one year's subscription to 60 current briefs, summaries, and guides, a total of 210 items. $42.00, f.o.b. Largo.

Industrial Careers Kit - Contains 150 career briefs and summaries on industrial careers, plus one year's subscription to 40 current titles. $42.00, f.o.b. Largo.

Science Careers Kit - Contains 120 career briefs, summaries, and reprints on careers in science, plus a year's subscription to 30 current appropriate titles.

Health Careers Kit - Contains 120 career briefs, summaries, and reprints on health careers, plus one year's subscription to 30 current titles. $34.50, f.o.b. Largo.

Professional Careers Kit - Contains over 470 career briefs, summaries, reprints, and college and training guides on professional careers, plus one year's subscription to 100 appropriate current titles. $65.00, f.o.b. Largo.

Career Interest Builders - Contains 20 multi-colored posters on careers in 20 different fields, including research, repair work, selling, etc. The posters are contained in an attractive metal frame with an acetate overlay. $21.50, f.o.b. Largo.

CHRONICLE GUIDANCE
PUBLICATIONS, INC.
MORAVIA, NEW YORK 13118

Chronicle Occupational Library - Contains a library of occupational materials properly filed in reinforced folders in a sturdy letter-size steel file drawer with lift-off top, ready for immediate use, $193.00 f.o.b. Moravia (No. 671S). Also available in the Oxford Tudror mobile steel file cabinet with hanging type folders, material properly

filed for immediate use, $302.50 f.o.b. Moravia (No. 671PSH). Purchase price of either unit includes a year's subscription to the 3-in-1 Service to keep the file on a current basis.

Chronicle College Counselor's Occupational Library - This library is keyed to the specific needs of college counselors. Included in the basic file are 268 occupational briefs and 84 career-oriented reprints. These materials are from Chronicle's career publications and deal with occupations where post high school education is either advantageous or required. Includes hanging folders and materials $192.00 f.o.b. Moravia (No.671CMH). The library in a Tudror mobile file with hanging folders is $272.50 f.o.b. Moravia (No. 671CPSH). Purchase price of either unit includes a year's subscription to the 3-in-1 Service to keep the file on a current basis.

Chronicle Occupational Microfile - This is a microfilmed edition of the Chronicle Occupational Library. It contains over 2,100 pages of material, including occupational briefs and reprints. This service includes a Micro-DOX booklet as a cross reference to the microfiche, a file box for 4 x 6 cards, $60.00 f.o.b. Moravia (No. 200MF). Annual updating $40.00.

Chronicle College Counselor's Occupational Microfile - This is a microfilmed edition of the College Counselor's Occupational Library and includes the Micro-DOX booklet and a file box for 4 x 6 cards, $50.00 f.o.b. Moravia (No. 200CMF).

Viewers - available from Chronicle for use with the above microfiles are:

TM Microprojector (No. 300) $59.50; with attachments in case (No. 306TM) $98.70 f.o.b. Moravia.

Post Microfiche Reader (No. 640) $249.00 f.o.b. Moravia.

Atlantic F66 Microfiche Reader (No. F66) $119.00 f.o.b. Moravia.

Chronicle Occupational Brief Service - Published monthly September through April, at $20.25 a year. Ten new and revised briefs per month. Professionally prepared, accurate, and up-to-date. Single copies available at 35¢ each to counselors, teachers, students, and librarians. Quantity rates are available on request. Briefs are also available in sets, over 380 titles, bound or unbound. Bound sets (No. 508) are sent in three vinyl binders, $69.50 f.o.b. Moravia. Unbound sets (No. 506) are $64.50 f.o.b. Moravia.

Chronicle Occupational Reprints - Available in sets of about 100 titles (No. 505). These reprints are selected from trade magazines and are reprinted in each case with permission from the publisher. These are included in the Occupational Library and the Microfile. $20.00 f.o.b. Moravia.

Chronicle Poster Service - Two posters monthly, September through April, based on career and occupational themes (No. 500P). $16.00 f.o.b. Moravia.

Chronicle Occupational Service - The Briefs, Reprints, Posters, and CAREER INDEX, (No. 501). $33.00 per year.

Chronicle Educational Service - Consists of up-to-date books, including:

Guide To College Majors
College Charts
Student Aid Annual and Bulletins
Summary Report (a spring release of colleges still accepting applications)

Bonus books included in the 1969-70 Service were:

Major Fields of Study
Guide to College Level Independent Study

This Service is $18.50 per year (No. 502). Other books in this series available separately include:

Your Practical Guide To College Admissions
Colleges Classified

Chronicle Professional Service - Approximately six articles and reprints each month, September through April, by nationally recognized counselor-educators and guidance personnel. These articles discuss specific and practical guidance practices, as well as articles of a more general professional nature, (No. 503). $16.00 per year. The Professional Service also includes the Washington Counseletter each month. The Counseletter is available separately on a subscription basis (No. 503A). $8.00 per year.

Chronicle 3-in-1 Guidance Service - Published monthly, September through April. Includes the Occupational, Educational, and Professional Services as listed above, (No. 5-123). $46.50 per year.

Chronicle College View-Deck - A highly organized information retrieval system designed to provide accurate information on colleges in any desired sequence. (Type of school, major sequence, size, etc.)

View-Deck category cards, key cards, student preference forms, fluorescent viewer, and one year's service to update and expand the View-Deck (No. 900DV) $160.00 f.o.b. Moravia. View-Deck category cards, supplies, economy Deskette, one year's service (No. 900DM) $140.00 f.o.b. Moravia. Write for descriptive brochure.

Chronicle Career Index - A compendium published annually, giving several thousand references to free or inexpensive occupational and professional pamphlets from over 700 sources. The annual is supplemented with four issues listing information on new releases. Pre-addressed post cards are included for selected free materials. $11.00 per year (No. 501C).

Chronicle Pamphlet Service - Published monthly September through April at $28.00 per year (No. 504). This is a portion of the complete Chronicle 3-in-1 Service, especially designed for libraries to maintain their occupational files on a current basis; 72 occupational briefs a year, numerous reprints from trade and technical periodicals, 1 Annual and 4 Supplements of the CAREER INDEX.

Finding Your Orbit - An effective instrument to stimulate objective thinking on occupational choice by students of eighth through tenth grades. Aids classroom teachers and/or counselors in group and individual occupational guidance programs, 1966. $1.00 (No. 800S).

Introduction To Vocations - (Teacher's Guide) by H. E. Beam and J. R. Clary. A publication to help teachers develop plans regarding their student's occupational study classes, 1967. $3.50 f.o.b. Moravia.

Catalogs explaining each of the above items in detail are available upon request.

DEPARTMENT OF MINISTRY
NATIONAL COUNCIL OF CHURCHES
475 RIVERSIDE DRIVE
NEW YORK, NEW YORK 10027

Financial Aid for Professional and Graduate Education - 16 pages. Listing of financial assistance available from churches, foundations and other sources, 1966. $ .50.

Listing of Church Occupations - By John Oliver Nelson. Two fold pamphlet listing various types of occupations open to young men and women in Protestant church programs. $ .20.

Student Financial Aid From Church Sources - By Wilmina Rowland. Two fold leaflet listing resources available from denominations affiliated with the NCC. $ .20.

Vocation and Church Careers Kit - File folder containing four pieces: What is a Church Occupation? Listing of Church Occupations, Student (Undergraduate) Financial Aid from Church Sources, Vocation and Church Occupations, 1966. $1.00.

What Is A Church Occupation? - Two fold leaflet by Mrs. Wm. S. Ellis. A brief explanation of the categories which constitute church occupations, 1966. $ .20.

Additional publications' list available upon request includes:

The Christian Ministry - A Challenge

Protestant Church Occupations

Resources on Vocation and Church Occupations

EDU - CAST, INC.
6475 DUBOIS
DETROIT, MICHIGAN

World of Work - Filmstrip series for younger students. A series of 50 filmstrips in a comprehensive program of pre-vocational attitude-building and vocational orientation designed to create an awareness of the world of work for students in the elementary and secondary grades. Fifty filmstrips; color, sound, Teaching Guide. $15.00 each.

EDUCATIONAL RELATIONS
PUBLIC RELATIONS STAFF
GENERAL MOTORS CORPORATION
DETROIT, MICHIGAN 48202

Can I Get a Job? Let's Find Out - Free in single copies, this book concerns itself with aspects of seeking employment and the various attitudes, interests, abilities, and desires of both employer and employee. Such topics as what are my interests, what do I have to offer, what are employers looking for, where do I start, how do I get an interview, who does the talking, and did I get the job, are all covered in good detail. In addition to this booklet, the Public Relations Staff of General Motors publishes other booklets relative to occupational and vocational guidance. A free catalog of all educational materials available may be obtained upon request.

EDUCATORS PROGRESS SERVICE, INC.
RANDOLPH, WISCONSIN 53956

Educators Guide to Free Guidance Materials - Eighth Annual Edition, 1969. This Guide has been developed as a basic resource for aiding counselors and teachers. It is based on the cross-media approach in teaching, and is devoted exclusively to free guidance materials.

It is designed to provide a continuing means of identifying selected free films, filmstrips, tapes, and transcriptions, and other materials such as bulletins, pamphlets, charts, magazines, and booklets. $7.50.

J. G. FERGUSON PUBLISHING COMPANY
6 NORTH MICHIGAN AVENUE
CHICAGO, ILLINOIS 60602

Career Opportunities for Technicians and Specialists - A five volume series which groups related jobs within a given field. Explains educational opportunities available, lists schools which offer the programs, entry level jobs, working conditions, earnings, outlook for the future. The five volumes - $8.95 each, or $44.75 for the complete set, are:

Engineering Technicians
Agricultural, Forestry, Oceanographic Technicians
Health Technicians
Marketing, Business and Office Specialists
Community Service and Other New Specialists

Dictionary of Personnel and Guidance Terms - A reference and source book which includes multiple definitions, historical and classic definitions, bibliography of sources, category listings, and associations, agencies and professional organizations. $8.95.

The Encyclopedia of Careers and Vocational Guidance

Volume I, Planning Your Career provides coverage on employment testing, finding a job, the future. General career fields are discussed by official spokesmen who give an overview of the field, assess its potentials, qualifications, education, and training.

Volume II, Careers and Occupations describes the specifics of 650 occupations. Included is coverage of the requirements to enter, necessary training and educational background, conditions of work, employment outlook, chances for advancement, social and psychological factors, and beginning and future earnings are covered factually in detail. $21.65 per 2-volume set.

You and Your Job Booklets - A series of five booklets:

You and Your Job: What Is It?
You and Your Job: Where Is It?

You and Your Job: How to Get It.
You and Your Job: How to Keep It.
You and Your Job: Where Do You Go From Here?

$3.00 each set of 5 booklets. Guide for Instructors to accompany booklets, $2.95.

FINNEY COMPANY
3350 GORHAM AVENUE
MINNEAPOLIS, MINNESOTA 55426

Occupational Guidance - This program is a career-oriented series of monographs directed to average and above-average high school students. Each four-page monograph gives a thorough but concise description of a specific occupation along with the salary range, working conditions, advantages, disadvantages, background and future regarding the job. How to prepare for and obtain the position is explained and supplemental sources of visual aid and printed materials are given. The series contains information regarding 800 careers and is sold in units. Each of five units has eight volumes with twenty occupations in each volume. Each unit contains an assortment of types of jobs. $37.00 per unit.

Occupational Guidance Workbook - This publication is designed to be used in conjunction with the Occupational Guidance monographs. The workbook guides the student in evaluating his interests and abilities in relation to possible careers. Together with the monographs, the Occupational Guidance Workbook is instrumental in helping the individual reach a personal career decision. $1.50

Finding Your Job - This series provides job information for slow learners, underachievers and students in special classes. The 360 suitable and obtainable jobs covered in the Finding Your Job series are described in a clear, informative, easily understood manner. Six units comprise the series and each unit contains five volumes with twelve four-page monographs in each volume. Each monograph presents a specific job description, along with such information as wages, hours, what the worker can expect, and what is expected of him. Purchasable in units only, Finding Your Job is $22.50 per unit. Each unit contains a wide range of jobs.

Finding Your Job Workbook - This attractive 72-page workbook, containing numerous illustrations, is designed for use in special classes. Finding Your Job Workbook, prepared especially for use with any or all of the Finding Your Job monographs, helps students with limited comprehension to become job oriented. The workbook contains an assortment of stimulating lessons. $1.50.

A Job With A Future In The Steel Industry, (1969) - Discusses the more than 1000 different types of jobs in the industry for those who are not afraid of work and are willing to be trained. $3.59.

A Job With A Future In Law Enforcement And Related Fields, (1970) - A detailed guide for people with little or no advanced education of the types of careers that are available in law enforcement and related fields. $3.59.

GUIDANCE ASSOCIATES
PLEASANTVILLE, NEW YORK 10570

Full-color sound filmstrips from Guidance Associates, a subsidiary of Harcourt, Brace & World, Inc., may be readily presented on any standard classroom filmstrip projector and phonograph. The audio portion of all sound filmstrips is also available in cassette format. If, at any time, filmstrip, record or cassette become damaged, they will be replaced absolutely free under the Lifetime Guarantee policy.

Sound filmstrips may be ordered on-approval for 30 days evaluation. Materials may be retained for purchase at prices indicated or returned without obligation. Catalogs available on request.

Filmstrips:

107 456 - Your Future In Elementary Education ($18)
102 184 - If You're Not Going To College ($35)
100 519 - A Collegiate Education In Business Administration ($18)
101 608 - Getting And Keeping Your First Job ($35)
102 291 - Jobs For High School Students ($35)
107 654 - Your Job Interview ($35)
100 816 - The Collegiate Nursing Program ($18)
106 102 - What You Should Know Before You Go To Work ($35)
103 802 - Preparing For The Jobs Of The 70's ($35)
103 323 - A New Look At Home Economics Careers ($18)
100 683 - Choosing Your Career ($35)
100 568 - Careers In Materials Engineering: The Aerospace Age ($18)
102 402 - Babysitting: The Job - The Kids ($35)
103 604 - An Overview Of Technical Education ($35)
103 901 - Preparing For The World Of Work ($35)

Help Yourself To A Job, Parts I, II and III - Designed for special education classroom use, this set of three workbooks provides a comprehensive, easily understood look at the world of work. Part I describes the various steps leading to a job, including the filling out of an application form. Part II explains the differences between skilled, semi-skilled and unskilled jobs, and includes lessons dealing with base pay, withholding tax, fringe benefits and social security. Part III explains employer-employee relationships, lists sources of employment and offers helpful suggestions for keeping a job. Each of the three parts can be used alone or in conjunction with the other two in the set. The price is $1.50 per copy for Part I, $1.50 per copy for Part II and $1.50 per copy for Part III.

Lots of Things - This 60-page workbook is designed to meet the needs of the young special education student who is approximately 11 or 14 years of age. Lots of Things provides a foundation for an introduction to occupational training and information. Prepared with a unique format and containing numerous illustrations, this publication is designed to capture and hold young students' interest. Each study section of the workbook is followed by lesson pages, which are perforated so they can be removed from the book. Newly published, Lots of Things is the latest work of special education specialist Miss Yvette Dogin, author of the Help Yourself To A Job workbooks. $1.50.

GROSSET & DUNLAP, INC.
PUBLISHERS
51 MADISON AVENUE
NEW YORK, NEW YORK 10010

Getting A Job With A Future, (1967) - An effective guide supplying up-to-date information and the necessary techniques toward establishing vocational goals. $1.95-Trade, $2.59-Library Bind.

A Job With A Future In Automative Mechanics, (1969) - Explores the various opportunities available in automative mechanics. Provides comprehensive information on the abilities, training and qualifications required in the field. $3.59.

A Job With A Future In Computers, (1969) - The world of computers and the careers available within the field are all explained in this practical guide to the expanding and challenging possibilities in computers. $3.59.

A Job With A Future In The Petroleum Industry, (1969) - Surveys the job opportunities for those with limited education that exist in every phase of the petroleum industry. $3.59.

ASSOCIATED PUBLISHERS'
GUIDANCE PUBLICATIONS CENTER
355 STATE STREET
LOS ALTOS, CALIFORNIA 94022

Available upon request is an up-to-date catalogue which lists a wide variety of guidance related publications.

HALEWYN FILMS LTD
106 JOHN STREET
TORONTO, CANADA

Career Guidance Films - A complete series of over 100, 16mm, color, sound Career Counseling films for secondary school students, available from Halewyn Films, Toronto, Canada. Entitled the "Careers Series", the films are interest-oriented and motivational. In each film (most are 15 minutes) all related occupations in a particular career field are covered in an up-to-date and objective manner, so that students will be effectively motivated to consider a future career in that field. Includes Student Manual and Instructions to the Teacher . For purchase and rental. Information on available titles can be obtained upon request.

HARPER AND ROW, PUBLISHERS
2500 CRAWFORD AVENUE
EVANSTON, ILLINOIS 60201

The following publications are available in the "So You Want To Be" series:

So You Want To Be An Accountant
So You Want To Be An Architect
So You Want To Be A Chemist
So You Want To Be A Dentist
So You Want To Be A Doctor
So You Want To Be An Engineer
So You Want To Be A Lawyer
So You Want To Be A Librarian
So You Want To Be A Nurse
So You Want To Be A Physicist
So You Want To Be A Professional Officer
So You Want To Be A Scientist
So You Want To Be A Social Worker
So You Want To Be A Surgeon
So You Want To Be A Teacher
So You Want To Go Into Industry
So You Want to Go Into Journalism

Costs per book are $4.95 - trade edition; $4.43 Harpercrest Library Edition.

HAWTHORNE BOOKS, INC.
70 FIFTH AVENUE
NEW YORK, NEW YORK 10011

A series of vocational guidance books for 10-14-year olds. Aimed at boys and girls who want to know just enough about the occupations which they may someday enter. Each book covers the history of the profession, personal characteristics considered desirable, education and training, the work performed, and why a boy or girl should think of entering the profession. Each book also includes suggested further readings and additional information sources. The author is Dr. Sarah Splaver who has been a guidance consultant and counseling psychologist for more than twenty years. The books contain 96 pages, and are geared for grades 5-8 and each volume is $3.50. The following titles are available:

Someday I'll be an Aerospace Engineer
Someday I'll be a Doctor
Someday I'll be a Librarian

ROBERT R. KNAPP, PUBLISHER
POST OFFICE BOX 7234
SAN DIEGO, CALIFORNIA 92107

Guide To Careers Through College Majors - Guide to Careers is an authoritative handbook which organizes career fields according to appropriate college majors and relates college career to vocational goals. It provides the high school and early college student with descriptions, requirements and sources of further information for each of these career fields. The guide is an ideal vocational planning text for high school students and for first and second year college students. It will be an invaluable aid to counselors and teachers requiring a compact source of career planning information and is recommended for college orientation courses and for career planning programs at the high school level, 1964. $3.95.

Guide To Careers Through Vocational Training - This authoritative handbook describes 145 popular vocations for the student not planning a college career and presents the information about each that is most desired by the high school student. Brief descriptions, requirements, opportunities, duties and sources of further information are given for each vocation. Organization is in terms of families of related vocations, making it easy for the student to survey occupations related to his area of interest and reference is also made to other sources of information about additional related occupations. The guide will be of aid to those seeking a compact source of career information about those occupations not requiring college training, 1968. $5.95.

MACFADDEN-BARTELL CORPORATION
205 EAST 42ND STREET
NEW YORK, NEW YORK 10017

The following career books are available:

From College To Career $0.75
How To Become An Airline Stewardess $0.60
How To Become A Government Girl $0.60
How To Break Into The Movies $0.60
So You Want To Be An Executive Secretary $0.60
Television As A Career $0.60

McKNIGHT & McKNIGHT PUBLISHING COMPANY
ROUTE 66 & TOWANDA AVENUE
BLOOMINGTON, ILLINOIS 61701

Planning Your Future - This book is written for grade 11 or 12 and emphasizes those developmental tasks of later adolescence which coincide with or follow high school graduation. Such immediate concerns as military service, job seeking and college admission are included. Contents include how to get a job; how to succeed on the job; selecting and gaining admission to college; how to succeed in college and in other training opportunities; how to consider military training; how to consider your plans for marriage. $1.20

Planning Your Life's Work - This book is intended for use in grades 9 or 10 and concentrates on the developmental task of career choice. Although final and definitive choices are not expected at this age, the student is taught a method of weighing the values and limitations of a variety of occupations and his relationship to them. The general purpose of this guidebook is to broaden the job horizon of the student. Contents: Career, school and you; spare-time jobs; the world of work; the three best possibilities; obligations. $1.40

Planning Your School Life - This guidebook is for grade 7 or 8, and deals with the general introduction to secondary school and the beginnings of conscious exploration of the personality and the world of work. It starts the student on a series of exploratory assignments in keeping with the purposes of education at these grade levels and appropriate to his interest and needs. Contents: Self-discovery; getting along with others; you and your school; preparing for your career choice; studying your way through school; your next steps. $1.20

JULIAN MESSNER, PUBLISHERS
DIVISION OF POCKET BOOKS, INC.
8 WEST 40TH STREET
NEW YORK, NEW YORK 10018

Messner Career Books - Present information on the following careers, with guides to colleges and schools for special training, salary ranges, opportunities, and bibliographies: acting, advertising, aviation, banking and business, chemistry, computer programming, conservation, electronics, engineering fashing, government service (civil service, foreign service, law enforcement) home economics, Journalism, medicine, public relations, selling, teaching, radio-TV, and transportation.

GUIDANCE CENTRE
THE ONTARIO COLLEGE
OF EDUCATION
UNIVERSITY OF TORONTO
371 BLOOR STREET WEST
TORONTO 5, ONTARIO, CANADA

G C Occupational Information Monographs - Published and revised at regular intervals. Contain sources of information concerning specific occupations. Basically dealing with occupations in Canada; certain sections of many of the monographs apply equally to Canada and the U.S. List of available monographs and prices available on request.

PRATT INSTITUTE
BROOKLYN, NEW YORK 11205

Career Briefs - Published as an educational service by Pratt Institute. Career Briefs are sent regularly to any school or library requesting them. Individual copies are furnished on request as long as supplies last.

PRENTICE-HALL, INC.
EDUCATIONAL BOOK DIVISION
ENGLEWOOD CLIFFS, NEW JERSEY

Building Your Life - Landis & Landis, 3rd Edition, 352 pages, 1964, list price $6.56. Contains six sections, one of which is entitled "Growing Up Economically." Chapter titles of this section are "Your Part-Time Work," "Your Future Vocation," and "Considering Possible Vocations." Designed for eighth and ninth grade use.

Future For Home Economists - 334 pages, 1963. Describes the employment opportunities, major functions, and typical day in each of the areas of specialization discussed. Features reports of interviews between home economics majors and professionals in the various fields. Gives a description of typical employing organizations in each field, as well as a discussion of job opportunities outside the United States. Lists professional journals published in each field. $8.50

Occupational Information: Its Development and Application - Shartle, Carroll L., 3rd Edition, 1959, 425 pages, $10.25. Discusses needs and uses of occupational information, how it is obtained, described, and classified. Also contains sections on how to use the Dictionary of Occupational Titles, explains occupational families, entry fields of work, industries and patterns of occupations, and jobs for the handicapped.

Professionalization - 365 pages, 1966, Price: $8.75. Presents readings from Durkein, MacIver, Carr-Saunders, etc., that focus on the characteristics, antecedents, and social consequences of the process of acquiring professional status in a wide variety of occupational groups, including both those that are highly professionalized and those that are striving to be so. Designed for both social science courses and for graduate professional courses in the history of a particular occupation. Uses transition passages to give the readings better unity as a test; features 57 readings organized under major chapter headings.

PUBLIC AFFAIRS COMMITTEE, INC.
381 PARK AVENUE SOUTH
NEW YORK, NEW YORK 10016

The 1970 selection of Public Affairs Pamphlets includes many new titles which deal with the questions and problems that students and their parents bring to the guidance office. A file catalog is available upon request. The following titles relate directly to career information, and are available at $0.25 each:

Better Human Relations: The Challenge of Social Work
Careers in Health
Finding Able Men and Women for City Careers
Guide to Success in College
Mental Health Jobs Today and Tomorrow
New Careers: Real Jobs and Opportunity for the Disadvantaged
Paying for a College Education
Psychologists in Action
So You're Going to College!
Wanted: Medical Technologists

RICHARDS ROSEN PRESS, INC.
29 EAST 21ST STREET
NEW YORK, NEW YORK 10010

The Careers in Depth series - The Granite Library editions. These vocational books are definitive studies of specific career areas. They are in individual hard-bound books. A catalog is available listing 80 vocational areas. 165 pages; $3.78 each.

Aim High Vocational Guidance series - Granite Library editions. These vocational guidance books are studies of job opportunities in areas not requiring college training. For the dropout or high school graduate. Individually hard cover bound. 160 pages; $3.78 each. Catalog available.

Military Research series - Granite Library editions. Books deal with the young man's military obligation, opportunities in the military, history of various branches and a number of books on the nature of the U.S. Military commitment in the world. Individually hard cover bound books. 160 pages; $3.78 each. Catalog available.

SCIENCE RESEARCH
ASSOCIATES, INC.
259 EAST ERIE STREET
CHICAGO, ILLINOIS 60611

Career Information Kit - This is a complete letter-size file drawer in which are filed, for immediate use, over 500 items covering 212 job fields and specific occupations. Price: $199.50 net, in corrugated case: $284.50 in 2-drawer metal file on wheels.

Employment and Unemployment in the United States - A Study of the American Labor Force - Seymour L. Wolfbein gives the government's definition of the labor force and an analysis of current labor trends. Cloth: $8.25 net.

Handbook of Job Facts - Revised 1968, 134 pages, $4.50 net, describes over 300 different job fields in chart form. The book covers professional, semi-professional, managerial fields, clerical sales, agricultural, fishery, forestry, skilled occupations, and the services (domestic, personal, protective and building service), semi-skilled, and unskilled occupations.

Job Family Series - This is a series of 20 booklets describing the variety of job prospects and opportunities within such fields of work as science, mechanical work, outdoor work, technical work, selling, clerical work, engineering, mathematics, building construction, social work, data processing, education, psychology, art, publishing, trades, health, agriculture, and the like. Complete set of 20 booklets is $19.50 net; booklets $1.20 net each.

SCIENCE RESEARCH ASSOCIATES, INC. (Continued)

Occupational Briefs - A total of 400, 4-page illustrated occupational briefs published to date. The complete set may be purchased for $83.50 net; individual titles are available at 45¢ net each; quantity discounts are available.

Occupational Exploration Kit - Provides the high school student with a systematic, personalized approach to job investigation. The unique OccuScan (Occupational Scanner Trademark) helps the student explore his own educational aspirations, abilities and interests. The kit also includes 400 Occupational Briefs, 17 Job Family Booklets, 8 Guidance Series Books, 25 Student Record Books, and a Guide for Counselors and Teachers. Price: $99.50 net. College edition, with 274 briefs, $84.95 net.

Occupational Information - The Dynamics of Its Nature and Use - M. F. Baer and E. C. Roeber, revised 1964, 494 pages, $7.45 net. One chapter lists national sources of information on occupational training. The book is a comprehensive text on occupational information, including sections devoted to occupational and industrial structure, community occupational surveys, use of occupational information in counseling with individuals and with groups, and suggestions for vocational units.

Occupational Information in the Elementary School - Willa Norris. Gives important theories of vocational development and suggests outlines, techniques, and examples for offering occupational information to children. Price: $5.50 net.

Widening Occupational Roles Kit (Work) - Helps the junior-high school student explore 400 different occupations and pinpoint the extent and type of education needed to prepare adequately for the occupation of his choice. Kit includes 400 Briefs, 5 Junior Guidance Booklets, 35 Student Workbooks, a Teacher's Manual, and 5 color filmstrips. Revised, 1967, price: $149.50 net.

Charting Your Job Future, Grades 9-12 - This practical activity text provides self-administered inventories to help students assess their interests, abilities, and personality and relate them to careers. The book describes fields of work and types of jobs and suggests training and education. The concluding chapter deals with the problems of job hunting. $1.95 net.

Guidance Series Booklets, Grades 9-14 - This series contains 58 titles. Each booklet is 48 pages, illustrated; cost: $0.80 each.

Junior Guidance Series, Grades 6-9 - The booklets in this series provide helpful direction for the junior high school student in a variety of areas as he moves from childhood to adolescence. $.80 each; set of 21 titles, $13.25.

SCIENCE RESEARCH ASSOCIATES, INC. (Continued)

Keys To Vocational Decisions, Grades 8-12 - This hardbound text combines ten of the SRA Guidance Series Booklets in a sequence that leads the student to learn about himself, his study habits, skills, future education and career. $5.75 net.

Planning My Future, Grades 7-9 - This text contains self-administered tests and inventories that help guide the student in making preliminary educational as well as vocational decisions. $0.90 net.

What Could I Be? Grades 3-6 - This illustrated text introduces boys and girls to the world of work, guides them in viewing occupational areas in terms of their own abilities and interests, and helps them to see the value of school as preparation for work.

What Could I Be? $0.92 net.
Introducing the World of Work to Children (Teacher's Manual) $0.50 net.
Specimen Set $1.34 net.

SEXTANT SYSTEMS, INC.
WESTERN STATION BOX 4283
MILWAUKEE, WISCONSIN 53210

The Sextant Series For Exploring Your Future (Complete Set) - Concise and realistic job descriptions, education and experience requirements, promotional outlooks and skill levels coupled to a personal profiling system to facilitate career search through comparison of personal to job characteristics. 16 Volumes: Air Transportation; Agriculture; Banking; Construction; Graphic Arts and Publishing; Hospitals; Hotels and Restaurants; Insurance; Manufacturing/Salaried; Manufacturing/Wage; Merchandising; Motor Transportation; Professions; Protective Agencies; Public Utilities; Recreation, Parks and Youth Services; 16 Companion Wall Charts; Instructor's Manual; Cross Index; Programs and Practices in Vocational Guidance; 100 Profile Forms with 100 Plastic Profiles. $159.50

The Junior Sextant Series: Career Preparation Through Effective High School Program Planning - Designed to help eighth graders to make sensible high school subject choices to keep the doors open to whatever career they may decide to pursue later. Brief and realistic job descriptions with high school, technical, and college courses and training required for the job. Three packets of 400 job cards each, along with a teacher's manual, 20 student manuals and 20 student workbooks and program planning grids. Complete set: $94.50.

Programs and Practices in Vocational Guidance - Assists counselors in the planning, organization and implementation of vocational guidance programs. Contains practical suggestions for implementation and methods to strengthen counseling and guidance resources. Loose-leaf only: $8.00.

Encyclopedia of Job Descriptions - Defines all the job designations within the manufacturing sphere, sets forth the guidelines for a systematic job evaluation program and provides the basic standards for formal wage and salary administration. Approximately 660 descriptions are covered in Administrative, Office Clerical, Machine and Structural Shop Production, Foundry and Pattern Shop, Forge Shop, and Die Casting and Plastic Molding. Available in hard-bound and loose-leaf editions. $59.50.

A Beginning Sextant Series K-4 - available in mid-1970.

SIMON AND SCHUSTER, INC.
1 WEST 39TH STREET
NEW YORK, NEW YORK 10018

Lovejoy's Career and Vocational School Guide - 3rd Edition; Hard Cover $6.50, Paper $3.95 - A directory of 3,535 career and vocational schools that offer training in more than 200 careers, skills, and trades. For more convenient reference, this Third Enlarged Edition has been reorganized in a companion format to Lovejoy's College Guide.

Lovejoy's College Guide - 10th Edition, 1968; Hard Cover $6.50, Paper $3.95 - This guide for the college-bound student, his parents, teachers, and advisers is now revised on an annual basis. It will bring to 2,846 the number of colleges, universities, junior and two-year colleges, technical institutes, and other institutions fully covered in this manual. The Guide includes new information on academic schedules, students and the draft, the Education Act of 1965, the new GI Bill, graduate-school admission tests, and other special features.

Lovejoy's Prep School Guide - 3rd Edition, Hard Cover $5.95, Paper $3.95 - A comprehensive guide to 2,303 independent secondary schools throughout the country. Among the subjects covered are; how to choose a school and be admitted; tests and credits required; sizes and facilities, ratings; religious affiliations, scholarships, tuition and related expenses, special schools and curricula.

Other publications are: New Horizons in Education, $3.95; Your Career Selection Guide, $1.95; Your Career in Medicine, $1.00; Your Career in Law Enforcement, $1.00; Your Career in Electronics, $1.00; Your Career in Banking, $1.00; The Complete Job Hunting Guide, $1.00; The Teenage Employment Guide, $2.95; Handbook of Foreign Language Occupations, $1.75; How To Be An Effective Secretary, $0.75.

SOUTHERN BAPTIST CONVENTION
EDUCATION COMMISSION
460 JAMES ROBERTSON PARKWAY
NASHVILLE, TENNESSEE 37219

College and Career - Published ten times yearly - monthly October through May and bi-monthly June through September, at $1.00 for 1 year; $1.75 for 2 years, $2.50 for 3 years. Contains articles regarding college planning, college selection, and vocations. Most appropriate for 11th and 12th graders.

VOCATIONAL FILMS
111 Euclid Avenue
Park Ridge, Illinois 60068

This company is producing a continuing series of new guidance films designed to inform young seekers about specific occupations in the world of work. Primarily concerned with the non-college bound student, the films have been prepared in association with leading guidance counselors, subject area specialists and with various trade, labor and industry associations.

All films produced by this company meet the guidelines for guidance films as established by the National Vocational Guidance Association.

All films are available for rental or sale. Rentals are $12.00 for three days, sale is $120.00 in color. All films are approximately 11 minutes in length and are available in both 16mm and in 8mm Fairchild Mark TV cartridges. Teacher's guides and brochures accompany each film.

Titles currently in distribution:

So You Want To Be A Tool & Die or Moldmaker
So You Want To Be On The Team
So You Want To Be A Nurse (Filmstrip)
So You Want To Be An Electronic Technician
So You Want To Choose a Career
Part 1 It's Up to You
Part 2 Opportunity Everywhere

Titles soon to be released:

So You Want a Career Without College
So You Want a Career in the Building Trades
So You Want a Career in the Service Trades
So You Want a Career in the Machine Tool Trades
So You Want a Career in the Printing Trades
So You Want to Keep Your Job & Get a Promotion
So You Want to Be An Appliance Serviceman

VOCATIONAL GUIDANCE MANUALS
235 EAST 45TH STREET
NEW YORK, NEW YORK 10017

Vocational Guidance Manuals - A series of specific career books written by outstanding authorities in each field and based on NVGA standards. Each book is published in two edditions--paperbound edition, $1.95; special library edition, $3.75. Each book is approximately 112-144 pages. Approximately twelve new titles published each year. Special 20% discount available under Standing Order Plan. At present, 40 titles in series. Free catalog of VGM materials available upon request.

HENRY Z. WALCK, INC.
19 UNION SQUARE WEST
NEW YORK, NEW YORK 10003

Careers for Tomorrow Series - Non-fiction books about careers which students may decide to follow when they finish high school or college. These books are intended to meet the needs and criteria of guidance experts by providing complete information and a broad view of areas of study and work. All contain a reading list, index, and photographs; each $4.50. List available upon request.

H. W. WILSON COMPANY
950 UNIVERSITY AVENUE
NEW YORK, NEW YORK 10452

Occupational Literature - 1971 Edition in preparation. A comprehensive annotated bibliography of occupational material.

NATIONAL ASSOCIATIONS

The following list of national associations is based on the Dictionary of Occupational Titles occupational group arrangement as adapted for use in the Occupational Outlook Handbook. An attempt was made to contact each source identified in the Occupational Outlook Handbook, and the following list represents those organizations which replied to our request.

I. Professional and Related Occupations

A. Business Administration

American Institute of Certified Public Accountants
666 Fifth Avenue
New York, New York 10019

"Men of Account" (free loan film)
What's it Like to be an Accountant?

American Advertising Federation
1225 Connecticut Avenue, N.W.
Washington, D.C. 20036

Jobs in Advertising
Publications List
The Commercial Artist
Where Shall I go to College to Study Advertising?

Public Personnel Association
1313 East 60th Street
Chicago, Illinois 60637

Your Career in Public Personnel Administration

Public Relations Society of America, Inc.
845 Third Avenue
New York, New York 10022

An Occupational Guide to Public Relations
Colleges Offering Courses in Public Relations

B. Clergy

Pastoral Educational Services
400 Sette Drive
Paramus, New Jersey 07652

Generation of Opportunity (Religious)

C. Conservation

American Society of Range Management
2120 South Birch Street
Denver, Colorado 80222

Career Opportunities in Rangeland Resource Management

Society of American Foresters
1010 Sixteenth Street, N.W.
Washington, D.C. 20036

Ask Any Forester
Institutions in the U.S. Offering Forest Technician Training (April 1970)
Institutions in the United States Offering Professional Education in Forestry (Jan. 1970)

United States Department of the Interior
Bureau of Land Management
Washington, D.C. 20240

Opportunities in Resource Management
Professional Careers in the Biological and Agricultural Sciences with the Federal Government
So You Want to be a Forester?

D. Counseling

American Association of Junior Colleges
One Dupont Circle, N.W.
Washington, D.C. 20036

Your Career and Two-Year Colleges

D. Counseling (Continued)

The American Legion
Department 5
P.O. Box 1055
Indianapolis, Indiana 46206

Need a Lift? $.25
(Financial Aids)

American Personnel and
Guidance Association
1607 New Hampshire Ave., NW
Washington, D.C. 20009

Assisting Vocational Development in the Elementary School $.40
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The Teacher's Role in Career Development $1.90
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Technical Education
ERIC Clearinghouse
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210

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D. Counseling (Continued)

ERIC Counseling and Personnel
Services Information Center
611 Church Street
Ann Arbor, Michigan 48104

CAPS/CAPSULE
Integrated Personnel Services Index $4.95

National Home Study Council
1601 18th Street, N.W.
Washington, D.C. 20009

Directory of Accredited Private Home Study Schools
N.H.S.C. NEWS (monthly publications)

National Jewish Welfare Board
145 East 32nd Street
New York, New York 10016

Sources of Career and Scholarship Information

National Rehabilitation Counseling Association
1522 K Street, N.W.
Washington, D.C.

How Will You Choose to Help Others?
The Rehabilitation Counselor
Traineeships for Graduate Study in Social Work
Up Against the Wall
Want to Help People?

E. Engineering

American Society of Agricultural Engineers
Saint Joseph, Michigan 49085

Agricultural Engineering and YOU $.15
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E. Engineering (Continued)

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Inc.
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For Career Opportunities
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New York, New York 10017

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The Institute of Electrical and
Electronics Engineers, Inc.
345 East 47th Street
New York, New York 10017

Your Challenge in Electrical
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American Society for Engineering
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One Dupont Circle
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The Engineering Technician $.50
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Industrial Engineering--
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fessional Development, Inc.
345 East 47th Street
New York, New York 10017

After High School What?
Engineering: A Challenge
National Engineering
Aptitude Search
Need Financial Aid for
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Sources of Engineering
Career Information
Sources of Engineering
Technology Career
Information

National Society of Profes-
sional Engineers
2029 K Street, N.W.
Washington, D.C. 20006

Engineering: A Career of
Opportunity

F. Health

American Chiropractic Association
2200 Grand Avenue
Des Moines, Iowa 50312

Planning a Career in
Chiropractice

F. Health (Continued)

International Chiropractors Association
741 Brady Street
Davenport, Iowa 52808

Guide to Approved Chiropractic Colleges
Your Career as a Doctor of Chiropractic

American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611

Career in Dentistry
Dental Admission Testing Program
Dentistry a Career for Women
Financial Aid for Students
Your Future in Dentistry

American Dental Hygienists' Association
211 East Chicago Avenue
Chicago, Illinois 60611

Careers in Dental Hygiene
Dental Hygiene--A Career with a Future

National Board for Certification Dental Education
3801 Mt. Vernon Avenue
Alexandria, Virginia 22305

Hands that Think
The Certified Dental Technician Program

The American Dietetic Association
620 North Michigan Avenue
Chicago, Illinois 60611

Do You Know Them
Dietitians in Demand $.05
Dietetics as a Profession $.50

F. Health (Continued)

Mid-Ohio Health Planning Federation
P.O. Box 2239
Columbus, Ohio 43216

Health Careers Packet

American Hospital Association
840 North Lake Shore Drive
Chicago, Illinois 60611

AHA Health Careers Series
Careers That Count
Professional Schools in the Health Field
Today's Hospital--Career Center for America's Youth

American Society of Medical Technologists
Suite 1600
Hermann Prof. Bldg.
Houston, Texas 77025

Are you Dreaming of a Career in Medical Science?
Be a Medical Technologist (Packet)

Registry of Medical Technologists (ASCP)
710 South Wolcott Avenue
Chicago, Illinois 60612

Careers in the Medical Laboratory
Careers with a Future

American Nurses' Association
10 Columbus Circle
New York, New York 10019

Nursing Can Turn You On
Schools of Nursing 1968 $.15

F. Health (Continued)

National Association for Practical Nurse Education and Service
1465 Broadway
New York, New York 10036

A Secure Job--A Lifetime Career
Directory of State-Approved Schools and Programs of Practical Nursing

American Occupational Therapy Association, Inc.
251 Park Avenue South
New York, New York 10010

Colleges and Universities Offering Courses in Occupational Therapy
Occupational Therapy--A New Life for the Disabled
Occupational Therapy Handbook
Where to Look for Financial Help--To Attend College and Study...
Your Educational Requirements for Occupational Therapy

American Optical Corporation
Southbridge, Mass. 01550

Careers Folder

American Optometric Association, Inc.
7000 Chippewa Street
St. Louis, Missouri 63119

Optometry--A Career with Vision
Scholarships in Optometry

American Osteopathic Association
212 East Ohio Street
Chicago, Illinois 60611

The Osteopathic Profession and its Colleges

F. Health (Continued)

The American Society of Clinical Pathologists
710 South Wolcott Avenue
Chicago, Illinois 60612

A Career for you as a Certified Laboratory Assistant
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What Kind of Career Could I Have in a Medical Laboratory?

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77 West Washington Street
Chicago, Illinois 60602

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American Pharmaceutical Association
2215 Constitution Avenue, N.W.
Washington, D.C. 20037

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Shall I Study Pharmacy $.35

The National Association of Retail Druggists
One East Wacker Drive
Chicago, Illinois 60601

There is a Future for you in Pharmacy

American Physical Therapy Association
1740 Broadway
New York, New York 10019

Career Facts
Sources of Financial Assistance for Physical Therapy Students
The Career for You

F. Health (Continued)

American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

Horizons Unlimited
Opportunities and Rewards of Medicine

The Association of American Medical Colleges
One Dupont Circle, Northwest
Washington, D.C. 20036

Career Information for High School Students
Financial Information for Medical Students
Information for Minority Group Students
Medical College Admission Test Bulletin

American Podiatry Association
20 Chevy Chase Circle, N.W.
Washington, D.C. 20015

Students--Consider a Career in Podiatry $.25

National Association for Practical Nurse Education and Service, Inc.
1465 Broadway
New York, New York 10036

A Secure Job--A Lifetime Career
Career Opportunities as a Licensed Practical Nurse

National Federation of Licensed Practical Nurses, Inc.
250 West 57th Street
New York, New York 10019

Practically Speaking for a Nursing Career

F. Health (Continued)

Book Service, American Public Health Association
1740 Broadway
New York, New York 10019

Reports on the Educational Qualifications of Health Workers

The American Registry of Radiologic Technologists
2600 Wayzata Boulevard
Minneapolis, Minnesota 55405

Approved Schools of Radiologic Technology
Careers in X-Ray Technology
The American Registry of Radiologic Technologists

American Veterinary Medical Association
600 South Michigan Avenue
Chicago, Illinois 60605

Career Facts About Veterinary Medicine
Today's Veterinarian

G. Mathematics and Related Fields

American Statistical Association
Room 703, 810-18th St. N.W.
Washington, D.C. 20006

Careers in Statistics

H. Natural Sciences

American Astronomical Society
211 FitzRandolph Road
Princeton, New Jersey 08540

A Career in Astronomy

H. Natural Sciences (Continued)

Manufacturing Chemists Association
1825 Connecticut Avenue, N.W.
Washington, D.C. 20009

A Bright Future for you as a Chemical Technician
A Dozen Reasons why Young People Choose Chemical Industry Careers
Film Guide on Chemicals, Chemistry and the Chemical Industry
Sources of Career Information in Scientific Fields

Education Office, American Chemical Society
1155 Sixteenth Street, N.W.
Washington, D.C. 20036

A Different Career in Chemistry
Career Opportunities (CORElator, 1970) Chemical and Engineering News (March 9, 1970)
Chemistry and Your Career
Educational Services of the American Chemical Society
Is Chemical Technology the Career for you?

Publications Sales
American Geological Institute
2201 M Street, N.W.
Washington, D.C. 20037

Geology--Science and Profession
Publications List

American Geophysical Union
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037

Geophysics, The Earth in Space

H. Natural Sciences (Continued)

American Meteorological Society
45 Beacon Street
Boston, Massachusetts 02108

The Challenge of Meteorology

I. Art Related

National Association of Schools of Art
One Dupont Circle, N.W.
Washington, D.C. 20036

Careers in Art--Guide to Art Studies $.50

Industrial Designers Society of America
60 West 55th Street
New York, New York 10019

Careers in Industrial Design $.25

National Society of Interior Designers
315 East 62nd Street
New York, New York 10021

Interior Design Career Guide

National Association of Schools of Music
One Dupont Circle, N.W.
Suite 650
Washington, D.C. 20036

Careers in Music

Photographic Art & Science Foundation
1090 Executive Way
Des Plaines, Illinois 60018

Focus on Your Future

J. Social Sciences

American Economic Association
629 Noyes Street
Evanston, Illinois 60201

Economist

Association of American Geographers
1146 Sixteenth Street, N.W.
Washington, D.C. 20036

Geography as a Professional Field

The American Historical Association
400 A Street, S.E.
Washington, D.C. 20003

History as a Career
Pamphlets for Teachers and Students of History
Preparation of Secondary-School History Teachers

The American Political Science Association
1527 New Hampshire Avenue, N.W.
Washington, D.C. 20036

Career Bibliography

K. Teaching

National Education Association of the United States
1201 - 16th Street, N.W.
Washington, D.C. 20036

Careers in Education $.35

American Federation of Teachers
1010 - 14th Street, N.W.
Washington, D.C. 20005

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K. Teaching (Continued)

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L. Technicians

General Motors Corporation, Public Relations Staff
Room 1-101, General Motor Building
Detroit, Michigan 48202

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Can I be a Draftsman?
Can I Make the Production Team?
In Planning Your Future, Look First at the Retail Automobile Business

M. Writing

American Council on Education for Journalism
School of Journalism
University of Missouri
Columbia, Missouri 65201

Accredited Programs in Journalism

M. Writing (Continued)

Sigma Delta Chi
35 East Wacker Drive
Chicago, Illinois 60601

Magazine Journalism: A Career for You?
Mike and Camera; A Broadcasting Career for You
Newspaper Journalism
The Big Story

The Newspaper Fund, Inc.
U.S. Highway No. 1
South Brunswick, New Jersey

"Did You Hear What I Said?" (free loan film)
Do You Belong in Journalism?
Information on the Road to a Career in Journalism
Journalism Scholarship Guide

Society of Technical Writers and Publishers, Inc.
1010 Vermont Avenue, N.W.
Suite 421
Washington, D.C. 20005

Education for Technical Writers
Technical Writing as a Career

N. Other Professional and Related Occupations

The American Institute of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006

Designing a Better Tomorrow
The Architectural Profession in the United States

N. Other Professional and Related Occupations (Continued)

American Home Economics Association
1600 Twentieth Street, N.W.
Washington, D.C. 20009

Publications Catalogue

Information Service, American Bar Center
1155 E. 60th Street
Chicago, Illinois 60637

The Profession of Law

American Library Association
50 East Huron Street
Chicago, Illinois 60611

Future Unlimited (Librarian)
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The Public Librarian

Special Libraries Association
235 Park Avenue South
New York, New York 10003

Data Sheets on Special Librarianship (24 titles to set)
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American Institute of Planners
917 Fifteenth Street, N.W.
Washington, D.C. 20005

The Challenge of Urban Planning

The American Public Welfare Association
1313 East Sixtieth Street
Chicago, Illinois 60637

The Career That Makes a Difference

N. Other Professional and Related Occupations (Continued)

American Society of Planning Officials
1313 East Sixtieth Street
Chicago, Illinois 60637

Bibliography for Career Information
Colleges and Universities Offering Degree Programs in Planning and Related Fields

National Commission for Social Work Careers
Two Park Avenue
New York, New York 10016

Counselors Kit $3.50
High School Students Kit $1.00
NCSWC Publications List
20 Questions and Answers About Social Work

American Congress on Surveying and Mapping
430 Woodward Building
733 15th Street, N.W.
Washington, D.C. 20005

Careers in Surveying and Mapping

Veterans Administration Publications Depot
Code 036B1
Arlington, Virginia 22206

Dietetics in the Veterans Administration (#10-55)
Rehabilitation Therapists (#10-106)
Social Work in the Veterans Administration (#10-56)
Veterans Administration Nursing Service (#10-30)

II. Managerial Occupations

American Management Association
135 West 50th Street
New York, New York 10020

Invitation to Achievement: Your Career in Management
Sources of Information About Careers

National Association of Purchasing Management, Inc.
11 Park Place
New York, New York 10007

Purchasing as a Career $.50
Your Career in Purchasing Management

American Society of Traffic and Transportation, Inc.
22 West Madison Street-Room 404
Chicago, Illinois 60602

Industrial Traffic (Distribution) Manager

III. Clerical and Related Occupations

United Business Schools Association
Suite 401
1730 M Street, N.W.
Washington, D.C. 20036

Accounting for Your Future
Directory of Business Schools
Don't Overlook the Business College
Excitement Travel Career as an Overseas Secretary
What it Takes to be a Secretary
Your Career as a Medical Secretary
Your Career as a Secretary

III. Clerical and Related Occupations (Continued)

American Federation of Information Processing Societies
210 Summit Avenue
Montvale, New Jersey 07645

Computer Careers

National Shorthand Reporters Association
25 West Main Street
Madison, Wisconsin 53703

Shorthand Reporting as a Career

IV. Sales

National Automatic Merchandising Association
7 South Dearborn Street
Chicago, Illinois 60603

Automatic Vending Routemen
Vending Machine Mechanic
Vending Machine Repairman

National Automobile Dealers Association
2000 K Street, N.W.
Washington, D.C. 20006

Your Career in the Retail Automobile Industry

Automotive Service Industry Association
230 North Michigan Avenue
Chicago, Illinois 60601

Plan Your Career in Automotive Service

National Farm & Power Equipment Dealers Association
2340 Hampton
St. Louis, Missouri 63139

Careers in Farm and Power Equipment Retailing

IV. Sales (Continued)

Institute of Life Insurance
277 Park Avenue
New York, New York 10017

A Life Career
It's Up to You--A Guide to a Career in Life and Health Insurance

The National Association of Life Underwriters
1922 F Street, N.W.
Washington, D.C. 20006

Your Life Insurance Agent and You

New York Stock Exchange
4 New York Plaza
At Broad & Water Streets
New York, New York 10004

Securities Sales Career Information

National Association of Wholesaler-Distributors
1725 K Street, N.W.
Washington, D.C.

Your Career in Wholesale Distribution

V. Service Occupations

National Career Center
3839 White Plains Road
Bronx, New York 10467

A Career in Barbering and Men's Hairstyling
An Exciting Business Career Awaits You!
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Hairdressing and Cosmetology

V. Service Occupations (Continued)

The National Committee on
Household Employment
1346 Connecticut Avenue, N.W.
Washington, D.C. 20036

Women Private Household Workers

National Executive Housekeepers
Association
Second Avenue
Gallipolis, Ohio 45631

Futures Unlimited in Executive Housekeeping

Federal Bureau of Investigation
Washington, D.C. 20535

FBI Career Opportunities

International Association of Fire
Chiefs
Suite 1306
232 Madison Avenue
New York, New York 10016

Consider...Firefighting

International Association of
Chiefs of Police
1319 18th Street, N.W.
Washington, D.C. 20036

Law Enforcement Education Directory 1970
Requirements for a Police Career

VI. Skilled and Other Manual Occupations

A. Building Trades

United Brotherhood of Carpenters and Joiners of America
101 Constitution Avenue, N.W.
Washington, D.C. 20001

Carpentry as a Career
Carpenters: Nature of Work

A. Building Trades (Continued)

Armstrong Cork Company
Lancaster, Pennsylvania 17604

"Flooring Craftsman Film" (free loan film)
Your Opportunity as a Professional Flooring Craftsman

International Molders and
Allied Workers Union
1225 East McMillan Street
Cincinnati, Ohio 45206

Technological Trends in Major American Industries
The Foundry Industry

Painting and Decorating
Contractors of America
2625 W. Peterson Avenue
Chicago, Illinois 60645

Apprenticeship Training Program
Opportunity in Painting, Decorating, and Coating Trade

National Plastering Industry's
Joint Apprenticeship Trust Fund
National Headquarters
1000 Vermont Avenue, N.W.
Washington, D.C. 20005

Plastering

National Roofing Contractors
Association
1515 North Harlem Avenue
Oak Park, Illinois 60302

A Career in Roofing

American Society for Metals
Sheet Metal
Metals Park, Ohio 44073

Career Development Newsletter

B. Machining Occupations

International Association of Machinists and Aerospace Workers
1300 Connecticut Avenue, N.W.
Washington, D.C. 20036

Careers in the Crafts

National Machine Tool Builders' Association
2139 Wisconsin Avenue
Washington, D.C. 20007

Machine Tools/Basic to Defense and the Economy
Machine Tools/Exciting Careers in an Electronic Age
Motion Pictures Catalogue
Publications List

National Tool, Die & Precision Machining Association
1411 K Street, N.W.
Washington, D.C. 20005

Earn While You Learn
Wide Range Training for Industry Program

C. Printing Occupations

International Brotherhood of Bookbinders
1612 K Street, N.W.
City Building, Suite 900
Washington, D.C. 20006

Bookbinders Occupational Brief

Gravure Technical Association, Inc.
Suite 858, 60 East 42nd Street
New York, New York 10017

Careers in Graphic Communications
Careers in Printing

C. Printing Occupations (Continued)

Graphic Arts Technical Foundation, Inc.
4615 Forbes Avenue
Pittsburgh, Pennsylvania 15213

National Scholarship Program of the Printing and Publishing Industry
Technical Schools, Colleges, and Universities Offering Courses in Graphic Communications

Lithographers and Photoengravers International Union
233 West 49 Street
New York, New York 10019

Graphic Arts Technology Today
Careers in Graphic Communications
Technological Developments in the Graphic Arts
Technology's Explosion

National Association of Photo-Lithographers
230 West 41st Street
New York, New York 10036

Your Career in Lithography

American Newspaper Guild
Philip Murray Building
1126 16th Street, N.W.
Washington, D.C. 20036

Newspaper Careers (student package)

International Typographic Composition Association, Inc.
224 Georgetown Building
2233 Wisconsin Avenue, N.W.
Washington, D.C. 20007

A Career in Typography Today

D. Mechanics and Repairmen

Automotive Service Industry Association
230 North Michigan Avenue
Chicago, Illinois 60601

Automotive Instructional Material

Independent Garage Owners of America
624 South Michigan Avenue
Chicago, Illinois 60605

Apprenticeship Training (brochure)
Listing of Schools Offering Automotive Instruction

American Watchmakers Institute
Box 11011
Cincinnati, Ohio 45211

Careers in Watch Repairing
National Roster of Watchmaking Schools

VII. Manufacturing Industries

The Aluminum Association
750 Third Avenue
New York, New York 10017

The Story of Aluminum

American Apparel Manufacturers Association
2000 K Street, Northwest
Washington, D.C. 20006

An Exciting Career in the World of Apparel $.20
Industrial Sewing Machine Mechanics
Publications and Film Directory

VII. Manufacturing Industries (Continued)

U.S. Atomic Energy Commission
Box 62
Oak Ridge, Tennessee 37830

Careers in Atomic Energy
Careers with U.S. Atomic Energy Commission
Nuclear Engineering in Your Future

Clothing Manufacturers Association of the United States of America
135 West 50th Street
New York, New York 10020

Employment Outlook for the Apparel Industry

Forging Industry Association
55 Public Square
Cleveland, Ohio 44113

Employment Outlook for Forge Shop Occupations

Iron Founders' Society, Inc.
National City-East Sixth Building
Cleveland, Ohio 44114

Educational and Technical Career Opportunities in the Cast Metals Industry
Employment Outlook in Foundry Occupations

American Foundrymen's Society
Training & Research Institute
Golf and Wolf Roads
Des Plaines, Illinois 60016

Career Briefs
Careers Unlimited in Cast Metals
Cast Metals Careers

VII. Manufacturing Industries (Continued)

American Iron and Steel Institute
150 East 42nd Street
New York, New York 10017

Journey of Discovery with Mark Steel!
Publications List
The Picture Story of Steel

American Paper Institute
260 Madison Avenue
New York, New York 10016

Of Paper and Opportunity
Paper and Paper Manufacturing
"What's So Special About Paper" (free loan film)

Committee on Public Affairs of the American Petroleum Institute
1271 Avenue of the Americas
New York, New York 10020

Going Places in Oil
Teacher's Resource Reference

VIII. Wholesale and Retail

National Restaurant Association
1530 N. Lake Shore Drive
Chicago, Illinois 60610

Careers for Youth in the Food Service Industry

National Association of Wholesaler-Distributors
1725 K Street, N.W.
Washington, D.C. 20006

Your Career in Wholesale Distribution

IX. Service and Miscellaneous

American Hotel and Motel Association
221 West 57th Street
New York, New York 10019

Career Booklet

IX. Service and Miscellaneous (Continued)

Council on Hotel, Restaurant and Institutional Education
Statler Hall
Ithaca, New York

Directory of Hotel and Restaurant Schools
Scholarships in Hotel and Restaurant Schools

X. Agriculture

United States Department of Agriculture
Agricultural Research Service
Personnel Division
Federal Center Building
Hyattsville, Maryland 20782

Career Opportunities for Veterinarians in U.S. Department of Agriculture
Scientific Careers in Agricultural Research Service

United States Department of Agriculture
Soil Conservation Service
Washington, D.C. 20250

Careers in Soil Conservation Service
Engineers in Soil Conservation (Agricultural and Civil)
Range Conservationist (SCS)
Start Your Career in SCS Before You Graduate

XI. Communication, Transportation, and Public Utilities

National Aerospace Education Council
Room 616, Shoreham Building
806 15th Street, N.W.
Washington, D.C. 20005

Aviation--Where Career Opportunities are Bright (Counselor's Guide)

XI. Communication, Transportation, and Public Utilities (Continued)

Department of Transportation
Federal Aviation Administration
Washington, D.C. 20590

Aviation Career Package

Flight Engineers' International Association
905 Sixteenth Street, N.W.
Washington, D.C. 20006

Safety...In the Jet Age

XII. Finance

The American Bankers Association
90 Park Avenue
New York, New York 10016

Bank Agricultural Specialists

XIII. Mining

American Gas Association, Inc.
1515 Wilson Boulevard
Arlington, Virginia 22209

Career Challenges in the Natural Gas Energy Industry

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ABSTRACT - As part of the Canada NewStart Program, this program of counseling and training for area farmers consisted of 20 lecture and discussion sessions of 3 hours each. Technical education aspects of the program included dissemination of production and marketing information including applicable formulas regarding fertilizer and insecticide concentration and storage and distribution procedures. The managerial component stressed the concepts of farm management by objectives, managerial accounting procedures, and farm business financial arrangements. The counseling consisted of supplying information on resources, alternatives, capabilities, and other reality aspects of the agricultural environment. Because of lack of funds, the training program for farmers produced nothing in terms of stated objectives. In terms of the real objectives, the "hidden agenda," the program was internally successful but externally non-productive. (GB)

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Prince Edward Island NewStart Inc.

AN ANALYSIS OF UNANTICIPATED CHANGE IN AGRICULTURE

by

Thomas R. Connor

and

J. Carol Morrison

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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AN ANALYSIS OF UNANTICIPATED CHANGE IN AGRICULTURE

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The project and the research were conducted as part of the Canada NewStart Program by Prince Edward Island NewStart, Inc., Montague, Prince Edward Island.

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PREFACE

The authors of this report were employed as associates of the manager of the project reported on. One of them had peripheral responsibilities and inputs to the project, and since its termination both have been associated with others involved in follow-up operations. The judgements made and opinions expressed depend on these contacts, and probably could not be made by one examining only the written evidence.

Agricultural adjustments have historically resulted from technological changes. Due to the increasing acceleration of change and the relative isolation of the primary industry operator from the market sector of the economy, farmers in many areas have failed to comprehend and cope with the increasing problems that are associated with this situation.

Within the agricultural context, adjustment can mean many things, among them reorganization of land, occupational mobility, agricultural training, application of a new technology, and restructuring of governmental processes. Ultimately it means economic change in which fewer people produce more goods at lower cost. Several studies have suggested that only one third of the present number of economic farm units can be sustained in the future.[1] This trend will result in a social and economic problem of such magnitude that its repercussions will be felt for many years throughout the economy.

The Canadian Department of Agriculture reported in 1969 that "At present, the rate of adjustment is inadequate to solve the low income farm problems by 1980."[2] To accelerate this adjustment process, or perhaps even to meet this date, farm people must come to see the reality of their situation, and have a knowledge of the resources, alternatives, and capabilities at their disposal. It is frequently assumed that counselling programs and training programs can assist farmers to set logical goals based on their situation and to attain their goals.

In addition, there is the widely held belief that farmers and individuals working with them at the grass roots level know better than government what problems and solutions exist within the farmers' environment.

BACKGROUND:

Agriculture is the largest occupation in Prince Edward Island and in Kings County where this study took place. The 1968 Canada Yearbook reported that agriculture contributed $15 million or almost 50% of Prince Edward Island personal incomes in 1966. It also indicated that potato farming is the most important form of agriculture.[3]

The industry is organized around the family farm, of which there are approximately 900 in Kings County. In recent times the trend has been toward more commercial farms, a trend which will be accelerated by action of the Comprehensive Development Plan for Prince Edward Island. The authors of the Plan found that "Island products can be sold in greatly increased quantities, "if production efficiency is improved. The Plan is therefore to increase efficiency through a program of land consolidation.[4]

The Kings County farmer is faced with problems of low productivity and inadequate income. Personal interviews and subjective analysis indicate that he tends to project blame for his situation on structural elements in the marketing and bureaucratic political system. However he sees no

possibility of affecting change through his own efforts and appears independent and mistrustful of other farmers and outside agencies. The problem therefore tends to be perpetuated.

On the basis of this background situation and analysis of attitudes, a program of counselling and training was set in motion which would test the basic assumptions and the hypothesis that change could be effected.

STATED OBJECTIVES:

1. Farmers, as people generally, are creatures of habit; they find it difficult to consider alternative methods of production and to establish new objectives based on those considerations.[5] The objective therefore was to encourage the farmer to utilize his assessment of his past production methods as a means for establishing more realistic business objectives.

2. Farmers in the past have been a weak group due to the fragmented nature of the industry. It has been difficult for them to identify their common needs and cooperate in fulfilling them. An objective of this project was therefore to enable farmers to study their problems together and to identify common goals.

3. Flowing from the assessments made in the previous objectives farmers would, through further counselling, cooperate in activities directed toward achieving their individual and common business goals.

4. Ultimately, individual farmers will demonstrate a more efficient business operation, which will be measured by a measured increase in disposable farm income.

Baseline measures of the first three objectives were considered essentially zero. Consequently, any identifiable cooperation, or goal or project directed behavior would be considered successful change.

TARGET POPULATION CHARACTERISTICS:

The farming area around Souris, a productive agricultural region, on the southeast coast[6] was chosen as the area of operations. In this area there are approximately seventy commercial growers of potatoes.[7] The project designer and manager was familiar with this area and with some of the individual farmers. Farmers with the following characteristics were apparently invited to participate in the project: (1) a disposable income from potato growing in 1967 of less than $2500 from a farm of between 100 and 200 acres. (2) between 25 and 36 years of age with a lifetime commitment and experience in agriculture (3) an academic education of at least grade 8.

The project manager stated that this group, despite the common problems of low income and lack of organization, were also among the most successful growers, and would be most amenable to developmental change.

RECRUITMENT PROCEDURE:

The names of thirty farmers whose characteristics met selection criteria, were obtained from six community leaders, who represented both the farm and non-farm population. These growers were then approached by the project manager and/or his assistant to see whether or not they were interested, to mention the names of other growers who would be participating in the course, and to stimulate them to start thinking and talking about the course. About a month after initial contact had been made, the project manager called at each grower's farm to present him with a tentative outline of the course.

Some observations made during the recruitment stage were as follows:

1. All growers recognized that severe problems existed in the potato industry in Prince Edward Island.

2. All growers believed strongly that something must be done to improve their situation.

3. The growers felt very strongly that the white-collar workers in agriculture were not doing their job.

4. All growers expressed the feeling that marketing was their major problem.

5. The farmers, though they had much in common, were definitely not a cohesive group. In fact they were competitors; the small growers even

looking on the large growers as the "enemy".

6. Most growers felt completely dependent upon some outside force to solve their problems;

7. All seemed interested in the possibilities of the course.

The group which attended the first and subsequent meetings were actually very diverse, ranging in age from 18 to 55, in education from grade 4 through grade 12 and growing from 20 to 150 acres of potatoes. It appears in effect, that an open invitation had been issued, and was taken up by interested farmers.

PROGRAM DESCRIPTION:

The planned program was a rather standard agricultural training course consisting of twenty lecture and discussion sessions of three hours each, held two evenings a week from November 5th 1968 to January 20, 1969. Technical education aspects of the program included the dissemination of production and marketing information including applicable formulae regarding fertilizer and insecticide concentration and storage and distribution procedures. The managerial component stressed the concepts of farm management by objectives, managerial accounting procedures, and farm business financial arrangements. Throughout the course, the farmers participated in solving various farm problems by means of simulated exercises related to their farm situation.

An agricultural engineer managed the course, utilizing instructors and discussion leaders who were highly qualified within their particular fields. Extensive use was made of experts employed by the Prince Edward Island Department of Agriculture, University of Maine, and Agricultural Engineers Inc., a consulting group operating from Orono and Gorham, Maine.

The counselling component consisted of supplying information on resources, alternatives, capabilities and other reality aspects of the agricultural environment. In many instances "counselling" sessions took place as group discussions until long after the evening's topics had been thoroughly explored, sometimes at the home of a course participant. The project manager indicated that such group discussions usually ended with the group imputing blame on elements in the politico-economic structure. Not until late in the program did they begin to consider that they must initiate action.

Orginally thirty farmers had enrolled in the course, but the attendance rate varied. Apparently however, the group which attended the "counselling" sessions were quite regular in attendance and tended to form a cohesive group. Subsequently, these growers were elected by the others to represent them as officers of the group endeavour which grew out of the course. They did not attempt to become an exclusive group, and later in fact successfully expanded their efforts to include fifty eight of the approximately seventy potato farmers in the region.

STUDY METHODOLOGY:

Sources of Data:

In the planning stage, the project manager worked quite closely with a person somewhat more aware of the requirements of data collection and for pre- and post- measures of the status of variables than himself. Several measures of what were felt to be important behaviors, including the ultimate criterion of increased disposable income were planned. These measures, developed with the assistance of the project manager, included the individual farmer's; (1) Attitude toward self and farming, (2) Appreciation of his situation, (3) Evaluation of the Course, (4) Objectives in farming, and (5) Income.

In the actual operation of the project, none of these measures were applied. It is therefore fair to say that in terms of hypothesized objectives no evaluation can be made. That is to say, it is not possible to state that this group of farmers changed their self concept; that they held a new perception of their occupation; that they changed their farm operating goals; nor that they increased their disposable income.

However, though systematic analysis was deliberately avoided, it is possible to speculate on other aspects and other outcomes from this training program. Data for such speculation comes from other sources, namely written reports made by the project manager over the life time of the project

and discussions with him concerning his contacts with the training group in the weeks following the project termination. During the writing of this report, interviews and cross checks with an individual associated with the program and with one who later became familiar with the area farmers added to the data. In this sense, the authors of this report in the course of sifting the truth from conflicting and misleading data, became in the literal sense, detectives. What has been observed is perhaps not only a process of non-directive change, but the development of a significant and positive result which was in fact the "hidden agenda" of the project manager.* The major purpose of the remainder of this paper is therefore to document this process and to record whatever lesson may be salvaged thereby.

Process Analysis:

The section contains a chronological description taken from written reports of each meeting.

The project manager met the group for a first introductory and organi-

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* An alternative hypothesis to the one which is preferred in this paper is that the project manager did not know what was happening, that he had no real objectives, and that he "latched on" to the first concrete objective which arose. This may be a more generous hypothesis, but the available evidence persuades us differently.

zational meeting. Twenty five of the invited thirty farmers attended, but their participation in structuring the course to meet their needs was quite limited. They appeared to depend on the project manager to present them with solutions to their as yet undefined problems. The project manager reported that almost no general discussion occurred; that even this was irrelevant to potato production and marketing. He felt that little had been accomplished at this meeting. In contrast, it is interesting to note in a later report submitted by the farmers, that they expressed the view that they had actually participated and had made a positive input to structuring the course.[8]

At the second session only eighteen growers were present. Those who had dropped out had two identifying attributes; (1) they were an older group, (2) they had been the ones who obstructed progress at the previous session through overly general talk. The agenda topic for the session was soils, led by a soils researcher of the Federal Department of Agriculture. Communication between the speaker and the group was apparently good. The project manager could not determine whether this was due to the speaker's ability, or to the fact that the meeting room had been arranged in a circle to facilitate interaction.

The third session concerned seed, led by another expert from the Federal Department of Agriculture. Interaction was good; perhaps even

improved over the previous session. Only seventeen growers attended and the seating arrangement described previously was used again. The project manager expressed renewed optimism over the chances of success for the project. He based this opinion on the improved interaction, which he attributed to the ability of the speaker and the fact that the group were becoming better acquainted.

The fourth session, attended by eighteen growers, was the best session to that point. The topic, marketing, was led by a grower of 650 acres of potatoes, who had also been involved in politics and who presented many thought provoking views. In his report of this meeting, the project manager made an observation regarding the participants' penchant for discussing issues unrelated to either the speaker's expertise or to the agenda. Speculation on the reasons for this phenomenon renders the following possible explanations:

1. It represents an attempt on the part of farmers to comprehend the holistic nature of their enterprise.
2. It is an expression of failure to understand the topic at hand.
3. It represents expressions of hostility toward any white collar worker who presents himself as an authority.
4. It is a manifestation of avoidance of substantive issues.

In the light of ensuing events the latter might appear to be the case,

although further investigation is warranted.

The fifth meeting was attended by seventeen growers. The discussion topic was fertilizer, led by the same soils specialist who we have seen was able at a prior session to communicate well with an even larger group. However, the project manager noted that "discussion at this session left a lot to be desired." He noted further that fertilizer was one of the grower's highest costs and should consequently have provoked a great deal of interest.

The project manager, an agricultural engineer, was extremely pessimistic at this time that any change could be effected among this group. He felt that although they were depressed by their situation they were still too apathetic to take a hand themselves in improving their condition. It is clear also, from his reports, that they were extremely dependent on him to produce" the one best solution" to their problems.

It became apparent in his report of this meeting, that the project manager was consistently attempting to force some action response from this group. He stated, "I keep repeating that a group of this size, with the potential they have, can make a real contribution to the potato industry, the community, and themselves." Obviously, to hold this expectation, there must have been other objectives than changes in self concept and improved income.

Attendance at the sixth meeting was reduced due to inclement weather. The reduced group entered into somewhat livelier discussion on insect and pest control. The somewhat facetious view was expressed that perhaps a useful procedure would be to identify certain pests in the department of agriculture offices.

In the counselling session which followed this meeting, the growers intimated that they wanted "to do something about the situation" but did not know how to go about it. The project manager refused to acept this excuse, saying they had accumulated most of the technical information on production, but now must make a "move", apparently in other endeavours. Yet the course ostensibly centered largely on technical matters.

Thirty two growers attended the seventh session, to hear an engineering consultant. It may be significant that the project managers' report of this meeting omitted mention of the speaker's topic. He dwelt instead on seating arrangements and on the speaker's method of presentation. He also registered his opinion that change with a group as diverse as the thirty farmers was unlikely. He felt instead that the group included a sub-group of about ten, about thirty years of age, with similar goals, "who may well make the decision to drastically chage their situation." Apparently he sensed some interest in what we may sense as his own "hidden agenda".

The evening's topic was a report on a method of centralized storage and packaging of fresh market potatoes. The project manager had heard a paper on this topic read by the evening's speaker at a professional meeting in 1968.[9] A copy of that paper is included among the data on the project.

The following two sessions were led by a professor of marketing from the University of Maine. Thirty growers attended each session and each was marked by lively discussion. The project manager noted that the tone of the first session was negative, led by the older growers. The second session was noticeably though unaccountably positive. The project manager expressed optimism, since he "could detect the change I had been looking for since (the project started)."

The next session was held at the request of the growers but only six attended. The evidence on the sequence of events is conflicting, however either prior to or subsequent to this meeting, five of these six were appointed (perhaps by themselves) to lead and to represent the group. Whatever the sequence, these six expressed remorse for past failures and a commitment to lead their fellows against the politico-economic powers who controlled the marketing system of the area.

Thirty people attended the next meeting, held for the purpose of discussing the establishment of a potato packaging plant and warehouse.

This notion enters the record here with out preamble, reported not by the project manager, who chaired the meeting, but by a colleague who attended the meeting. The project manager gave as the purpose of the meeting "marketing". According to him, the outcome of the meeting was a group decision to study the feasibility of marketing collectively. According to his colleague the outcome was to study the feasibility of establishing a packaging plant, to which he said "they seemed very committed".

The reader may be correct in thinking that this is a very rapid change on the part of a group which had supposedly only heard of such an operation one month previously. It seems probable however, that the establishment of such a facility, owned and managed by the farmers, had been the project manager's "one best solution" all along, and which he had been pressing on the group.

At this point the "course" was completed. It remains for us to speculate on why the goal was pursued in this fashion, to evaluate the end result of the program, and to draw our lessons for development.

Pursuit of the Goal

Canada NewStart was established for the purpose of preparing disadvantaged adults for stable and rewarding employment. In its initial phases, this constraint was rigidly enforced; no consideration was given to providing opportunity for the utilization or application of new skills.

In the opinion of the manager of this farm program, such a constraint was unreasonable and spelled built-in defeat for development.

Assuming he held the opinion that human resource development in Kings County depended on prior or simultaneous change in the politico-economic system, he felt bound to attempt to bring about that change. Since he could not do so directly, he attempted it under the guise of a training program. Unfortunately, although there appeared to be elements of both approaches it is not possible to ascertain the exact mix of directive and non-directive techniques he used. However, as noted above, participants did feel they had made a contribution to course planning.

His objective was apparently as follows:

To select a group of potentially successful potato farmers; to make them aware of certain factors in regard to the reality of their businesses; to motivate them to change their behavior relative to processing and marketing their crop; to "make a real contribution to the potato industry, the community and themselves."

Evaluation

As we saw above, a representive group of farmers was elected to study the storage and processing plant proposal. This group presented, in May of 1969, a proposal to Government asking for financial assistance for this endeavour.[10] This proposal presents the best evidence of the success

of the program. The specific outcomes they noted are as follows:

1. The farmers assisted in planning a "course on the production process in growing potatoes".

2. After evaluating all aspects of the business, they "decided that a change in the marketing system offered the greatest economic advantages." They reasoned that a change in the marketing system was essential to improving their financial position and the economy of the area. They recognized that, while a reduction in their production costs was possible, this would still leave them far short of an acceptable profit without the pre-requisite change in marketing.

3. They had become a self-sustaining, self-active group. (a) They continued to meet, "discussing and cussing marketing", and (b) studying alternative systems, and developing a marketing strategy. (c) They assessed their resources, (d) determined the size of operation they desired and (e) invited area farmers' participation.

4. The response to the invitation included almost three times as many interested growers as the promoters had aimed for. Fifty eight growers pledged $100. each to support the venture; the goal had been twenty growers. The acreage committed to the system was 2400, approximately twice as many as had been felt necessary.

The proposed system included refrigerated storage with chemical treatment, various product packaging types and sizes, and shipping.

5. They formed a private company, hired an engineer to prepare drawings, select the site and prepare flow diagrams and cost estimates. They made arrangements to acquire industrial electric power, to have a railroad spur provided, and arranged to employ a full time manager. They made contingency operating plans to meet their commitments in the first year.

6. They made a proposal to Government including the preceding information, projected budget, operating procedures and engineering drawings, requesting $500,000. in financial assistance. In the proposal they stated, "we have studied the problem, abided by the rules, and come up with an obviously acceptable solution".

7. They were turned down.

The evaluation of results of development through intervention can and must be of two types. The first is in - program evaluation. The second is an evaluation of long term, ultimate or "distal" effects. The first asks, Did it work? The second asks, Did it make any difference? There always remains the question, Why? Let us state that the program did work. Then let us state that it made no difference. Now let us see why.

In a word, it made no difference because of lack of funds. The $5800. pledged by area farmers did not materialize, reportedly because they feared exploitation by both their own representatives and the government. The Province lent $15,000. to support a study, at which point funds supposedly ran out. Lying behind these observations are the factors of timing and Governmental responsibility. The Government of Prince Edward Island stated and continued to state well into 1970 that it would support this and similar ventures. The project manager and the group of growers believed these statements. However, they acted prematurely on their beliefs, since Government was speaking prematurely in regard to its ability to commit funds. There has been no money provided and no progress on the potato marketing system.

The real result of this program has been a disappointed citizens group, political enmity and perhaps deepened apathy.

Lessons for Development

The training program for farmers produced nothing in terms of the stated objectives. In terms of the real objectives, the "hidden agenda", the program was internally successful but externally non-productive. Unfortunately it is impossible at present to determine whether a potato packaging plant is a suitable solution to economic stagnation in the area. But surely the experience contains some useful lessons for the interventionist,

whether developer or researcher.

In the first place, we are provided with a very cogent reminder that administrator's decisions and their enactment are sometimes worlds apart. This has of course been a problem literally since Eve ate the apple, but in the present context we may note other applications. For example, economic and social development plans and programs are not always successful. Who is to determine if this is due to improper programming or improper implementation resulting from disagreement with the original goals?

Secondly, we are provided with a reminder that community or local efforts should proceed in close coordination with superordinate bodies. Failure to coordinate can too easily result in failure, frustration, embarrassment, disaffection, and renewed apathy.

For the administrator who must evaluate social action programs and for the researcher who has this task as well as a concern for truth, we find other related lessons. In the first place, it is clear that pre- and post-measures of the effects of such programs are not good enough. We need to know what went on within the program which may account for the results. In the present case we would have reported zero effect, but that is clearly not true. Process analysis is essential, and produces a different conclusion.

In the second place, process analysis cannot depend on formal, written data and certainly not on post facto reports. We cannot stress our

opinion too strongly, that if a researcher had been directly involved in the action, the rules of evidence would have been more closely adhered to. In the present instance it is quite likely that much of the flavor and much of the truth has been lost. They might have been retained had a participant observer, trained in the social sciences been part of the program.

An alternative might have been close supervision, and enforced adherence to the plan. In that case we might have produced a technically correct report but of an even more dismal experience, with even less return to knowledge and to development.

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9. Walter F. Carpenter, "A Consulting Engineer's Approach to Centralized Storage and Packing of Fresh Market Potatoes." Paper presented at the 1968 Annual Meeting, North Atlantic Region, American Society of Agricultural Engineers, Storrs, Conn.

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VT 012 242
Learning to Earn in Ohio Through Vocational Education.

Ohio Advisory Council for Vocational Education, Worthington.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - ND 16p.

DESCRIPTORS - *ANNUAL REPORTS; *ADVISORY COMMITTEES; *PROGRAM DEVELOPMENT; *STUDENT NEEDS; EDUCATIONAL NEEDS; FINANCIAL SUPPORT; JOB TRAINING; SERVICE OCCUPATIONS; ADULT VOCATIONAL EDUCATION; YOUTH CLUBS; CITIZEN PARTICIPATION

ABSTRACT - The Ohio Advisory Council for Vocational Education in its annual report notes the progress that has been made in meeting the occupational needs of the people of Ohio. This Council makes 11 recommendations for the improved effectiveness of vocational education. Included among these are the recommendations that efforts be continued to create more joint vocational school districts and that programs serving students with special needs be expanded. This document is a summary of the 1969-70 Annual Report which is available as VT 011 798 (ARM Spring 1971). (JS)

VT 012 242

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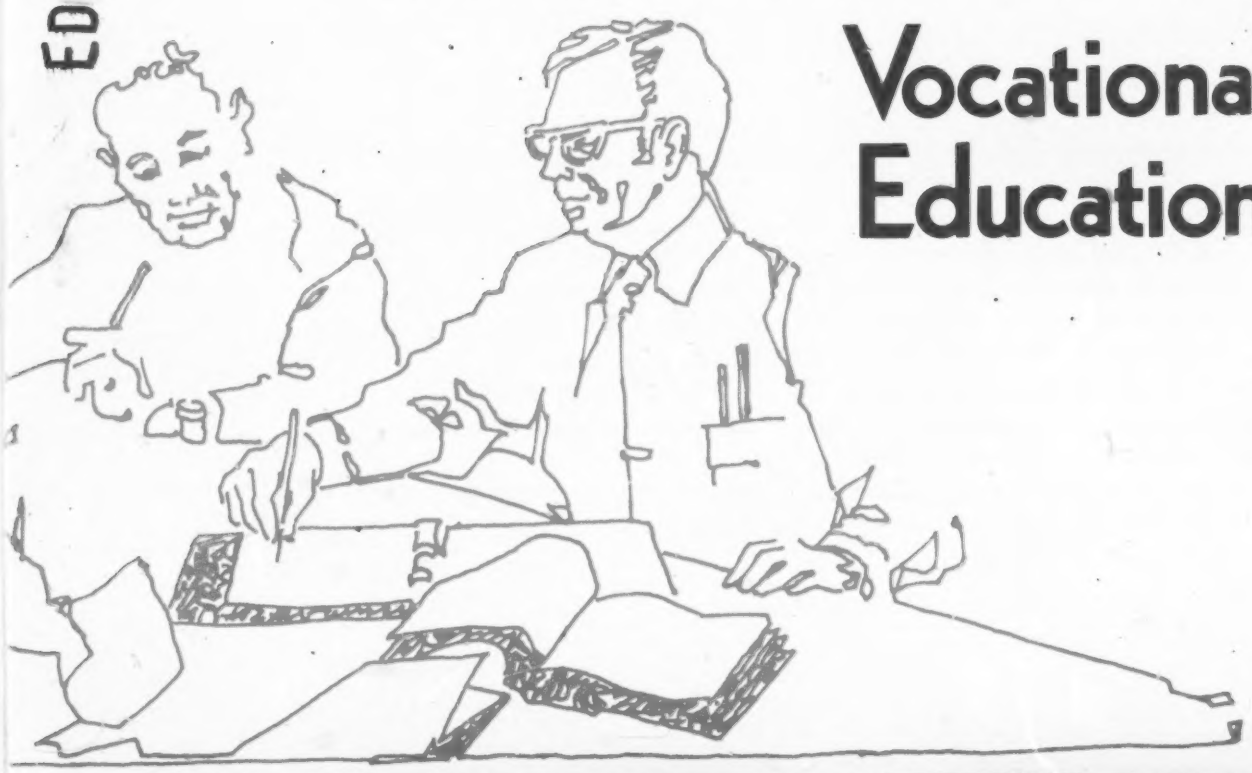
Learning to Earn in Ohio through

Vocational Education



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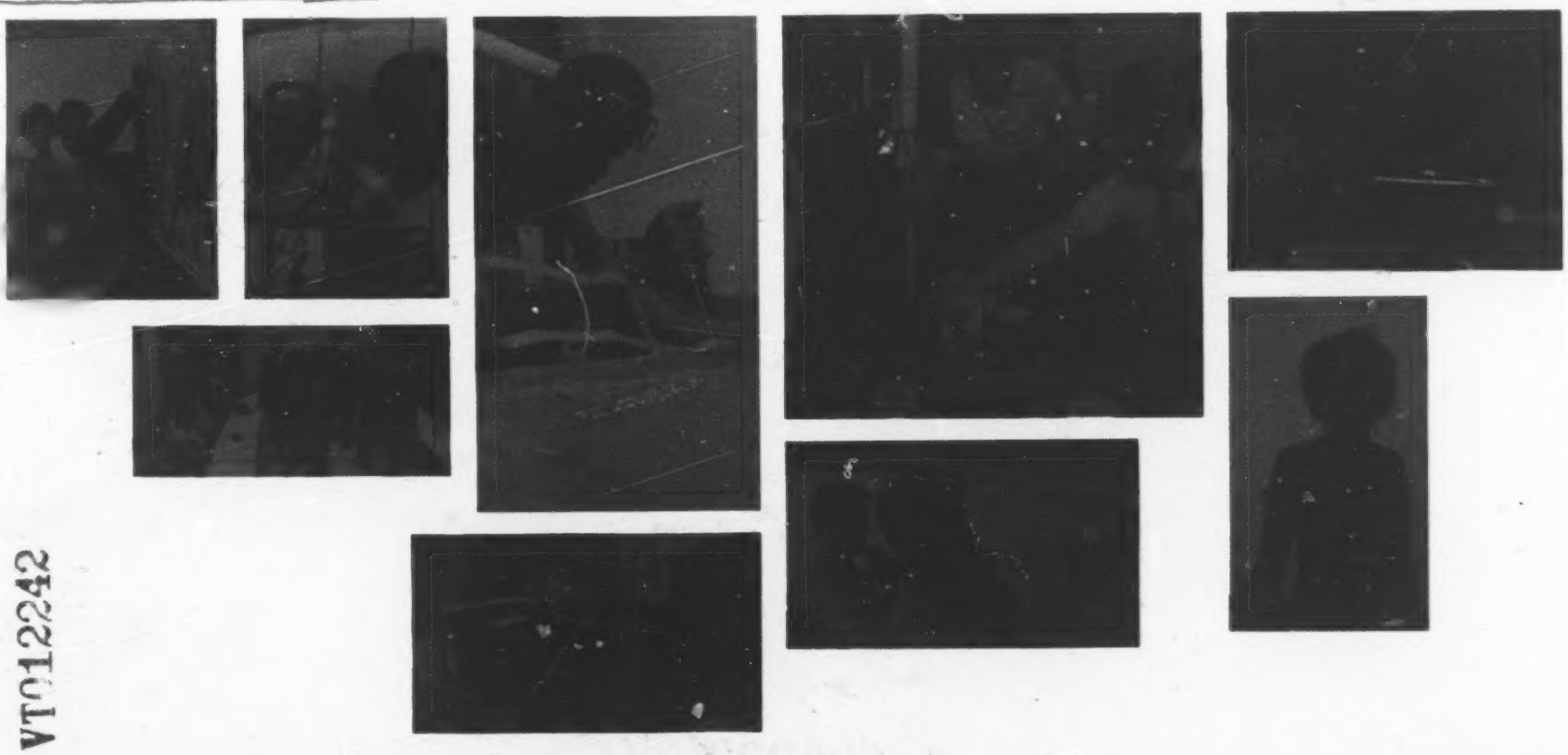


VT012242

This booklet is a condensation of the 1969-70 Annual Report to the people of Ohio by the Ohio Advisory Council for Vocational Education.

The Council is made up of representatives of industry, commerce, agriculture, labor, education, government and other segments of the population which influence the progress of vocational education. They are vitally interested in promoting and developing occupational education programs to meet the *real* learning needs of students at all levels of our economy and in all sections of the state.

The Council serves in an advisory capacity to the State Board of Education. It also evaluates the effectiveness and progress of Ohio's vocational education, makes recommendations and reports to Ohio citizens.

We hope this booklet gives you a better understanding of the great progress made in vocational education and the tremendous good it is doing for all Ohio.

Dr. Max Lerner

Chairman

The Purpose

of vocational education in Ohio is to prepare people at all levels of ability in all sections of the state for useful employment through quality teaching of job skills and practical academic subjects.

The Progress

of Ohio in meeting the individual occupational needs of more people is clearly evident. There are more competent workers employed . . . more specialized jobs filled . . . greater cooperation by industry, business, labor, agriculture and the professions.

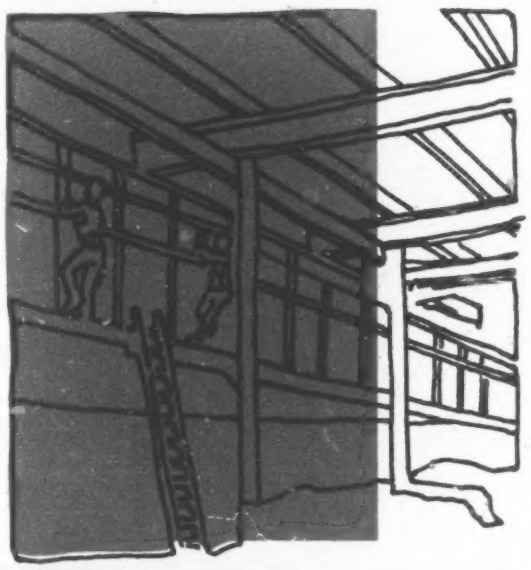
The Needs

are still great. It is vital to bridge the gap between job opportunities and the vocational education needs of Ohio people of every race, creed and color. More youths and adults are being served. More communities are recognizing their responsibilities. But there is an increasingly urgent demand for more and better facilities, equipment and teaching staffs.

$63,000,000 Waiting to Expand Ohio Vocational Education Facilities

63 million dollars in state and federal matching funds are now available to build and equip vocational and technical education facilities in Ohio. When combined with matching local money, this provides more than $127,000,000 for expansion of occupational education facilities throughout the state.

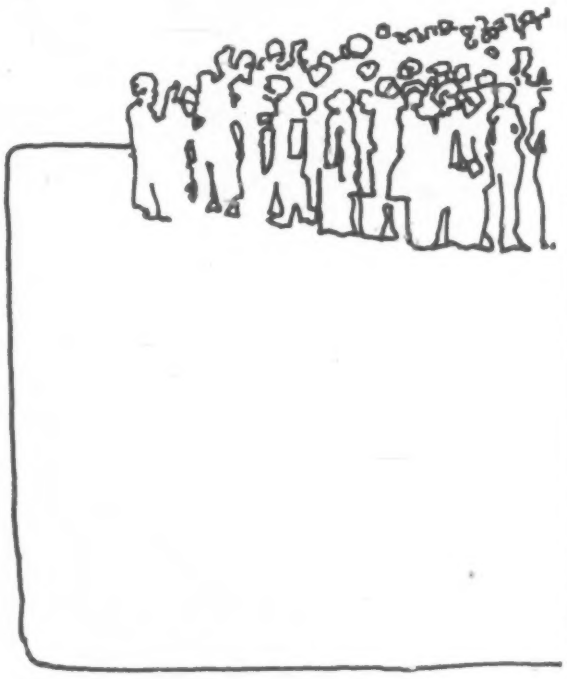
State standards now assure the most efficient and economical use of this building fund to serve each local community to best advantage.



Local communities need to match available building funds with bond levies.

The Ohio Advisory Council recommends every effort be made to tell all Ohio citizens this capital building fund is now available as matching money. This construction money should be used to make up school districts or combinations of districts enrolling 3000 or more students in the upper four grades of high school. The Council commends the State Division of Vocational Education for its new state standards, but believes the base should be 3000 or more students.

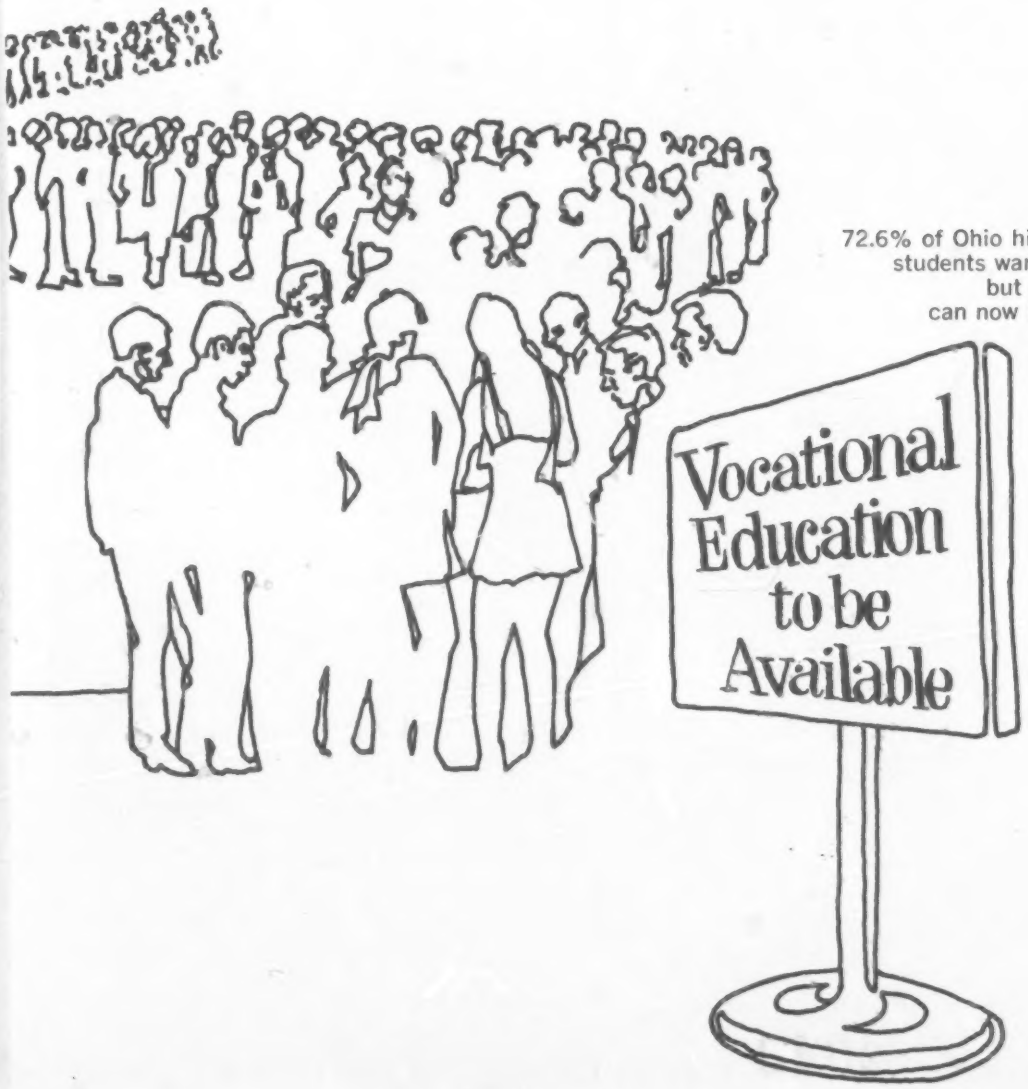
Ohio needs 151,000 new workers every year.



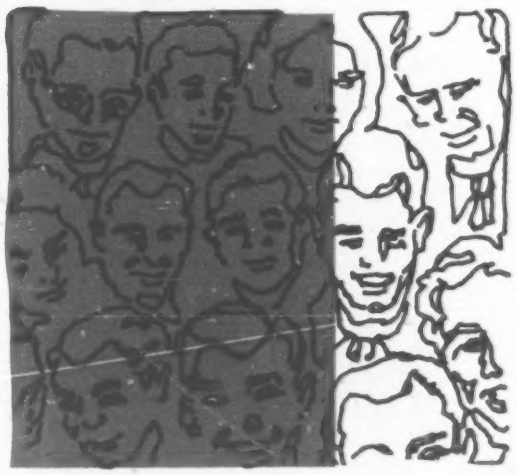
More Operating Money for Ohio's Vocational Education

This year, 25% more state and federal money is available for *operating* vocational education programs in addition to the $63,000,000 *building fund,* in matching money. This means every local community in the state is offered *additional money* for their vitally needed vocational education programs. A state plan provides for use of funds to serve the greatest number of students in an area on an economical basis.

The Council recommends local communities put this money to work improving and enlarging the scope of their vocational education programs. State and federal governments are to be commended for increasing operational money available.



72.6% of Ohio high school students want voc. ed. but only 20% can now be served.



Ohio's Joint Vocational Schools – Key To Greater Progress

Much progress has been made in the growth and development of joint vocational school districts in various parts of Ohio. These cooperating schools offer a wider range of courses for job training in less populated areas.

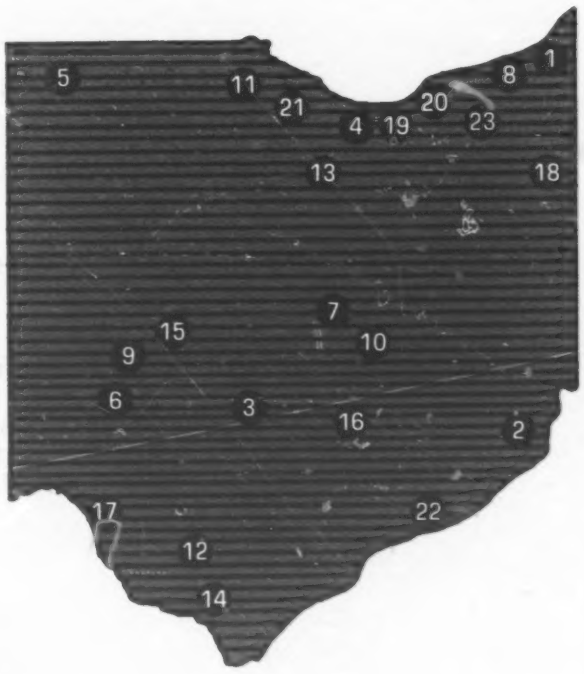
The Council recommends that efforts be continued to create more joint vocational school districts, especially in less populated areas. It is the most economical way to provide well equipped facilities with professional staffs for broad occupational learning opportunities.

9% Ohio agricultural employment

only 3.7% high school vocational agriculture enrollment

1 Ashtabula County, Jefferson
2 Belmont County*, St. Clairsville
3 Eastland, Groveport
4 EHOVE, Milan
5 Four County, Archbold
6 Green County, Xenia
7 Knox County, Mt. Vernon
8 Lake County, Painesville
9 Montgomery County*, Dayton
10 Muskingum County, Zanesville
11 Penta County, Perrysburg
12 Pike County, Piketon
13 Pioneer, Shelby
14 Scioto County*, Portsmouth
15 Springfield-Clark County, Springfield
16 Tri-County, Nelsonville
17 Hamilton County, Cincinnati*
18 Mahoning County, Canfield*
19 Lorain County, Oberlin*
20 South Central Cuyahoga County, Cleveland*
21 Vanguard, Fremont
22 Washington County, Marietta*
23 Wayne, Smithfield

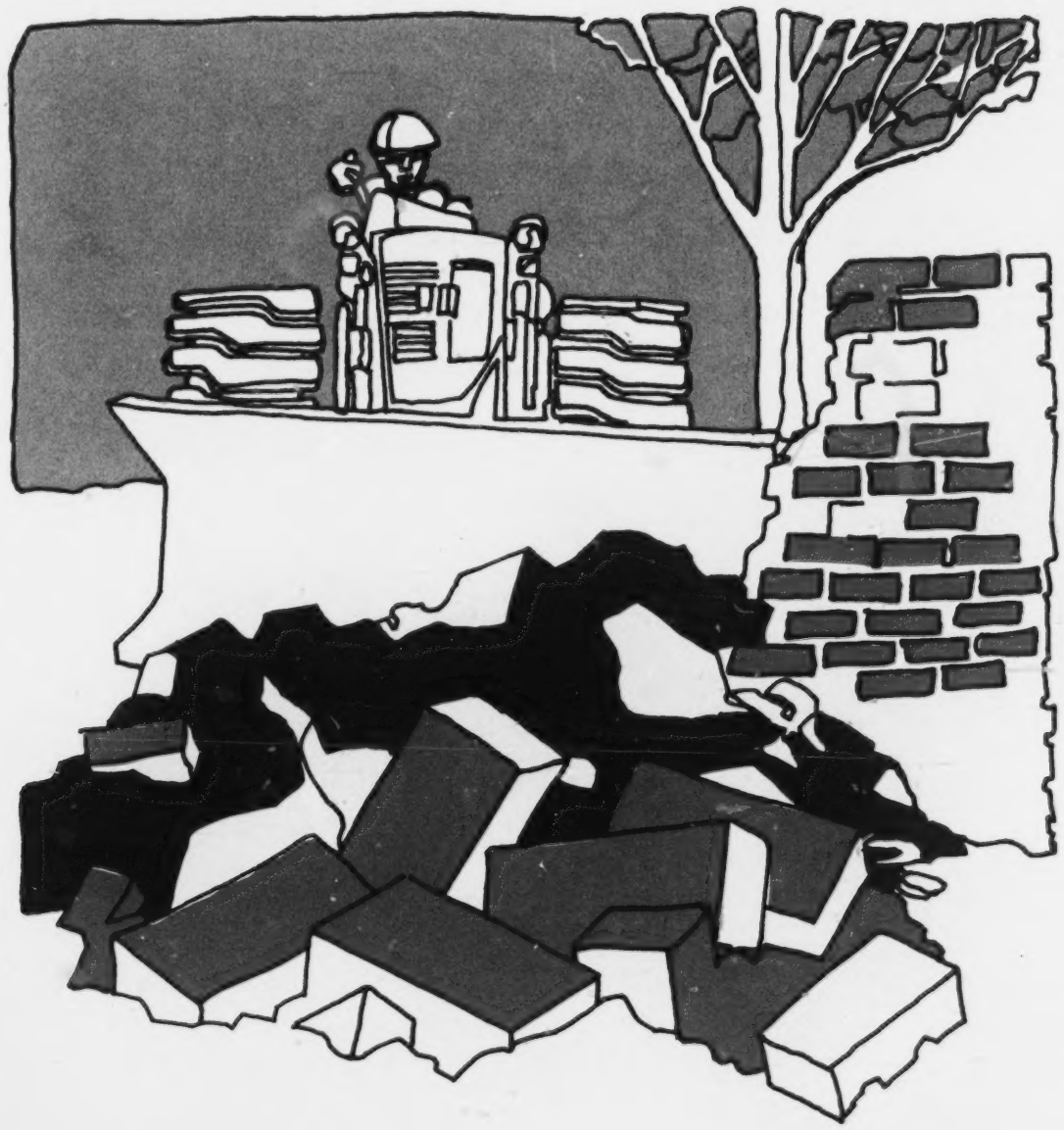
*funded but not in operation



Ohio Needs More

Students keep Local School Identity and Graduate With Their Class

Barriers to Progress in Occupational Training



There are many factors which can and do impede the total progress and programs that serve Ohio youths and adults in occupational learning. A few are: lack of a clear definition of state responsibility for the total program, separation of state control of vocational and technical education, conflicting interests of governmental agencies, state licensing board regulations, methods of selection of apprentices and existing school district boundaries.

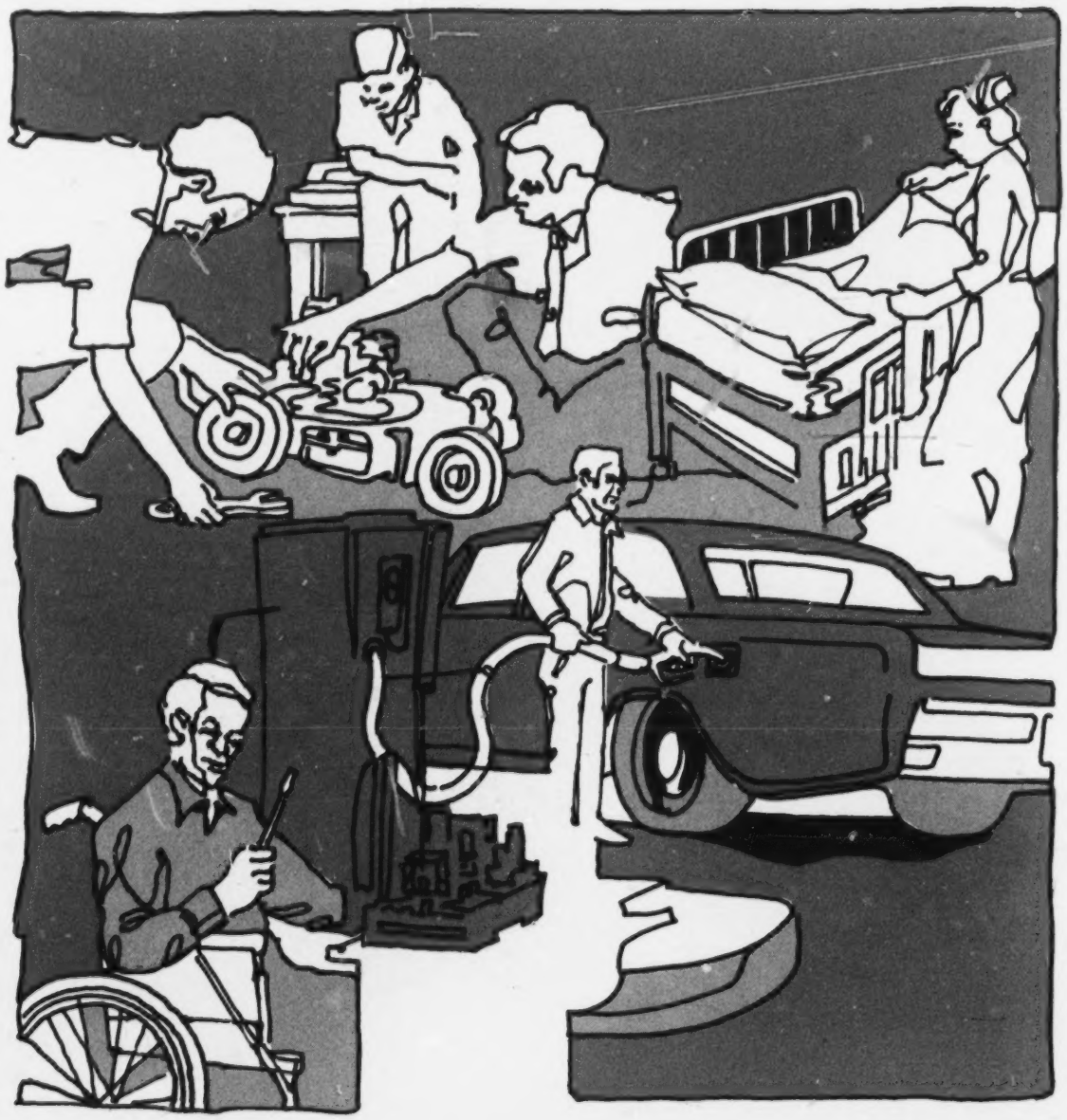
The State Advisory Council recommends a state legislative commission or other group study ways to make the best use of available funds and cut through these restrictive barriers.

Ohio Serves Students With Special Needs

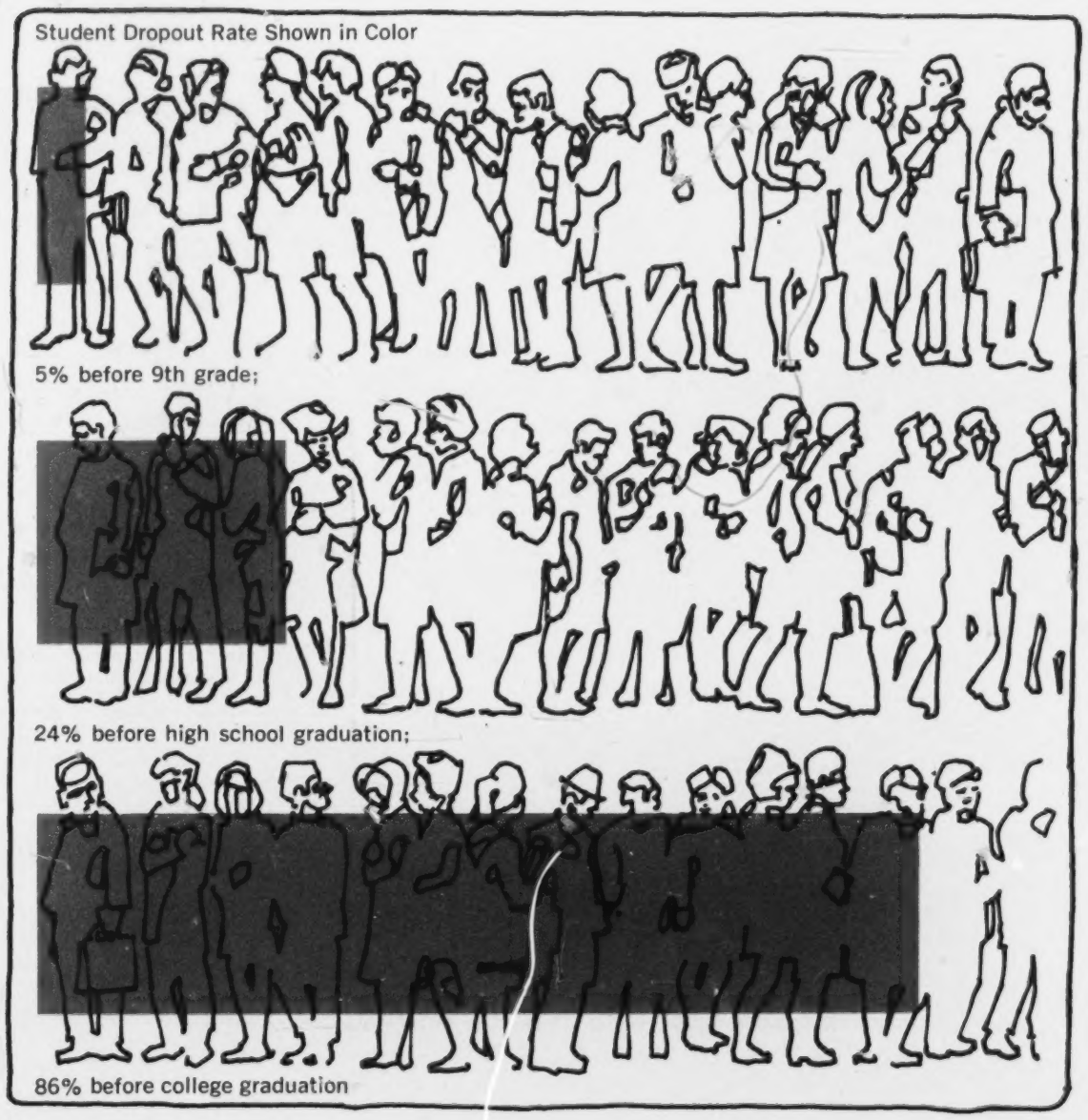
Ohio leads the nation in providing educational opportunities for the unusual needs of special groups who are disadvantaged, culturally deprived or otherwise in need of individual teaching. Real progress has been made with these students from all social, economic and academic levels — 14 and 15 years old and up.

The State Advisory Council is proud that Ohio cares about its youth with special problems, and recommends that these programs in Voc. Education be encouraged and expanded all over the state.

Special Needs Programs Pay Off for Ohio Students



Ohio Job Skill Programs Keep Students in School



Ohio is a leader in providing the necessary special job preparation programs for youth that are dropout prone, who do not benefit from regular academic or regular vocational education.

Students learn the reality of work, basic skills for getting along in the world and explore careers. They are motivated to learn the 3 R's in connection with job training. Advanced students spend a half-day in school and a half-day in actual paying jobs under close supervision.

The Council notes the success of Occupational Work Adjustment and Occupational Work Experience programs. It is recommended that both programs be extended to reach more students throughout Ohio.

Growing Needs for Programs in Service Occupations

There is a critical shortage of skilled workers in service occupations, particularly in the health fields, and the employment potential is rapidly growing. High school programs and adult courses in service occupations are now being accelerated in numbers and scope.

We recommend that a task force be appointed by the Division of Vocational Education to help expansion of Ohio's service occupation programs and encourage larger student enrollments.

Adult Vocational Education Helps Ohio People Earn a Good Living

There is an urgent and growing need for more and better equipped facilities where out-of-school youths and adults can learn job skills, upgrade present skills and retrain for new jobs on a full time day basis. Ohio has a long history of good programs of this type on a part time basis.

We recommend that greater effort be made to build decent facilities all over the state and to offer a wider selection of courses for out-of-school youth and adults on a full time day basis who want to get ahead in Ohio's world of work.

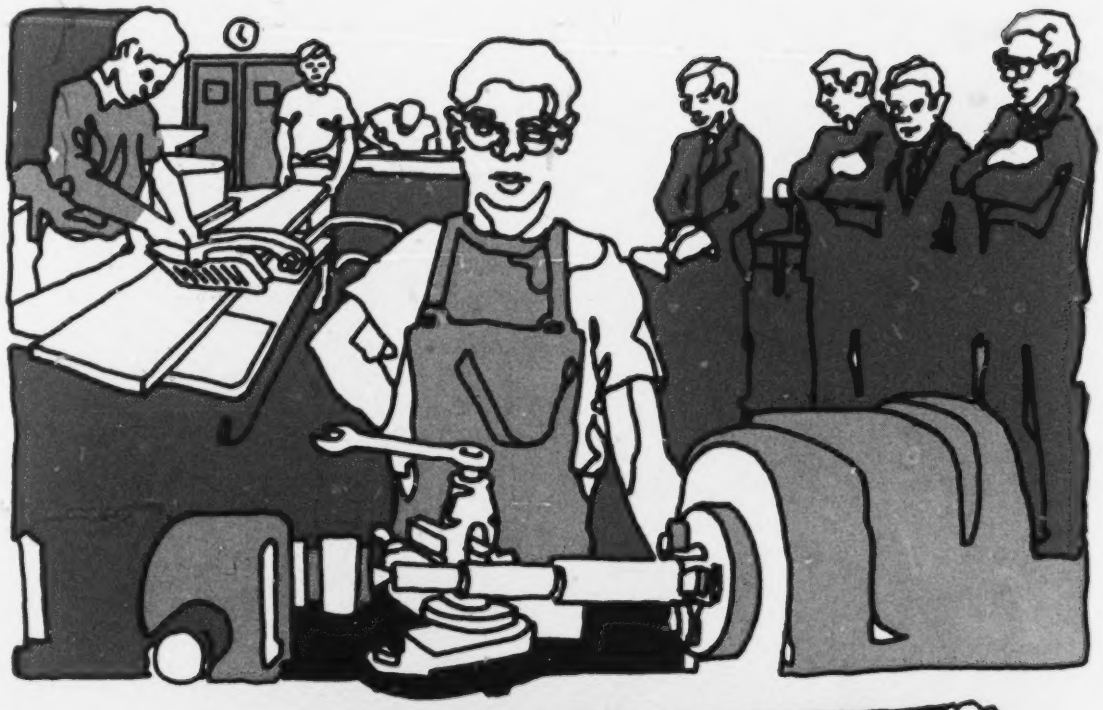
Vocational Education Needs Local Citizen Involvement

To find out how well vocational education programs fit the needs of local communities, the Council this year conducted a study of the effective use of local occupational and general advisory committees.

Facts from the report on this study are shown below. Recommendations are on the following page. The complete report is available for review.

1. One-half of schools contacted did not have advisory committees, yet 60% of those without committees favored having them.
2. Committees have been of more value in placement of students than in selection of students or follow-up of graduates.
3. Employers are more generally represented on committees than employees.
4. A majority of advisory committee members interviewed were in favor of specialized vocational schools.
5. The scope of vocational courses offered appears to be related positively to the extent that advisory committees are being used.
6. Local committees appeared more interested in helping than were school people in using their help.

The State Advisory Council recommends that the Division of Vocational Education urge local industry and school officials to increase their understanding of the importance of local advisory committees and their functions, memberships, interests and abilities. Ways should be developed to assist local people in making greater use of the general and craft committees and that recommendations be made mandatory.



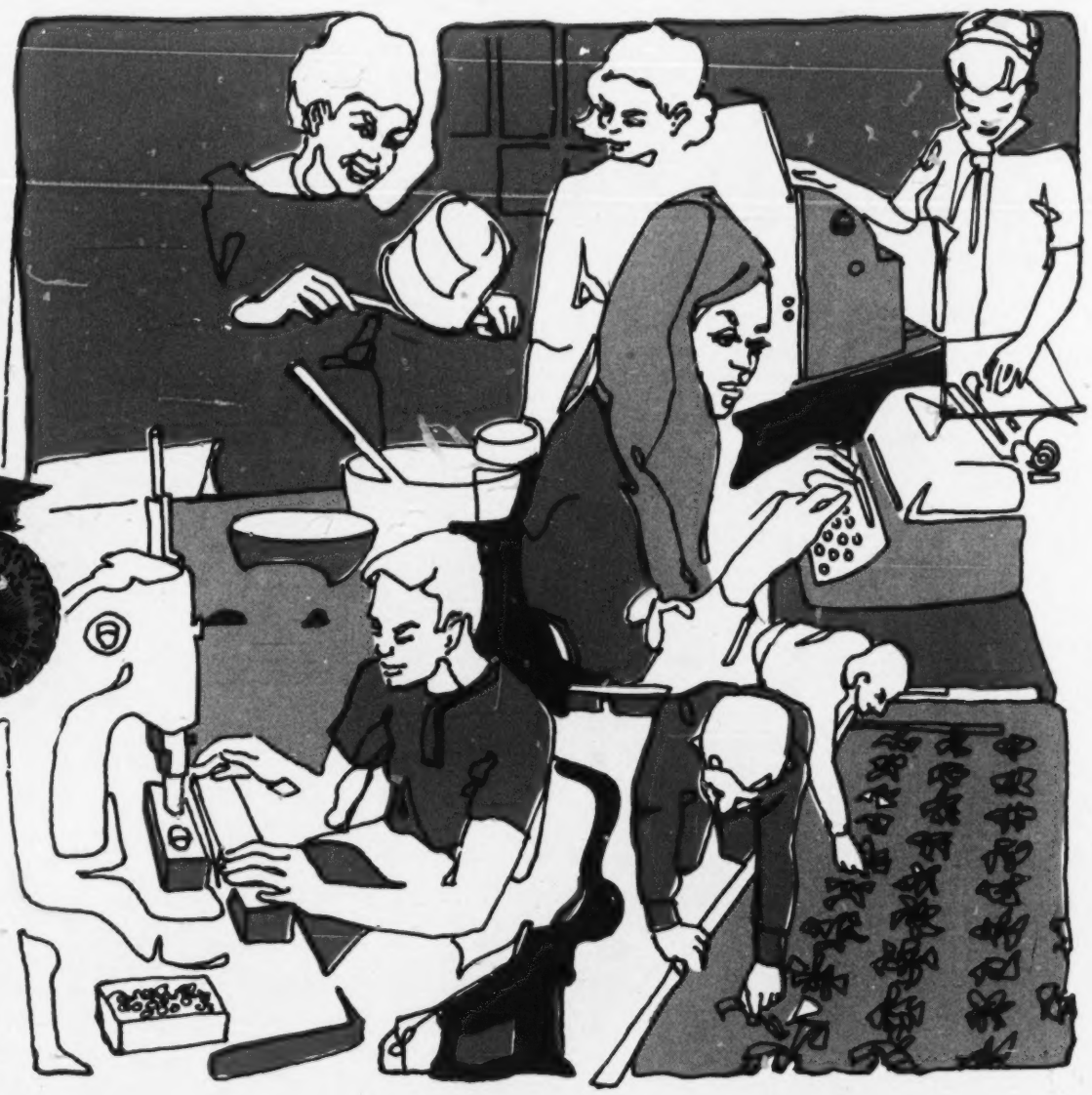
Ohio Citizens Help Through Local Advisory Committees

Shown, are some significant recommendations in the report on a study of local advisory committees for vocational education in Ohio conducted for the State Advisory Council by Educational Research Associates, Columbus, Ohio.

1. School officials should make better use of local committees.
2. Committees should be mandatory for new centers or new programs.
3. Guidelines should be formulated and distributed by the State Division of Vocational Education.
4. Committees should be definitely advisory — not administrative — and should deal primarily with improvement of facilities, equipment and placement.
5. Committees should assume more leadership in determining local employment requirements, programs needed and necessary follow-up.
6. Teachers should work more closely with local committees.
7. Administrators should view vocational education as an integral part of public education.
8. Larger vocational education centers should be encouraged.
9. Appraisals of local committees should be made biennially.
10. Opinions of business, industry, the professions and other segments of the public regarding vocational education should be sought.

Youth Group Activities Help Develop Capable Citizens

All vocational education programs use youth group and club activity to develop leadership and good citizenship abilities, provide motivation and foster pride in the student's chosen occupation.



The Council notes that youth citizenship activity is a related and very important part of vocational education and recommends further expansion and participation in these youth programs.

Members of the State of Ohio Advisory Council for Vocational Education

Mrs. Harold F. Banister, Exec. Director
Vocational Guidance & Rehabilitation Services, Cleveland

Mr. Russell L. Bearss, Plant Manager
Toledo Machining Plant, Chrysler Corp.

Dr. George Bowers, Dean
School of Applied Science, Miami U.

Mrs. Dale M. Corrington, Director
S. W. District, Congress of Parents & Teachers

Dr. Leo Dugan, Exec. Secy-Treas.
Akron Labor Council, AFL-CIO

Mr. Robert Durbin, Supt.
Four-County Vocational School, Archbold

Mr. Hugh Frost, Asst. to President
Youngstown State University

Mr. Jesse Fulton, General Office Mgr.
Addressograph-Multigraph Co., Cleveland

Mr. R. A. Guinn, Director
Vocational Education, Marietta

Mr. Joseph A. Hall, Director
Urban League of Greater Cincinnati

Dr. Charles Harbottle, President
Miami Jacobs Business College, Dayton

Mr. Karl Kahler, Exec. Asst.
Ohio State Council Retail Merchants

Mr. Frank King, President
Ohio AFL-CIO

Dr. Max Lerner, President
Lorain County Community College

Mr. William R. Mason
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Addressograph-Multigraph Corp.
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Dr. Paul A. Miller, Supt.
Cincinnati City Schools

Mr. Fred Neuenschwander, Director
Ohio Dept. of Development

Mr. William Papier, Director
Research & Statistics
Ohio Bureau of Employment Services

Dr. Robert M. Reese, Professor
Vocational Education
Ohio State University

Mr. Ray R. Runser, Industrial Relations Director.
Lima Div. Baldwin-Lima-Hamilton Corp.

Mrs. James Shellabarger, Member
Board of Education
Dayton City Schools.

Mr. Dean Simeral, Assoc. Director
Public Affairs
Ohio Farm Bureau Federation, Inc.

Other Studies and Reports of the Ohio Advisory Council include:

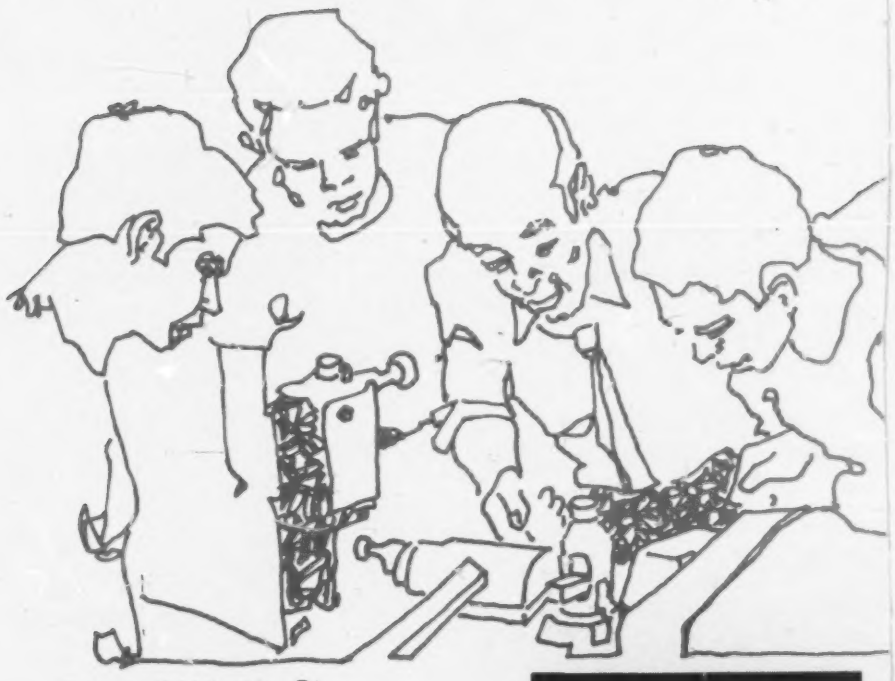
Evaluation of a Public Information Program

Evaluation of Vocational Education in Ohio

Study of Programs for Students with Special Needs

School Completion Study — 9th Grade through College

Annual Report to State Board of Education, U. S. Office of Education and National Advisory Council



Published by Ohio

Advisory Council for Vocational Education

Mr. Warren G. Weiler,
Executive Director
112 West North Street
Worthington, Ohio 43085

VT 012 243
1970 Annual Report, Indiana State Advisory Council for Vocational Technical Education.

Indiana State Advisory Council for Vocational Technical Education.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - 70 12p.

DESCRIPTORS - *ADVISORY COMMITTEES; ANNUAL REPORTS; *PROGRAM EVALUATION; *EDUCATIONAL NEEDS; *STATE PROGRAMS; VOCATIONAL EDUCATION; ENROLLMENT TRENDS

ABSTRACT - The Vocational Education Amendments of 1968 expanded the use of state advisory councils by requiring program evaluations and annual reports on vocational education within a state. The Advisory Council for the State of Indiana found in its first annual report that: (1) Demand for complete vocational education is a leading issue among students, adults, and business, (2) Creation of a better image for vocational education is an immediate need, and (3) Career development guidance must be instituted. The 15 recommendations include reviewing the requirements for vocational certification with the object of more flexibility. The growth in the number of programs and student enrollment for the past 5 years is noted. (JS)

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1970 Annual Report

INDIANA STATE ADVISORY COUNCIL FOR VOCATIONAL TECHNICAL EDUCATION

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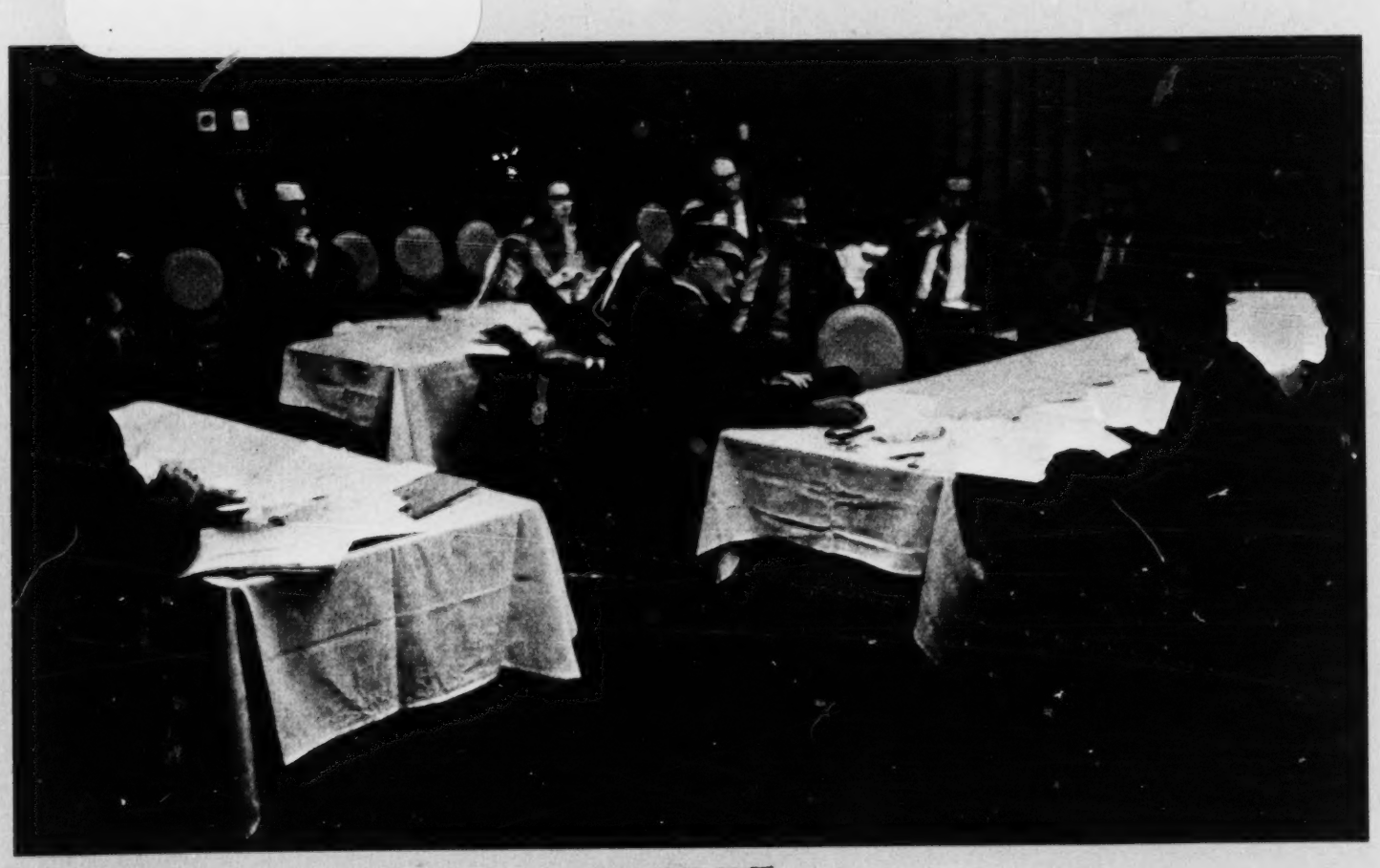

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Why is vocational education necessary? It is the bridge between man and his work. Millions of people need this education in order to earn a living. Every man wants to provide for his family with honor and dignity and to be counted as an individual. Providing for an individual's employability as he leaves school, and throughout his worklife, is one of the major goals of vocational education. Vocational education looks at a man as a part of society and as an individual, and never before has attention to the individual as a person been so imperative.

Persons speaking before the Advisory Council

Roy Harris
Associate Director
Urban League of Gary

Dr. Gordon L. McAndrew
Superintendent of Schools, Gary

O. Thorne
Northwest Region Director—I.V.T.C.

Leland Daugherty
President
Local #208—Building Service Employees

John B. Twyman
Executive Secretary
Lake County Medical Society

Harold Friel
Indiana State Employment Service

William Staehle
Director—Model Cities, Gary

Clarence Borns
President
Greater Gary Chamber of Commerce

William Parson
Vocational Director
Vocational Technical High School, Hammond

Bill G. Spence, Director
Career Division
Vincennes University

Kenny Carr, Director
Knox & Sullivan Counties
Economic Opportunity Committee

John Briscoe
Vocational Instructor
Vincennes Community School System

Carl S. Riddle, Ass't Superintendent
Vigo County School Corporation

Joseph Zook
Plant Manager
American Hoist and Derrick Company

Dr. Carl Bickley, Director
Indiana University
Division of General and Technical Studies

George Dodd
Chamber of Commerce, Fort Wayne

Howard Minier
Former Secretary of Central Labor Council, Fort Wayne

Tom Brown
Urban League, Fort Wayne

Lawrence T. Dreiband, Director
Fort Wayne Center
Sams Technical Institute

Lee Bushong
Associate Professor, Vocational Education
Indiana Purdue Regional Campus

Bob Shipman, Vocational Director
Garrett Public Schools

Dr. G. A. DaCosta, President
Indiana Northern University

Leon Etchison
Twoson Tool Co.

Charles Foust, Director, Region 6
Indiana Vocational-Technical College

Keith Hamilton
UAW-CIO Local 662

David Middleton, Industrial Coordinator
Anderson Area Vocational-Technical School

Dr. Wallace Underwood
Jay School Corporation

Donald Dake, Superintendent
South Bend Community School Corporation

Odell Newborn, President
Local 5, AFL-CIO, South Bend

Cassell Lawson, Director
Urban League of South Bend

Stephen T. McTigue
Executive Vice President
Chamber of Commerce

Richard Wysong, Dean
Indiana Vocational Technical College

Joseph Miller, Director
Vocational and Technical Education, Elkhart

Willis Zagrovich, President
Indiana State AFL-CIO

Dr. Harry McGuff, President
Indiana Vocational Technical College

John V. Barnett
Executive Vice President
Indiana State Chamber of Commerce

Glenn Sample, Vice President
Indiana Farm Bureau, Inc.

Harold Schuman
Indiana Manufacturing Association, Inc.

John Coppes
Indiana Employment Security Division

Dr. Vernon K. Broertjes
Division of General and Technical Studies
Indiana University

Richard Finn
Carnegie Institute

Joseph Ecktman, Supervisor
Manpower Training

Don E. Pennington, Director
Division of Vocational Education

Prentice E. Fisher, Vocational Director
New Albany-Floyd County Con. School Corp.

Robert Kemp
New Albany, Indiana

Carl Scott, Regional Director
Indiana Vocational Technical College

Carl W. Booker
Labor Council, New Albany

Wayne Sharp, Education Committee
New Albany Chamber of Commerce

James W. Robinson
Robinson-Nugent, Inc.

Harmon A. Baldwin
Executive Secretary
Indiana Association of Public School Superintendents

Lowell Rose
Executive Secretary
Indiana School Boards Association

Tom Garrison
Dir. Vocational Education
Metropolitan School District of Wayne Township

R. Holt
UAW Action Committee

R. Marshall
Voc. Director, Wood High School
Indianapolis

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The Job of the Advisory Council

The Advisory Council inaugurated its first year of activity in the fall of 1969. During the ensuing year it has endeavored to perform the duties designated to it in Public Law 90-576, the Vocational Education Amendments of 1968. These duties include advice to the State Board for Vocational Education regarding the State Plan for vocational education; the evaluation of vocational education, services, and activities; and the preparation of an Annual Report of the Council's findings.

In order to obtain a broad range of opinions, experiences, and ideas, the Council scheduled a series of nine meetings in Indiana. Area leaders in the fields of commerce and industry; agriculture; labor; vocational secondary and post-secondary schools; and minority-group representatives attended the meetings. They presented their views on the needs, the problems, and the achievements of vocational and technical education, and job-training programs in their respective areas.

On the basis of testimony heard in the evaluation hearings, the Advisory Council recommends that certain actions be effected. It will be noted that the majority of these actions would affect students in grades 7 to 12. The Council believes that marked improvement, in this field of action, would prove most fruitful to the large number of students for whom the high school represents terminal education.

AREAS STUDIED by the Advisory Council included the areas surrounding Gary, Vincennes, Fort Wayne, Anderson, South Bend, Indianapolis and New Albany.

Members of the Advisory Council for Vocational Education

James H. Fallace, Asst. Dir.
Gary Area Vocational-Technical Center (Council Chairman)

Fred W. Burt, Dir. Extended Services
Muncie Community Schools

Kathelene M. Carroll (Mrs.)
Harry E. Wood High School

James Crowe, Research Consultant
Retired Prin. Vocational H.S.

Cletus A. Dressell, President
Bauer Bros. General Contractors Inc.

Warren English
Christian Theological Seminary

Richard E. Folz
Lt. Governor, State of Indiana

Richard L. Goshert
Burket Elevator Company

Vincent A. Haggerty, Group Manager
Sears, Roebuck Co.

H. Robert Hewlett, Admin. Consultant
Assistant State Superintendent

William E. Martin, Dir. Voc. Ed.
Ft. Wayne Community Schools

Omer M. Mitchell, Evaluation Editor
Retired Ass't Supt. Secondary Education

Francis C. Morrison, Director
Upper Wabash Vocational School

Walter Penrod, Dir. Voc. Rehabilitation

Gerald D. Shafer, Dir. of Education
Delco-Remy Div. of GM
(Now out of state)

Thomas Stigall, Dir. of Training
Indiana Laborer's Training Trust Fund
(Appointed July, 1970)

Norman L. Taylor, Voc. Counselor
Anderson Community Schools

Howard R. Turner, Dir. Voc. Ed.
Vigo County School Corporation

Charles D. Walker, Dir. Evening School
Crispus Attucks High School

Lon Woods, Div. of Special Education

4057

Advisory Council makes important discoveries about needs of Vocational-Technical Education

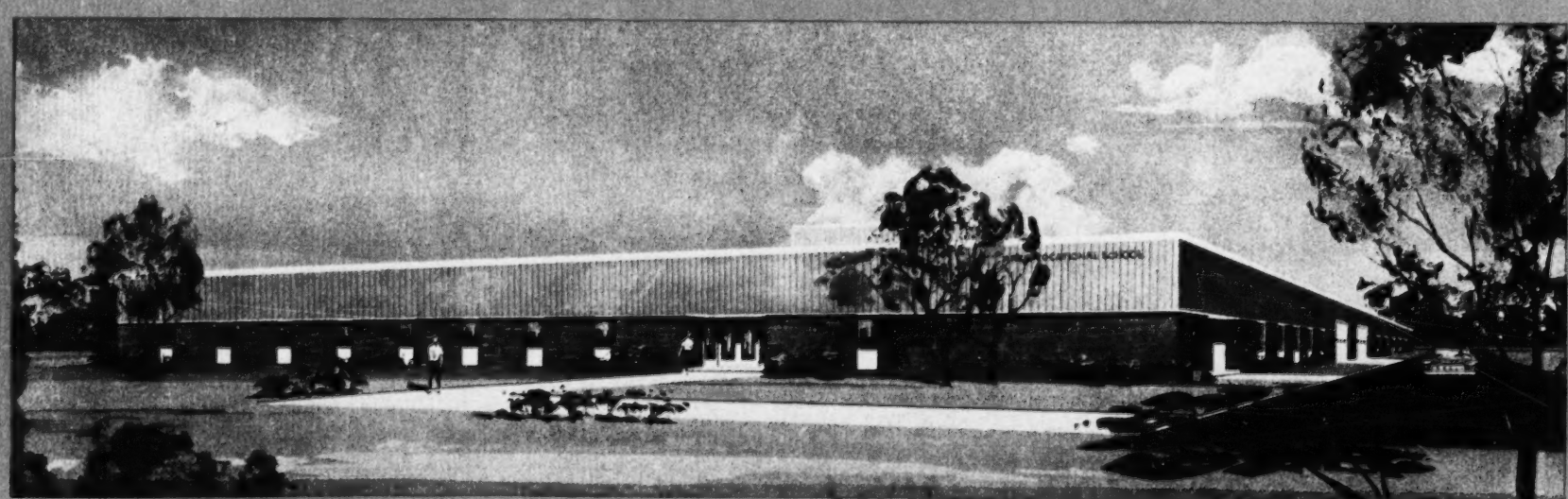
. . . Growing student expectancy; crying need for trained workers underscores urgent plea by concerned groups for comprehensive education plan for Indiana.

. . . Broad career development guidance programs penetrating to elementary grades called for to build long-term appreciation for values of vocational planning, help eliminate drop-out situation.

. . . Social and economic deprivation in Indiana blamed on inadequate vocational training and restricting work regulations. Expanded training, legislation urgently requested.

. . . Ignorance of the benefits of vocational education is cause for student/parent misunderstanding. Positive image through immediate and sustained public relations program termed vital.

. . . Inadequate resources to implement urgently needed programs crippling success. Serious attention and increased appropriation requested.



Student desire for career training is growing.

Industry call for trained workers intensifying.

finding:

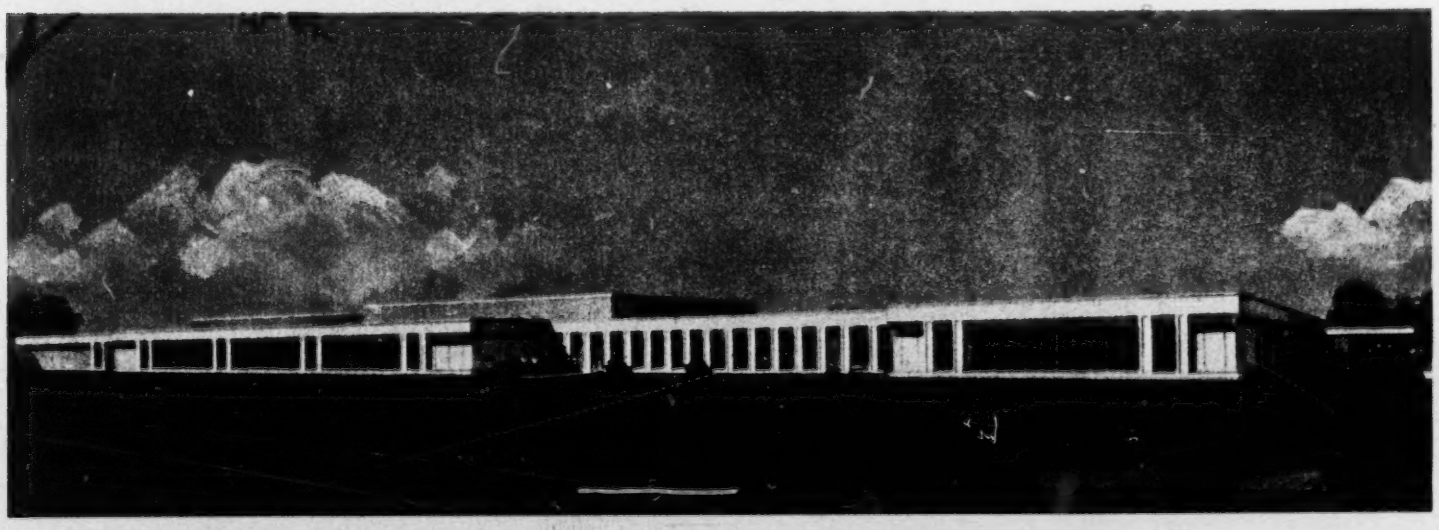
Demand for complete Vocational Education is a leading issue among students, adults, business

In the survey of the state, social leaders, industrialists, labor leaders and educators are pleading for complete vocational education programs, and point out that there is a growing expectancy among people to be prepared and qualified through vocational education for gainful employment.

The implication is that vocational and technical training programs would be accountable for complete job training opportunity and placement, including adult retraining.

A state-established guiding program would be necessary based on analysis of future labor needs with employment of graduates a primary goal.

Establishment of area vocational schools in all areas of the state is needed to fulfill the complete vocational education concept.



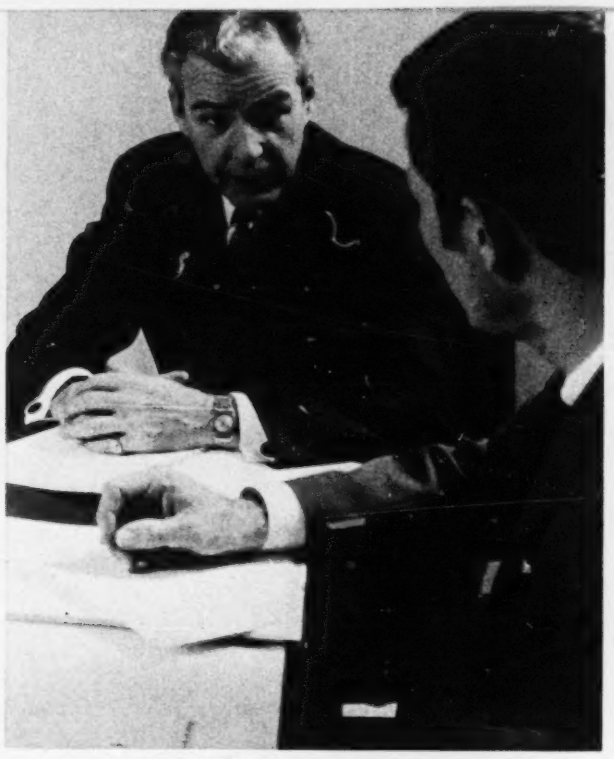
finding:

Career development guidance must be instituted

Strong career development guidance programs are urged throughout the state. Guidance counselors are charged with the responsibility of pointing out the values of career planning. It is urged by some that such a guidance program start in the elementary grades, or junior high schools including girls as well as boys.

There is grave concern with the drop-out situation. It is urged that vocational guidance be used as a preventive measure.

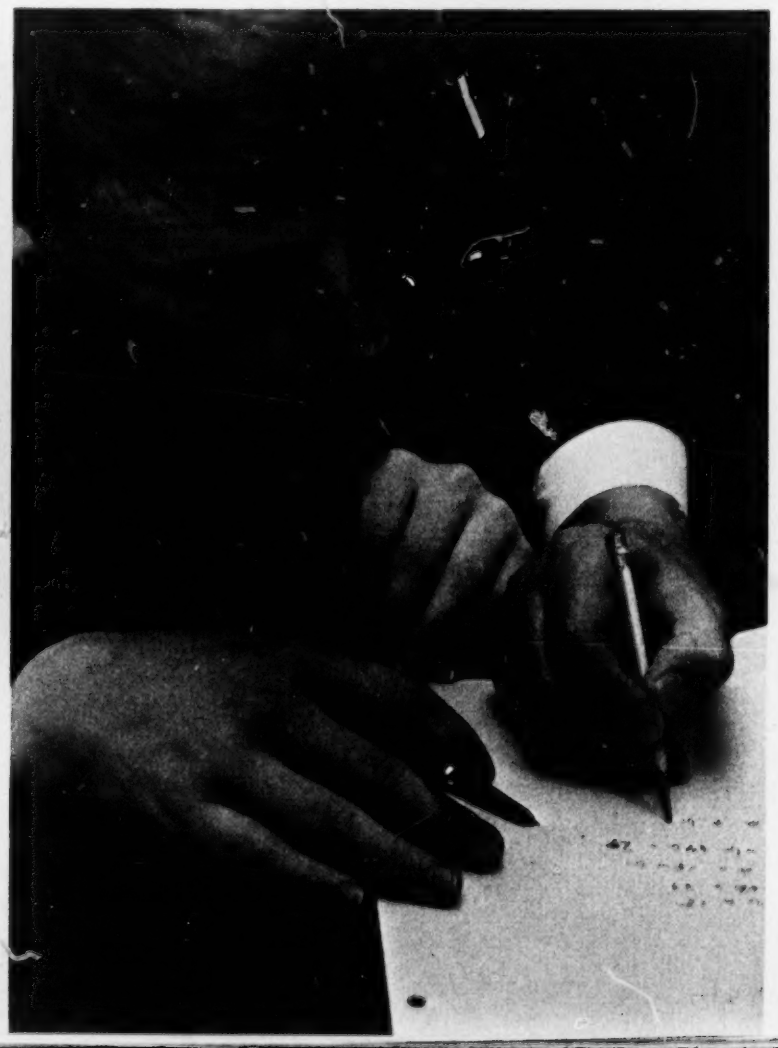
It is recommended that guidance counselors working with vocational education be vocationally trained in some occupational field in order to understand and be sympathetic to the world of work.



Information about jobs should be made available in the elementary grades through vocational guidance counselors.

Exposure to specific vocational opportunities should be a part of instructional units in high school vocational programs.

Human relations and world-of-work units should be a part of vocational guidance to create an awareness and appreciation for the dignity of labor.



4060

Adequate vocational training seen as key to social and economic progress.

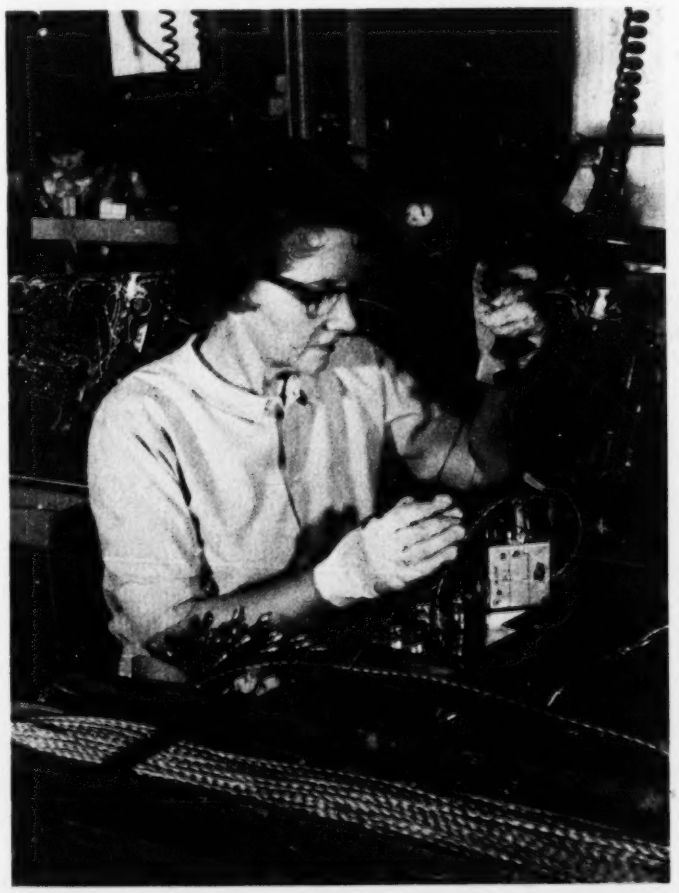
finding:

Vocational Education is essential for solving associated social problems

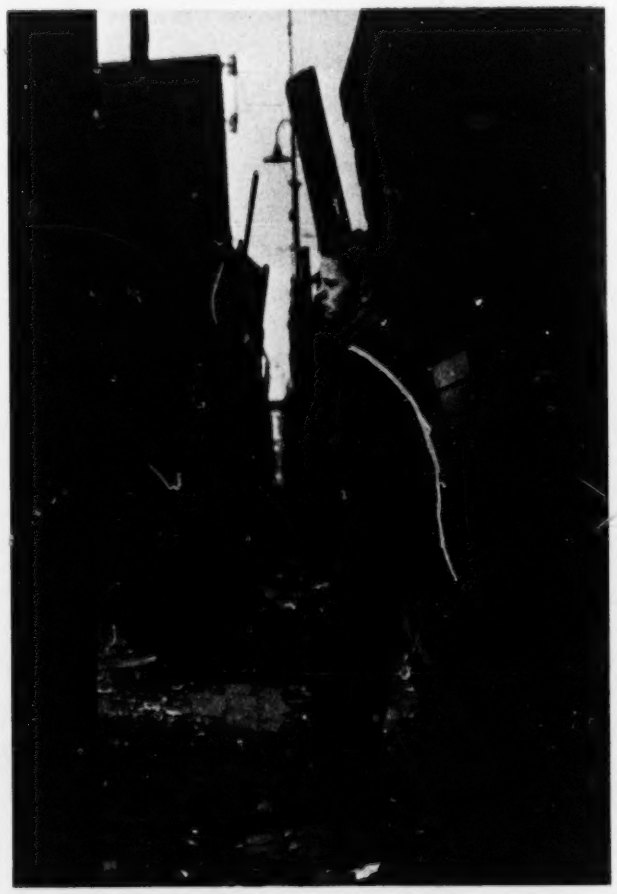
Repeatedly, minority group representatives pointed out that if their people were to make better progress socially and economically, each would need adequate vocational training. Black leaders indicate that a broader and deeper training program for women as well as for men is needed.

Social workers indicated need for changes in work schedules to enable women, even mothers of infants, to pursue careers. Proper training must be instituted so that women can participate in a wider range of higher paying occupations.

Minority groups, labor unions, industries, and educators agree that the age limit for the employment of youth should be lowered from eighteen to seventeen.



Women must be more adequately trained for a wider range of higher paying jobs.



Complete vocational education with earlier opportunity for employment could help decrease high school dropout rate.

finding:

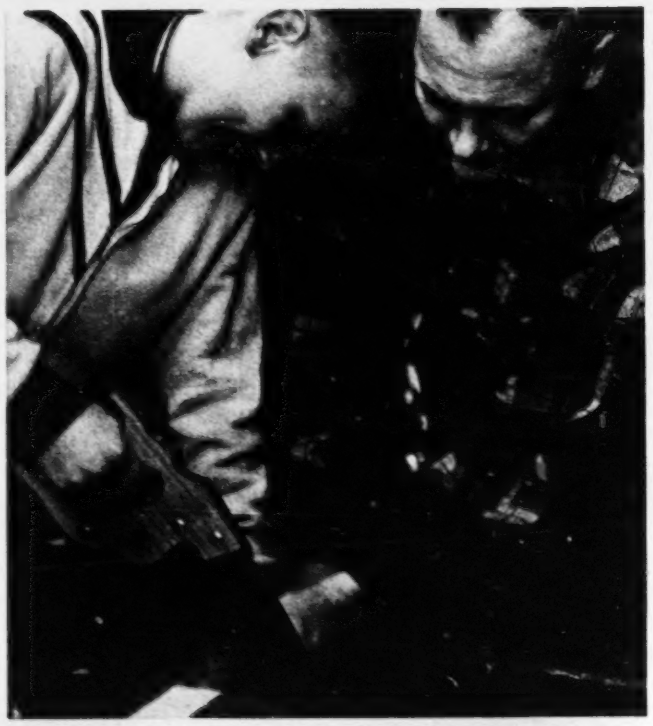
4062

Creation of a better public image for Vocational Education is an immediate need

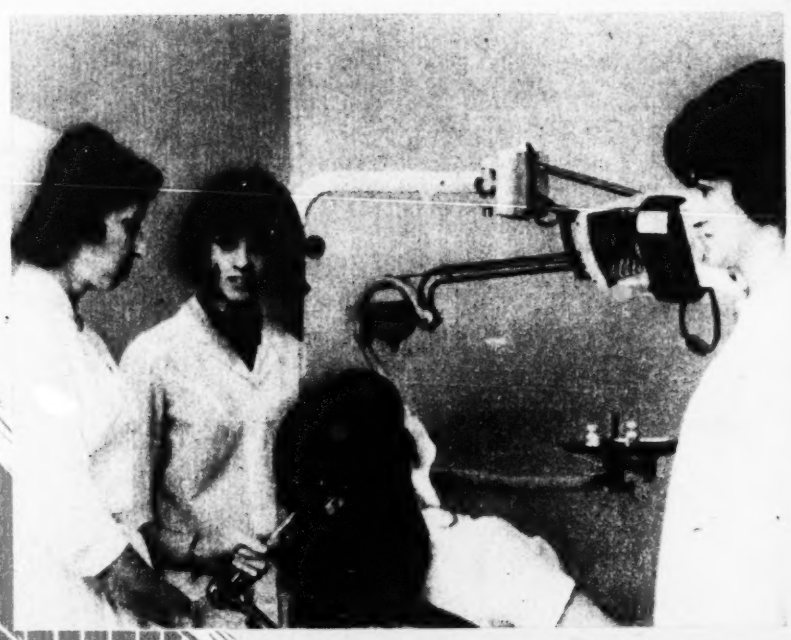
Students have hesitated to enter the vocational training courses because of the stigma attached.

Persons interviewed are convinced that the content, purposes, and objectives of vocational and technical education need to be thoroughly publicized so that all will know what can be gained from taking vocational training courses.

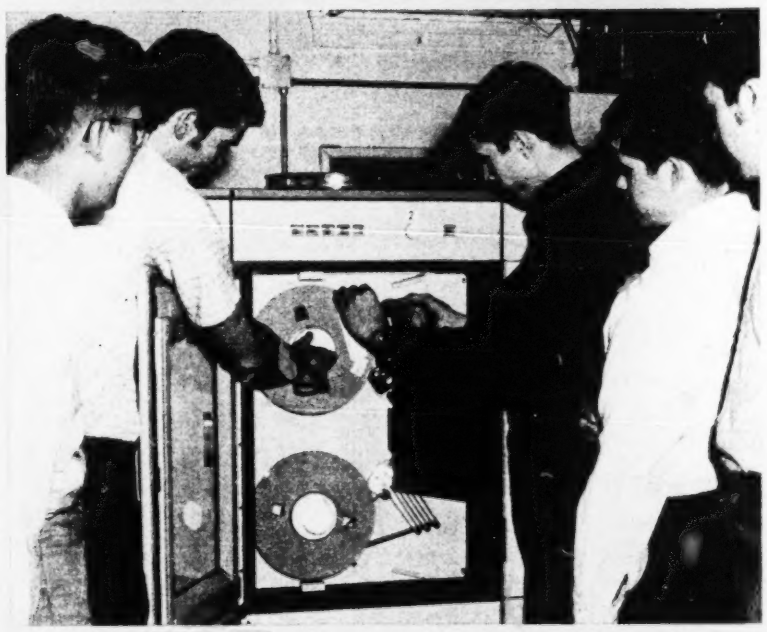
The kind of attitude we must seek is one that would make no one feel apologetic or ashamed to enroll in vocational education and that going to a vocational training school for the learning of a saleable skill is an honorable thing to do.



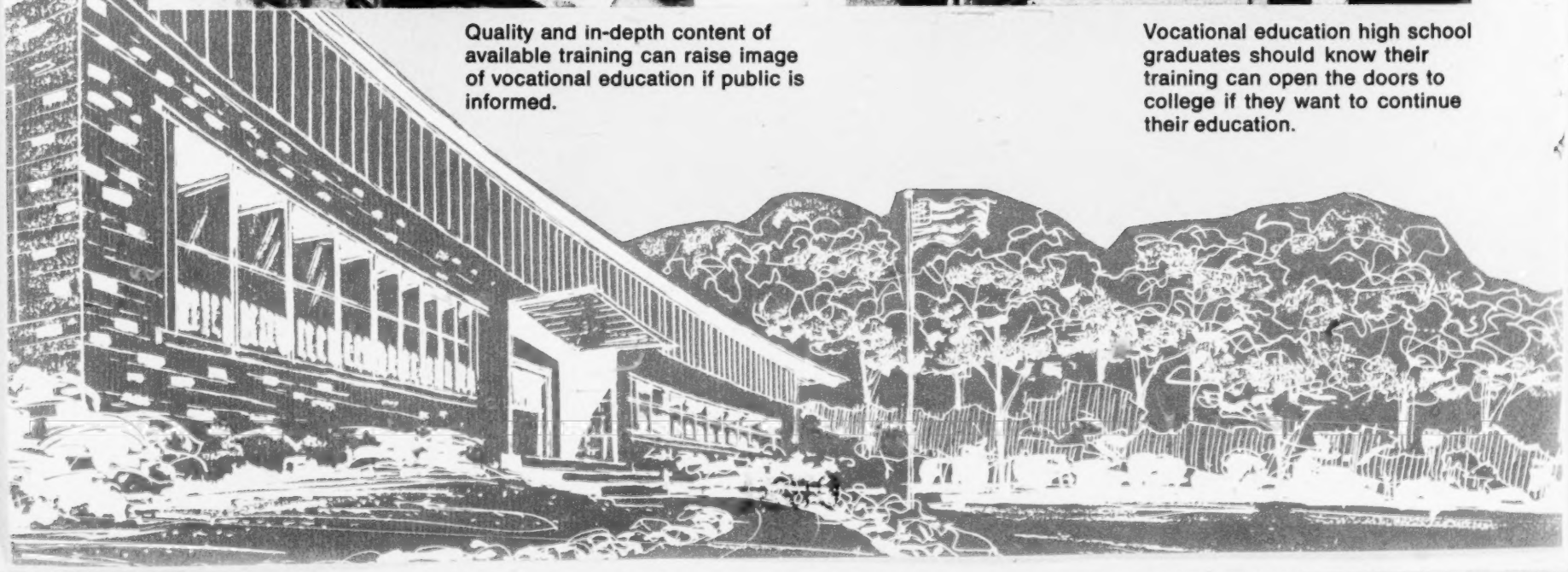
Parents and students alike need better understanding of the dignity and values of labor.



Quality and in-depth content of available training can raise image of vocational education if public is informed.

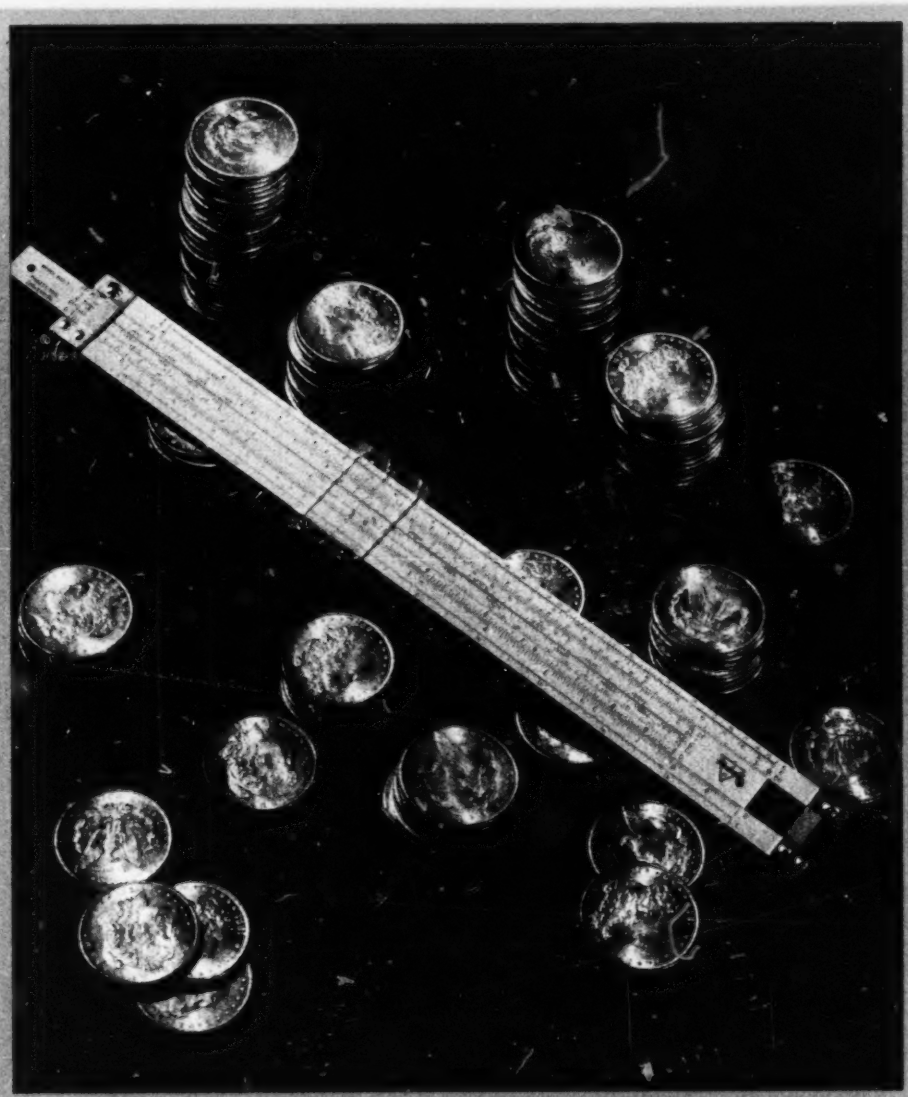


Vocational education high school graduates should know their training can open the doors to college if they want to continue their education.



An expanded vocational program calls for more money to put it into operation. It was urged that the state and federal governments supply the extra funds needed and that this matter be given serious attention by the State Board and the legislature.

Communities wish to broaden their vocational offerings, but they find that they are handicapped for funds because local tax programs are over-extended. There is not enough money to take care of all the needs. Superintendents of schools indicate that although they are very sympathetic to vocational education, other priorities preclude the use of additional funds for vocational programs.



finding:

Repeated pleas for more resources to help Vocational Education are heard

Comparative analysis of State allotted funds for all phases of Vocational Education in 1969

State	*Total Enrollment*	*Total Dollars Spent Federal, State, Local*	*State Only NOT Federal & Local*	*State Dollars Only; Allotted Per Student per year*
Kentucky	119,875	$22,311,000	$14,785,000	$123.00
Ohio	289,159	54,632,000	20,926,000	72.00
NATIONAL AVERAGE				58.00
Wisconsin	164,056	45,400,000	7,334,000	44.00
Illinois	232,789	39,424,000	8,690,000	37.00
Indiana	108,428	23,757,000	1,374,000	12.00

Recommendations to the State Board of Vocational and Technical Education

- The concept of "total vocational education" be adopted as a goal of major importance, rather than propagating dual systems which can cause unrealistic stratification.

- Grants to the State to assist in conducting vocational education programs for persons of all ages in all communities be utilized to insure that education and training programs for career vocations are available to all individuals who desire and need such education and training.

- Occupational information designed to create an awareness of the world of work and stimulate an appreciation for the dignity of labor should be instituted on a planned basis either as a part of the elementary instructional program (probably in the social sciences) or in a planned elementary guidance program, and exposure to specific job opportunities should be a part of the instructional units in high school vocational programs. "Human relations" units and "world-of-work" units should be a part of vocational guidance as well as occupational information.
  In-service training for guidance people to serve in the role of "vocational counselors" should be periodically sponsored throughout the state.

- Because the major burden for the creation of good vocational education programs is at the local level, and further, because there is an increased pressure on the local boards that area vocational schools be established, more state and federal funds be allocated to the local units for this specific purpose.

- The establishment and support of programs meaningful to women at the skill or craft level, and in technical and professional areas of training be encouraged. Women represent over 35% of the labor force, but they get little preparation for wage-earning except in clerical and health fields.

- The community college concept as an outgrowth of the Area Vocational Center be encouraged for wider use in the state. The community college with its comprehensive offering for the post high student and the high school graduate in the fields of industry, business, communication, transportation, health, and other fields would fill a definite need.

- Vocational training should be concentrated as much as possible in area centers large enough to establish and maintain up-to-date and relevant programs. Small centers can concentrate on "general" vocational education—using basic shops and laboratories to develop broad fundamental skills and technical knowledge.

- Provision be made in the State Plan for funds to finance the necessary supportive services needed for the disadvantaged. Provision needs to be made so that these services are funded with vocational state and/or federal funds. It is noted that special programs jointly sponsored by Special Education and Vocational Education should be structured for handicapped students.

- The primary objective of the Practical Arts should be to be a vital part of general education with the secondary objective of serving as pre-vocational programs. Consideration should be given the possibility of recommending Practical Arts units in the upper elementary instructional program.

- The State Plan should include provisions for the state to budget federal monies or state monies to support the recent policy statement of the U.S. Commission of Education regarding Vocational Youth Clubs. The state budget should provide funds for Regional and State Contests and monies to cover at least travel expenses for State Winners to participate in National Contests. This should be sufficient to cover anticipated expenses for the youth clubs in all vocational disciplines.

- The continued development of a rational and streamlined system for planning, programming and budgeting by the Division of Vocational Education to meet state education needs be encouraged. Such a system should provide local educational agencies with program approval and findings information in ample time for sound local planning.

- Sec. 3.22-2 III B of the Plan requires each local educational agency and teacher training institutions to have an Advisory Council selected by using the guidelines of the State Advisory Council as outlined in Public Law 90-576. This would seem to be impractical for all local educational agencies, but should be mandatory for all area vocational schools. These guidelines in turn would have to be adjusted by the local educational agency to meet the community needs. The Advisory Councils should not only have representation from the users of the product (Industry and Business) but from those involved with the training of the product (Educational Agencies) and from the product itself (parents, minority groups, etc.).

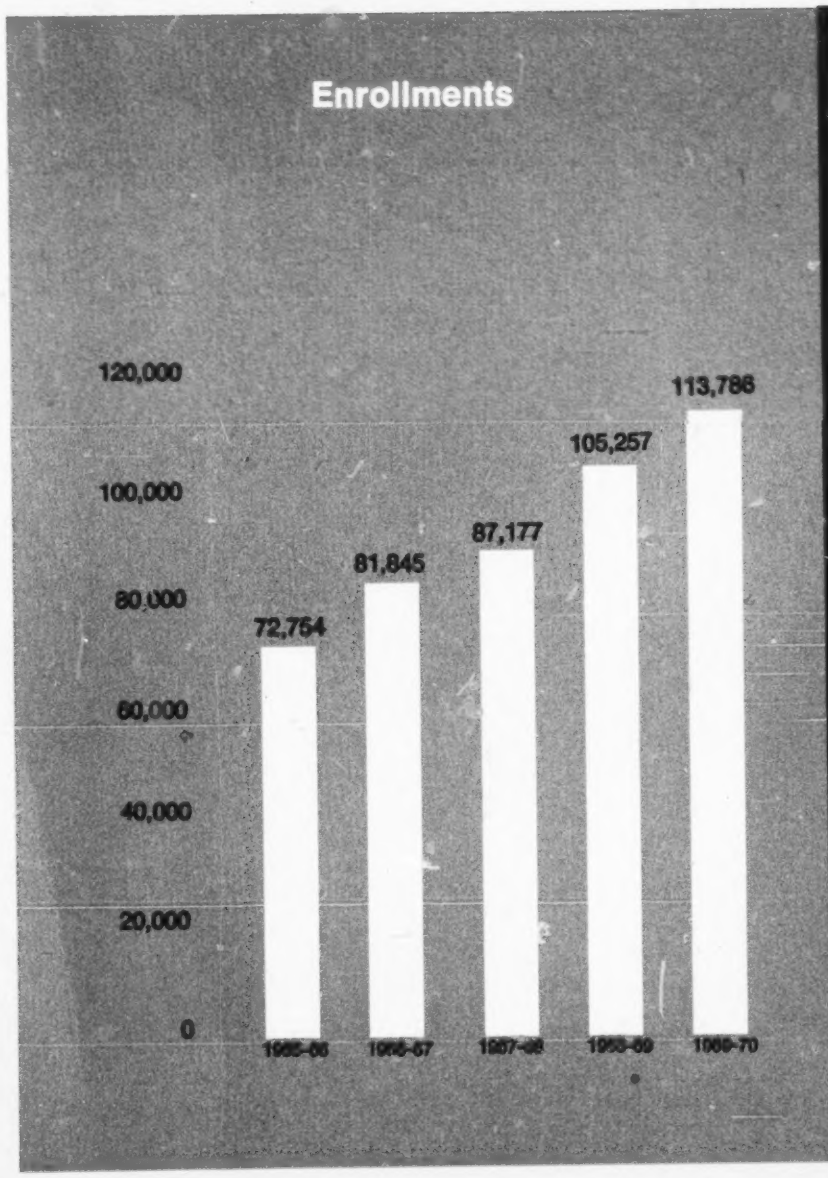
- The State Board Staff in conjunction with the office of the State Superintendent of Public Instruction investigate the special criteria being developed by the North Central Association for vocational schools and technical institutes for the purpose of developing accreditation standards.

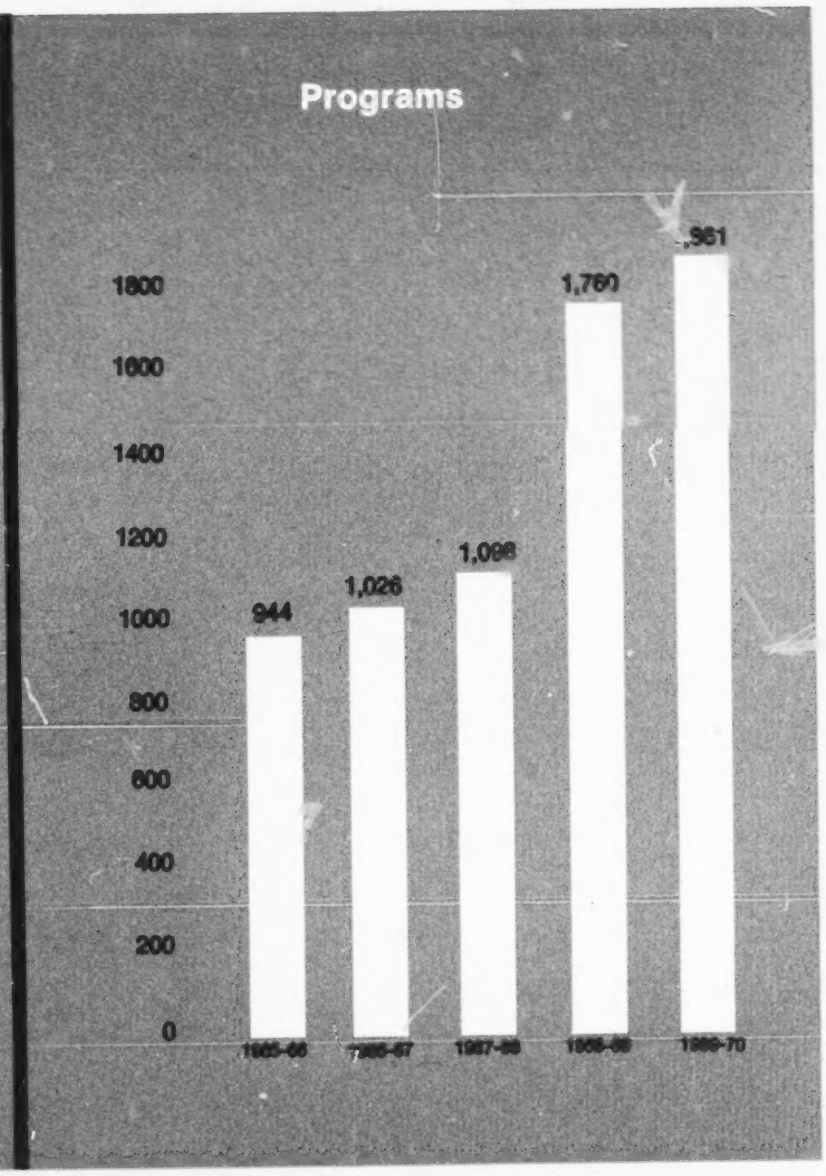
- The requirements that establish vocational certification must be reviewed with the object of more flexibility.

- It is recommended that the state legislature pass appropriate legislation to regulate private proprietary vocational-technical education schools and institutes.

4064

Growth of Vocational Education during the last five years





113,786 students were enrolled in Vocational Education programs in our public schools during 1969-70.

75,865 secondary students received training preparing them for a career.

25,255 adults received training or re-training to improve their occupational skills and knowledge.

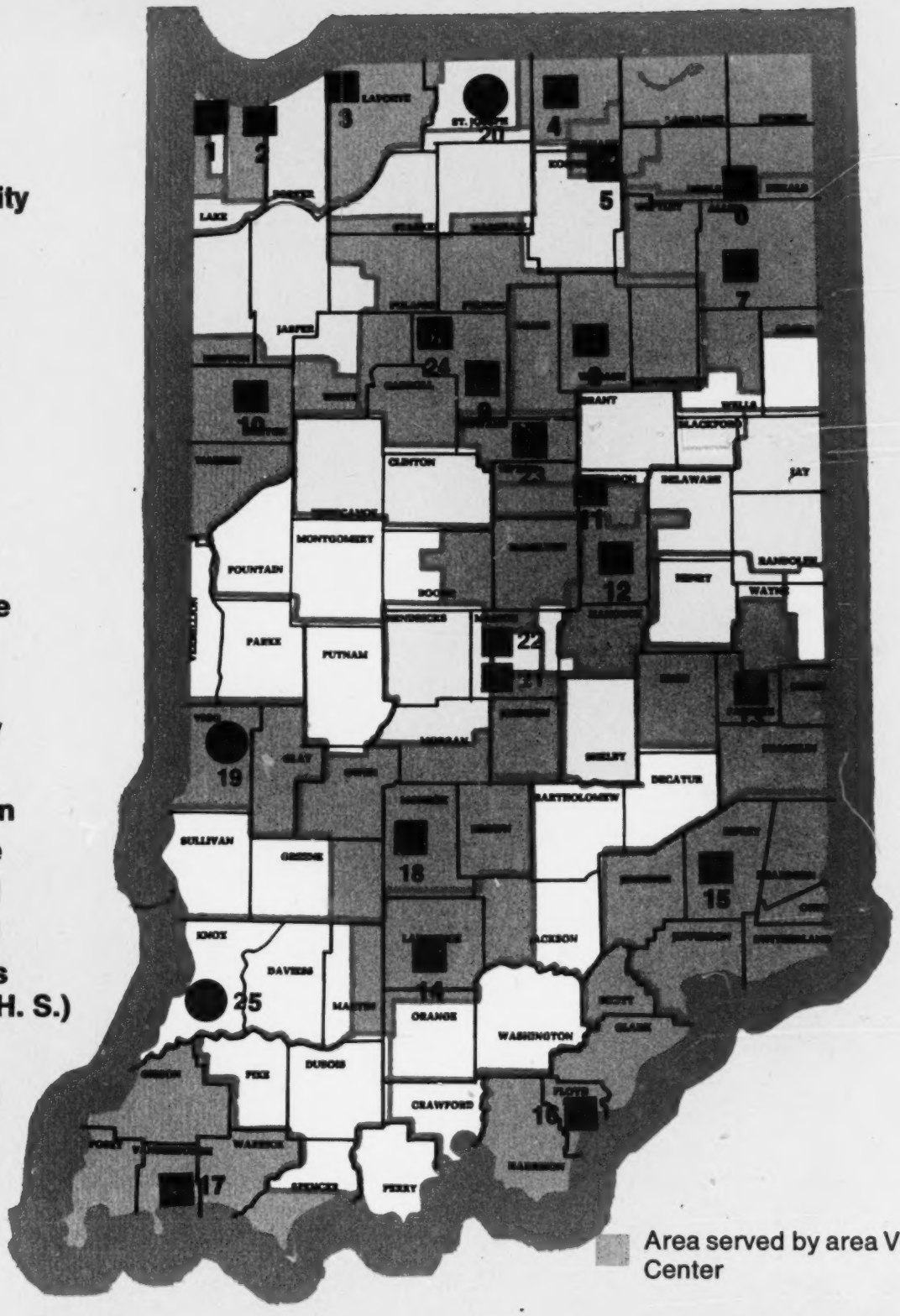
Enrollment in Vocational Education increased 26,609 students since 1968—an average of more than 13,000 students per year.

With the need for more training programs, the public schools and the area vocational centers have doubled offerings in the past five years.

Enrollments have increased and through the area vocational centers vocational education is now available to more people.

Area Vocational-Technical Centers in Indiana

- 1. Hammond
- 2. Gary
- 3. Michigan City
- 4. Elkhart
- 5. Syracuse
- 6. Garrett
- 7. Ft. Wayne
- 8. Wabash
- 9. Walton
- 10. Fowler
- 11. Elwood
- 12. Anderson
- 13. Connersville
- 14. Bedford
- 15. Versailles
- 16. New Albany
- 17. Evansville
- 18. Bloomington
- 19. Terre Haute
- 20. South Bend
- 21. Greenwood
- 22. Indianapolis (N. Central H. S.)
- 23. Kokomo
- 24. Logansport
- 25. Vincennes University



Area served by area Voc Tech Center

Area Center planned and in operation

Post-secondary institutions

Feasibility study to determine needs

4066

VT 012 251
Martin, W. Howard
A Survey of Administrative Structure.

Connecticut Vocational-Technical Schools.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - 69 34p.

DESCRIPTORS - *ADMINISTRATIVE ORGANIZATION; *VOCATIONAL HIGH SCHOOLS; *STATE SCHOOLS; STATE PROGRAMS; *EVALUATION; SCHOOL ADMINISTRATION; EVALUATION TECHNIQUES; *SCHOOL SYSTEMS

ABSTRACT - This exploratory study of the administrative structure of Connecticut's vocational-technical schools is designed to evaluate the structure of these State-operated schools in comparison with other schools, and to determine ratios of administrators to other staff and students, in order to develop hypotheses regarding change. Using data collected in interviews, along with materials provided by schools or state departments, the study compares Connecticut vocational schools with other schools in the same metropolitan area, and with selected vocational schools in other states. Although tentative conclusions are offered regarding organizational development of the schools, the study points out the need for more significant in-depth studies involving clarification of goals and target audiences, and experimentation with different administrative structure. (Not recommended for hard copy due to marginal legibility of original.) (BH)

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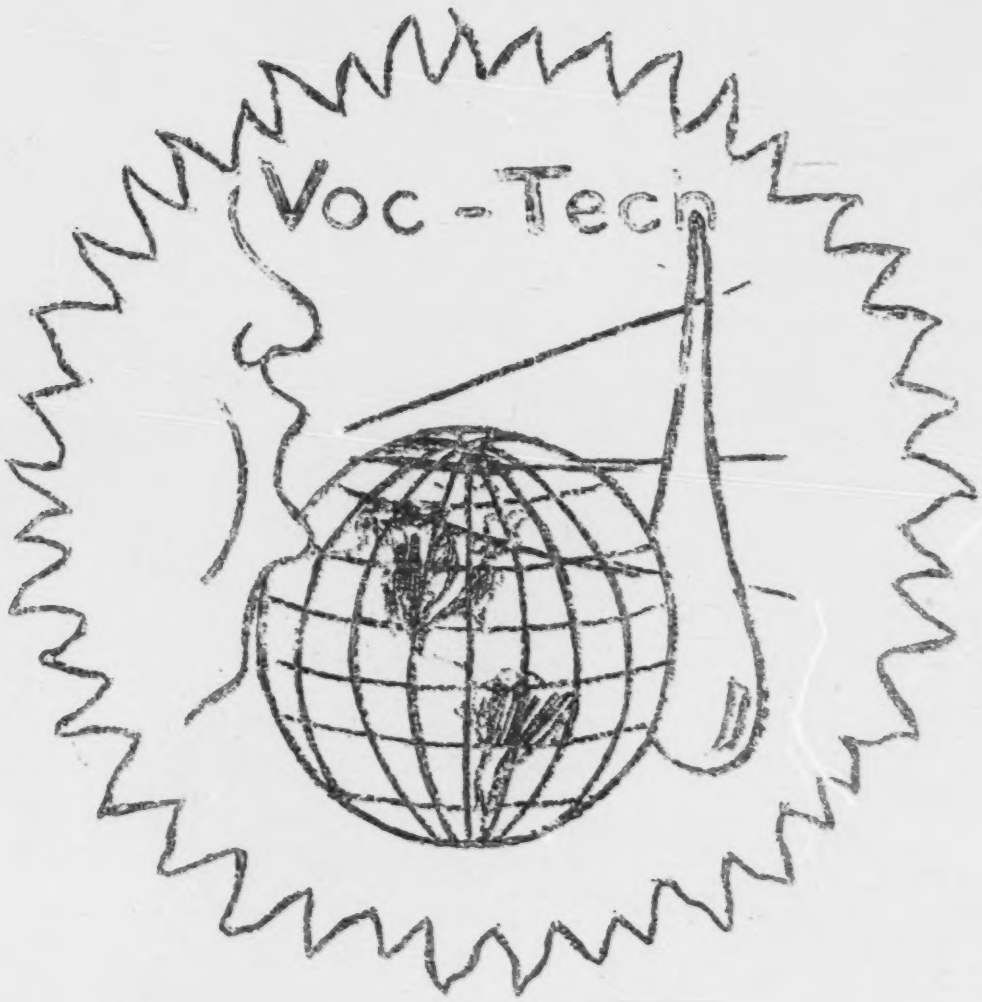
Vocational-Technical Schools



A SURVEY OF ADMINISTRATIVE STRUCTURE

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VT012251

Prepared by W. Howard Martin, Professor of Education and George Takacs, Graduate Assistant, School of Education, University of Connecticut, Storrs, Connecticut, 1969.

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I

INTRODUCTION

In a dynamic society there is a need for frequent review of institutional structures and arrangements. The reviews may involve various dimensions but a common focus is on organization and administration or what may be termed the administrative structure. Johnson, Kast and Rosenwig in The Theory and Management of Systems, indicate planning, organizing, controlling and communicating to be the basic functions. Administrative structure should have a "framework for decision making" (planning), the delegation of authority (organizing), the evaluation of performance (control), and the "transfer of information among decision centers" (communication). It is assumed that the "ideal" structure for public schools is one which is "self renewing"—it develops to facilitate growth in evolving programs and services needed by the society. Also, it is believed that there is no one "correct" form of organization for vocational-technical schools. Different administrative structures are possible and in general, changes in structures should be designed to enhance performance of functioning with a view to greater potential for self-renewal.

This study of the administrative structure of Connecticut's vocational-technical schools was regarded as a particular case of a social institution. One "tool" developed for studying social institutions, Cowley's "taxonomy"[1], was selected as a primary guide to orientating study and writing. However, not all of the elements within this taxonomy could be considered in this study and others are treated on the basis of limited data or observation, suggesting the need for more extended studies in this area.

---

[1]See Appendix A.

Purpose

This study of the administrative structure of Connecticut's vocational-technical schools is of an exploratory nature and it does not seek or claim to provide an in-depth study of any particular feature of administrative structure or of the human relationships involved. The purposes were identified as:

1. To describe and diagram the administrative structure (formal) of vocational-technical schools in Connecticut
2. To compare the above with that of other schools, both comprehensive and vocational
3. To determine existing ratios of selected administrative personnel to other staff and students
4. To propose hypotheses relative to possible change

It is recognized that this study may lead or contribute to more significant studies involving, (1) clarification of purposes and clients to be served and, (2) experimentation with different administration structure for Connecticut's vocational-technical schools as a means to effecting change.

> Change strategies may involve attention to attitude and value change, to social structures, or to processes occurring within those structures. Structural approaches, perhaps with some associated process-shaping effort, seem most likely to have high payoff. The theoretical reasons for this have been outlined by Watson (1966) in his S-P-A formulation: effective change sequence usually involves structures first, altered interaction processes as a result, and attitudes last. The already excessive emphasis in schools on ideology and normative prescription also suggests the wisdom of structural intervention.[2]

State operated vocational-technical schools were established by legislation[3] as a part of Connecticut's system of public education. To some extent

---

[2]Goodwin Watson, Ed. Change in School Systems, 1967. National Training Laboratories, N.E.A., p. 25.

[3]For summary reference see - Connecticut State Plan for Vocational Education, 1964, Legal Appendix.

Connecticut is unique since no other state operates secondary schools on a state-wide basis to serve the single service area of trade and industrial education. Other states operate some vocational-technical schools which are similar.

Procedure

The procedure used in this study was to compare the structure of the schools being studied with the structure of other secondary schools in Connecticut and with selected vocational-technical schools in other states. Members of the State Department of Education were invited to suggest schools in other states which should be studied. Secondary schools were selected from the same metropolitan areas in which the vocational-technical schools were located. Data was obtained through a combination of interviews and materials provided by the schools or state departments. In the case of technical-vocational schools in other states most of the data was obtained through correspondence.

II

STRUCTURING AND STAFFING

Public vocational and technical education is offered in different types and levels of schools, reflecting variation in institutional arrangements and structure. The Directory of Vocational Educational Programs 1966 (Federally Reimbursable Program only) lists over 13,000 comprehensive schools in 50 states and 4 territories, 300 vocational post-secondary institutions in 29 states and 3 territories, 100 combination vocational and technical secondary and post-secondary schools from 14 states and 2 territories, and over 200 vocational-technical secondary schools in 22 states and 4 territories.

The administrative structure of Connecticut's vocational-technical schools is authorized under numerous legislative acts. These acts with periodic appropriations of funds constitute the legal basis for the structure, its function, and, in substantial measure, its capacity to act or react in terms of certain objectives. A portion of this legislation is cited which relates most specifically to the administrative structure of vocational-technical schools:

> *Sec. 10-95. Vocational schools. The state board of education may establish, in towns best adapted for the purpose, public day and continuation schools, state technical institutes on the post-secondary level, part-time schools and evening schools for instruction in the arts and practices of vocations and may maintain any such school already established. Said board may make regulations controlling the admission of students to any such school. Said board may appoint and remove members of the staffs of such schools and make rules for the management of and expend the funds provided for the support of such schools and, in its report to the governor, as provided in section 4-60, include a statement of the expenses thereof and a statement of the acts of said board in connection therewith.[4]

Aim or Purpose

The expressed purpose of vocational-technical schools as given above is:

> " . . . . . for instruction in the arts and practices of vocations . . . . ."

[4] Laws Relating to Education 1964, p. 50.

In somewhat different terms this purpose is expressed as follows in a publication of the State Department of Education which involves both state operated schools and state-supported programs of vocational education.

> This descriptive report of the Connecticut Vocational Education Program has been developed in general conformance with an outline provided by the United States Office of Education. It describes the progress achieved in providing occupational education at the secondary, post-secondary, and adult levels for all people who can benefit from quality programs.[5]
>
> (underlining added)

In reference to the schools being studied the following statement is made:

> The 15 regional vocational-technical schools have been established to prepare students for entering skilled-career occupations in Connecticut industry.[6]

The programs of the vocational-technical schools extend to out-of-school persons:

> All of the regional vocational-technical schools provide programs for high school graduates and for youth out of high school.
>
> These programs offer unit courses in adult education. In 14 vocational-technical schools courses may be run during both day and evening.
>
> Programs were of the following types:
>
> Special summer programs.
> A second session (late afternoon and evening).
> Regular vocational courses during the day session but with a separate schedule.
> Day courses admitting only high school graduates.
> Related technical instruction for apprentices who return to school.
> Advanced instruction for vocational-technical school graduates in the same trade or related field.[7]

---

[5] Vocational Education in Connecticut. Hartford, Connecticut State Department of Education, 1966-67, p. 4.

[6] Ibid, p. 9.

[7] Ibid, p. 11.

In two centers the State is moving in the direction of preparing for industrial occupations below the skilled career level by providing facilities and support in addition to the vocational-technical schools.

> Two occupational centers were constructed this year, each adjacent to local high schools in Hartford and Danbury. Indirectly, the Vocational Act of 1963 has been responsible for the legislative appropriation of funds for the occupational centers. These centers were planned primarily for secondary level students, but they may be used to serve other groups when not being used for high school purposes.
>
> The programs in these centers are designed to provide training in occupational fields at the semi-skilled level. Occupational training is available in these facilities in automotive services, appliance repair, machine operation, and electrical inspection.
>
> The availability of federal vocational education funds has made it possible to expand existing programs and initiate new programs in trade and industrial education, thus necessitating, on the part of the state, new construction and expansion of existing facilities.[8]

State Level

In studying the structure of vocational-technical schools it may be well to begin at the "top". The diagram shown on page 7 gives the organizational pattern of Division of Vocational Education. The Bureau of Vocational-Technical Schools' responsibility is summarized as follows:

> The Bureau of Vocational-Technical Schools is responsible for the administration and supervision of the state-operated regional vocational-technical schools. The staff of this bureau also provides supervisory and consultative services to locally operated trade and industrial programs.
>
> In addition to the Bureau Chief, the staff includes consultants in teacher education, trade training, adult education, related instruction, general education, curriculum development, health occupations, and program development.[9]

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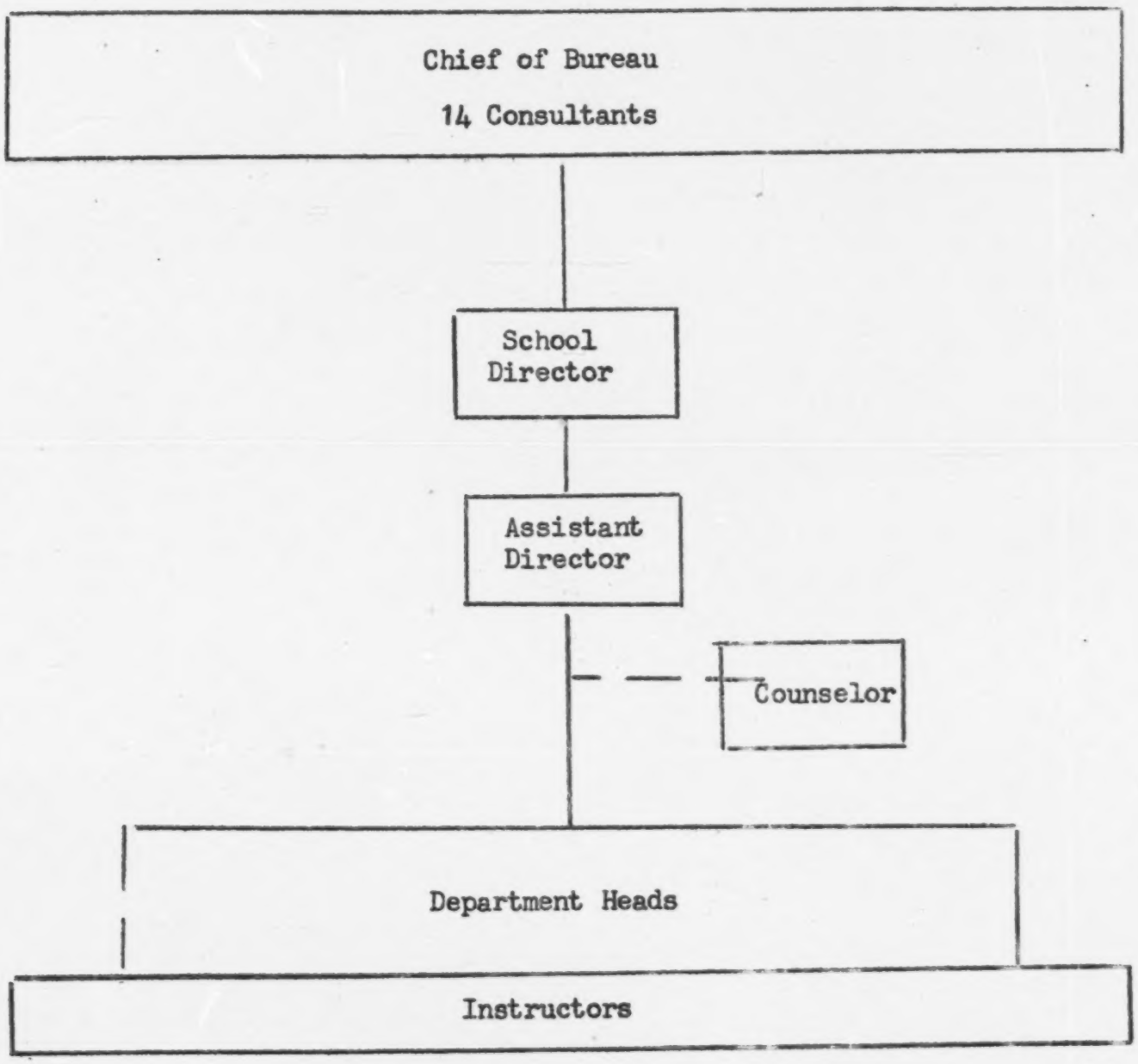
[8] Vocational Education in Connecticut. Hartford, Connecticut State Department of Education, 1966-67, p. 21.

[9] Ibid, p. 22.

FIGURE 1. OVERVIEW OF VOCATIONAL-TECHNICAL SCHOOL STRUCTURE



The Bureau of Vocational-Technical Schools has a total of 15 professional positions, comprising a chief and 14 consultants at various ranks for specified areas of competency. The consultants work directly with department heads as well as through the director of a school. In many instances the heads of departments in a number of schools work with the consultant as a committee. Representatives of industry and labor or trade committees are sometimes involved in working with the consultants and department heads.

NOTE: This structure would seem to make it difficult for the director of the school to keep in touch with developments, much less to influence planning. However, the Bureau is in a strong position with its many lines of communication to the several schools.

Regional Vocational-Technical Schools

In Table 1 is presented the general data on regional vocational-technical schools' administrative structure. All schools had a Director, or head of the school. Most schools had either a full-time or part-time director of adult education, and one or more guidance counselors.

In addition there were a total of 175 department heads with most of these as heads of "trade departments". In other secondary schools the ratio of department heads to other instructors was 1 to 9 and for vocational-technical schools it was 1 to 3. The enrollment in day programs of 8,200 would require about 28 counselors to have a ratio equal to that in public secondary schools.

TABLE 1. CONNECTICUT'S VOCATIONAL-TECHNICAL SCHOOL ENROLLMENT AND STAFF - 1968

V. T. SCHOOLS	Enrollment	Administrators*	Guidance Counselors	No. of Department Heads	Teachers, not including Department Heads
1	400	1	1	8	19
2	400	1	1	10	14
3	200	1	1/3-1/2	6	6
4	400	2	1	8	15
5	1,000	3	2	17	48
6	300	1	1	8	12
7	900	2	1	21	32
8	400	1	1	8	15
9	400	1	1	9	14
10	600	2	1	11	30
11	500	1	1	13	12
12	800	2	1½	15	31
13	600	2	1½	11	29
14	700	2	1	15	27
15	600	2	1	15	22
TOTALS	8,200	24	16½	175	326

*Does not include Directors of Adult Education

Connecticut High Schools

Connecticut public secondary schools, located in the vincinity of the vocational-technical schools were contacted to ascertain certain data presented in Table 2. While some difficulty arose in interpreting classification and distribution of data it is believed that this was not serious enough to distort the general picture of structure which was sought. Other staff were included, some of whom may have served as house masters, specialists on a district basis, and in other positions differing from the "usual" pattern.

These secondary schools enrolled some 20,000 students. There were 43 administrative positions in the schools—no administrative positions in the city superintendents' office were intended to be included. This averages out to over three positions per school or in terms of student population over two positions per 1,000 students. Seventy counselors for these schools provided a ratio of about 1 counselor for each 300 students. The teaching staff numbered over 1,100 with 124 of these designated as department heads. Departments on the average comprised about nine staff members including the chairman or head of the department.

TABLE 2. CONNECTICUT SECONDARY SCHOOLS*
Enrollment and Staff

School	Approx. enroll.	Admin.	Counselors	Dept. Heads	Teachers**	Coordinators
1	2,600	6	9	14	135	--
2	1,400	5	9	6	78	--
3	1,800	3	7	12	89	--
4	1,100	2½	5	6	45	--
5	1,000	2½	2	6	44	--
6	2,000	4	7	13	110	9
7	1,000	2	2	8	46	--
8	2,000	4	6	13	96	3
9	1,900	5	9	10	93	--
10	800	2	2½	8	43	--
11	1,600	3	4	11	71	1½
12	1,500	2	4	6	74	--
13	1,400	2	3½	11	56	6
	20,100	43	70	124	980	19½

*Sample drawn from cities in which vocational-technical schools were located.

**Doesn't include Department Heads who teach.

Vocational-Technical Schools in Other States

Responses from vocational-technical school administrators provided examples of structure and organization in other states. The data are not sufficiently complete or accurate to be treated as a representative sample. Furthermore, the diversity of arrangements, levels, and functions would seem to indicate that the data lack comparability and might be best presented on a case basis.

Delaware (State Operated) [As a H. S. District, with local Board of Trustees]

County Vocational-Technical Center (For 970 Enrolled only)

Director
(School District)
2 Assistants

Principal School
Industrial Coordinator
2 Department Heads

(Number of instructors not given)

Florida (County system - with vocational offerings in numerous schools) showing total people)

Served - 62,000 - about one-half in vocational
Assistant Superintendent for Vocational-Technical
Adult Education
- Subject Area Supervisors -
A City Vocational High School (3 years)
Principal
Assistant Principal
Dean of Girls
4 Department Heads

Enrollment - 1,200

Illinois (Township H. S. - 400 Vocational enrolled

Superintendent
Assistant Superintendent
Principal
4 Counselors

Director - Machine Shop
Pre-vocational Coordinator
19 Vocational Instructors
Out of a total of 250

Minnesota - Institute of Technology
Started in 1945 as Area Vocational-Technical Schools
Now 99% of those enrollments are high school graduates
Offers both 1 and 2 year programs
Administered by a local board

Enrollment - 600
Director - Assistant Director
4 Division Heads
5 Coordinators - Supervisors
1 Counselor
40 Instructors ±

Ohio - A city school district -

Career Preparatory Programs - (2 years)
in two high schools
(Students are free to take part of work in one school and remain in other)

Superintendent - 2 Assistant Superintendents
Administered by Principals of School
1 - Vocational Coordinator
39 - Instructors
Enrollment - 700

Ohio - Two vocational-schools operated as a part of a city's educational system--one has four-year program, one a three-year program--but certified. Vocational teachers are employed only for junior and senior courses.

Principal

School A	School B
Associate Principal	2 Assistant Principals
4 Coordinators	3 Counselors
1 Counselor	2 Coordinators
35 Instructors	8 Department Heads-Total School
(19 of above vocational)	25 Instructors Jr. & Sr. Voc.
(4 of above Department Heads)	

1,100 in Junior and Senior years

Pennsylvania - A city vocational-technical school

Three years secondary plus two years technical

Principal - 4 Vice Principals
12 Coordinators
6 Counselors
132 Instructors

Enrollment - 2,200 (Grades 10 - 14)

Pennsylvania - A county technical school operating under "Articles of Agreement" with six school districts--

Enrollment - 1,342 (two-year programs)

1 Superintendent - 1 Principal
1 Administrative Assistant
2 Coordinators
2 Counselors
Instructional Staff 45
No department heads shown
Offers only technical subjects
Students obtain other work at secondary schools

Washington, D. C. - Enrollment 900 ±

Vocational High School (3 years)

Principal
Assistant Principal
Administrative Assistant
(Librarian)
2 Counselors
52 Instructors
7 of whom are designated as Building Departmental Chairmen

Nebraska - Vocational-Technical School (State operated)

850 Day Students (16 years of age and over--mostly post-secondary)

Director
Assistant Director
[5 Subordinate Positions]
4 Counselors
14 Department Heads
56 Instructors

III

DISCUSSION AND INTERPRETATION

Constitutional

The listing of positions and duties presented in the foregoing part of this paper outline the formal administrative structure of vocational-technical schools in Connecticut. The State authorizes and finances the operation of these schools and indicates a general direction to be pursued. Legislation authorizes the establishment of vocational schools "to offer instruction in the art and practice of vocations". Instruction is held to be the principal legitimate function which these schools may exercise. All other functions must have a subsidiary and supporting position in relation to the main function. In what vocations, for what level of competency, and for what persons are not designated but legislation does designate authority to the State Board of Education to administer and operate these schools.

A question relative to legitimate function is their involvement in post-secondary programs of an associate degree level. A second question might be raised relative to these schools' involvement in giving instruction not clearly associated with the "art and practice of vocations".

The State Board of Education requests from the legislature and authorizes distribution of funds to operate the vocational-technical schools. In large measure, the State Board of Education has the capacity (energy-power) to implement instruction in accordance with its decisions.

Individual schools have limited, if any, funds other than from the State, hence are seen as largely devoid of capacity (energy-power) for acting outside of decisions made by the State Board or its Agents. In this light a "decision-point" analysis type of study is suggested as a means of verifying the general observation. However, it may be that a consensus prevails with regard to how the administrative decisions are reached, if not as to how they should be reached.

Directional

Three, and possibly four, purposes seem to be reflected in the current programs of Connecticut's vocational-technical schools. First, the major purpose is preparation of youth for, or the advancement of adults in, a skilled trade. Second, post-secondary technical education appears to be an emerging purpose. Third, the exploratory program at the 9th grade and the recruitment may be considered as different from that of preparation. A fourth purpose, not generally distributed, is provision of programs for persons with special needs. All of these purposes define groups for which instruction is to be provided.

Published statements of purpose indicate that those responsible place a high value on providing skilled craftsmen or technicians required in industry.

In the current situation there exists a potential competing value of providing entry level occupational education for youth not ready for or interested in education at the skilled craftsmen level. The severity of this competition is thought to be a critical factor first, in the raising of the problem of administrative structure, and secondly, in terms of perceiving the structure in reference to enhancement of these values.

In other words, the expanding technology and new social concerns present competing demands for programs and services of vocational-technical schools. In recent years the vocational-technical schools' principal orientation of the day school program has been in terms of the expanding technology. Programs under M.D.T.A. currently operated in the schools are more generally oriented to serving individuals regardless of whether or not they are expected to attain the skilled craftsmen level.

Leo Cherne states in the Saturday Review of 23 November, 1968, "Over the next several years, the challenge of unemployment must be stated in terms of who is out of work, rather than how many Americans are without jobs."

Michael Harrington in the same issue of Saturday Review reinforces this position " . . . . . 25 per cent of the country's children live in families that are poor or nearly so . . . . . Its goal must be to give every able-bodied citizen the right to a decently paid and useful job--having been systematically deprived for so long, they require the use of federal power to make the schooling market more favorable to them than to the children of affluent homes."

The "direction" of Connecticut's vocational-technical schools is further reflected in the following statement:

> The specific purpose of this study is to define more effective instruments in the form of a battery of predictive tests to be used for the selection of entering students in trade programs offered in the vocational/technical schools of the State of Connecticut. These predictive instruments will provide counselors with a more reliable tool for the identification of vocationally talented students who may be expected to prove successful in certain program areas common to vocational/technical schools. It was not the purpose of this study to establish cut-off scores after the predictive test battery has been identified.[10]

It may be desirable to re-examine the function of these schools with special reference to articulation with other types of schools and colleges, and with regard to the social discontent of the times. In particular, attention could be directed to the following -

- Provisions whereby each vocational-technical school can adjust (its purposes) for better articulation with programs of other public schools and colleges
- Provisions which provide far greater recognition of needs and services to the disadvantaged

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[10] Predictive Testing for Entrance in Vocational-Technical Schools, New York University, Center for Field Research and School Services, August 1968, p. 4.

- Provisions which broaden the concept of "skilled craftsmen" to include more emphasis upon the service areas, such as medical care, counseling, servicing office machines, police, transportation, and pollution control.

Minnesota and Massachusetts have recently released studies involving vocational education in which recommendations are made for expansion of programs to serve all ability levels. The following statement from the Minnesota study is indicative of new concerns being expressed as to the "direction" in vocational-technical education at the State level.

> Traditionally, in education it has been assumed that time is a constant and achievement a variable. New educational programming is reversing the emphasis and in the program illustrated it is possible for achievement to be considered as a constant and time as a variable.
>
> In summary, effective educational management in the future will require the identification of the inputs, processes, and outputs of the educational system.
>
> 1. The student input: who are they, where are they, and what are their characteristics?
>
> 2. What are the material resource inputs available?
>
> 3. What is the process of education that has been applied to this student?
>
> 4. What is the performance record of the employee prepared for work through vocational education?[11]

The following authoritative policy statements also point to policies which may be involved in Connecticut's vocational-technical schools:

> Those who administer programs of vocational education at the secondary level are finding that increasing numbers of the students who complete their programs desire to continue on the further education at the post-high school level in the occupation they have studied.[12]

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[11] Vocational-Technical Education. A Study of the Effect of the Area Vocational Technical Schools in the State of Minnesota, 1968, p. 39.

[12] U. S. Department of Health, Education, and Welfare. Organization and Operation of a Local Program of Vocational Education, p. 36.

> . . . . Vocational education and vocational educators quickly become involved in plans and programs to meet the needs of those who suffer from economic, social and educational handicaps. Numerous community, State and Federal action programs for these purposes have been established and financed from public funds, involving the widespread participation of local citizens. The vocational administrator should make every effort to become active in these efforts at the local level, so that the program of public vocational education is recognized as a major resource in this task.[13]

The Context

A vocational-technical school is a particular or specialized type of school within the total framework of public education. Its structure cannot be examined without realizing the inter-relationships with other types of schools. The articulation of various segments of Connecticut's public school system is an inclusive problem. However, the administrative structure of vocational-technical schools, taken as an entity, appears to be lacking in provisions to adjust purposes in terms of new conditions or change in social demands. In recent years one may conclude that the differences between regions served by these schools have been widening.[14] The larger metropolitan centers are immeshed in education problems of pressing urgency,[15] while change in smaller centers is on-going, it is not exerting pressure on the school systems to the same degree. Yet, by and large, the regional vocational-technical schools show little differentiation in programs or in structure in relation to urbanization.

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[13] U. S. Department of Health, Education, and Welfare. Organization and Operation of a Local Program of Vocational Education, p. 37.

[14] Edward Stockwell. Problems of Metropolitan Growth and Change in Connecticut. Bulletin 408, October 1968. Storrs Agricultural Experiment Station, The University of Connecticut, Storrs, 14 pp.

[15] A Study of Urban School Needs in the Five Largest Cities of Connecticut, ERDC Center, University of Connecticut, 1968.

To some extent this uniformity reflects the identification of schools with the trades. "An auto mechanic requires similar competencies everywhere to succeed in employment", it is said. The dominance of the trade areas is demonstrated in the departmental structure of each school which creates a group oriented to support of the trade tradition.

On the one hand the schools' administrators are associated with administrators' of regular high schools, under pressure to maximize contributions for resolution of urban educational problems, and within their schools the vocational administrators encounter the "vested interests" of department heads opting for the highest level of trade tradition.

The vocational-technical schools in smaller centers may seek innovation in programs to increase operating efficiency. More diversity in programs and the addition of curricula for the disadvantaged would tend to increase enrollment and reduce overhead unit costs. Hence, change in structure may be desirable in smaller schools as well as larger ones but for somewhat different reasons. In each instance increasing vocational education opportunities to individuals in the area would be of central importance even though in major cities the need for a change is more urgent.

In other schools studied some means exist for citizens close to the school to reflect their concerns and interests. Most, of course, operate under a local board of education, and many have advisory committees in addition. Connecticut's vocational-technical schools, it is judged, do not have an effective regional body to voice concerns on the operation of the school in their region. While this problem was not studied specifically, it seems safe to state that this situation needs to be improved.

There are various alternatives open including creating regional boards of education or turning schools over to an operating school district. However, a more moderate proposal would be the creation of a regional council on vocational education and manpower. This council would serve as an advisory body to the director of a school.

Operational - Structuring

The State Department has wide latitude in the administration of the regional vocational schools. At the level of the school administrator few options are open. In general, the administrator may not be as free to experiment with program, curriculum, and other phases as is his counterpart in the regular schools. Many of the decisions are made at the State level rather than the school level.[16]

In terms of individual schools, in particular those in larger urban centers, the structure differs from that noted in public schools of Connecticut in out-of-state vocational-technical schools. There are fewer administrative positions, there are fewer counselors and there are many more small departments. It is believed that a good case can be made for adjustments in structure to bring these more nearly in line with typical practice. Only in the case of change in department head numbers does the adjustment pose threats to a school's existing structure. The change in department organization may prove difficult under the existing system but this is no reason to think it impossible. One approach would be the adoption of a policy which states that these positions (positions of directors and assistant directors might be included) are not tenured and are subject to periodic review similar to the following:

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[16] "Major Recommendations Emanating From the Biennial Conference of the Bureau of Vocational-Technical Schools", June 1968.

The chairman or head of a department, who serves as chief representative of his department within an institution, should be selected either by departmental election or by appointment following consultation with members of the department and of related departments; appointments should normally be in conformity with department members' judgment. The chairman or department head should not have tenure in his office; his tenure as a faculty member is a matter of separate right. He should serve for a stated term but without prejudice to re-election or to reappointment by procedures which involve appropriate faculty consultation. Board, administration, and faculty should all bear in mind that the department chairman has a special obligation to build a department strong in scholarship and teaching capacity.[17]

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[17] AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS policy, as stated on p. 378 of AAUP Bulletin, Winter Issue, 1966.

IV

PERSPECTIVE

The place and nature of regional vocational schools within the total educational system is emergent not permanent. Their structure is influenced by technological and social forces, decisions of the legislature, and the State Department of Education. It is incumbent on those having leadership positions to exercise constructive action which may shape these decisions.

Buchanan in a review of studies of organizational development in industry identified three specific issues:

> Of approximately 33 issues which there was some reason to believe are important in organization development, three have been identified as being of particular centrality in this study of ten cases. These issues are:
>
> 1. Introducing a new model of operation which the members of an organization can consider as a basis for formulating improvement goals regarding a dimension or operation which is central to the performance of the organization (Issue 5).
>
> 2. Sequencing objectives and action steps in such a way that linkage is established between the initial point of change and other persons, parts, and dimensions of operation internal to the target system (Issue 6a).
>
> 3. Sequencing objectives and action steps in such a way that linkage is established between the initial point of change and other persons, parts, and dimensions of the external system with which the target system has important interdependency (Issue 6b).[18]

Tentative hypotheses or propositions are offered in light of the data presented in this study. They relate to organizational development of vocational-technical schools in Connecticut.

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[18] Goodwin Watson, Ed. Change in School Systems, 1967. National Training Laboratories, N.E.A., p. 65.

The first proposition is that the social and technological changes have transformed role priorities of vocational schools in major urban centers. There is an opportunity to develop innovative approaches to making the vocational-technical schools a more vital and unique part of the total educational system in each region. The traditional approaches to priorities in program development can be replaced with a more creative approach. One implication of this proposition is that cooperation would be developed with other secondary schools. This could involve the development of cooperation in counseling, program selection and operation to insure opportunity for all youth. The Research Council of the Great Cities Program for School Improvement in its report, Changing Education for a Changing World of Work presents many suggestions which merit consideration in terms of this proposition.

A second proposition is that vocational-technical schools will increasingly recognize that their programs are preparatory - that many of their graduates if not most of them will continue in some educational program - so long as they continue to serve clients of secondary school age. This proposition has implications for working towards articulation with post-secondary education, improving guidance and counseling, and for adjusting the relative concentration of instruction in the trade areas. Occupational instruction in vocational-technical schools would be conceived increasingly as the beginning of a life-long pursuit of education, essential to a satisfying career in the changing world of work.

A third proposition is that leadership of vocational-technical schools can influence the change in direction and program. Broad authority is given to the leadership through the State Board of Education. Change in structure is one implication and represents a good chance of being an effective choice

of action. This change in structure assuming continued functioning as secondary schools may envision:

(a). reducing decision-making functions of the central office and increasing research functions

(b). creating Regional Councils and service on vocational education

(c). increasing the resources for the guidance and counseling function - [Marked deficiency exists]

(d). increasing the strength of department chairmen by reorganization and reduction in numbers of chairmen. [See ratios of Trade Department Chairman]

(e). developing [redacted] pilot programs, and

(f). providing needed allocation of resources to local school administration [Some evidence of overload]

(g). - - -

A major alternative is that these schools become post-secondary. It is not conceivable, however, that this change could be achieved through independent leadership of vocational-technical schools. However, this alternative merits exploration and study.

In trying to assess some of the significance of these structural changes it may be appropriate to cite again from Watson[19]:

> All of the models resulted in changes in the power structure of the target system, such changes being in the kind of power or influence used (away from authority and toward increased use of information), in the distribution of influence among the members of management (proportionately greater influence by people at lower levels), and in the total amount of influence exerted, or in the "size of the influence pie" (after the development program, the target systems appeared to have more self-control, and their operation appeared to be less determined by chance or by forces outside the system).

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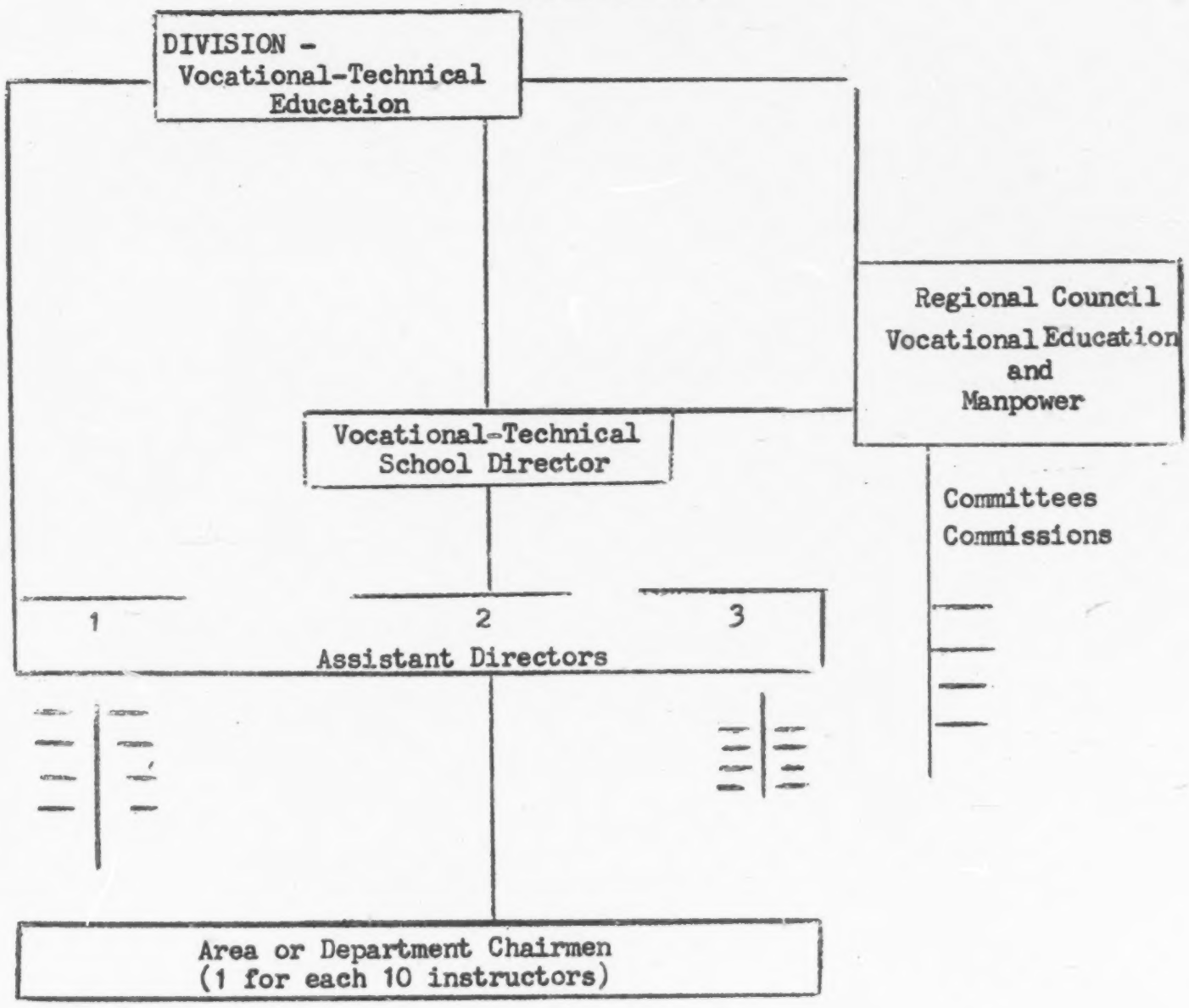
[19] Goodwin Watson, Ed. "Change in School Systems", Cooperative Project for Educational Development, NEA, 1967, p. 64.

The scope of this study and the general philosophic orientation do not require a blueprint for the new structure of vocational-technical schools. In most preliminary form the following diagram reflects one possible plan for a new structure in Connecticut's more urban vocational-technical schools.

FIGURE 2. A L T E R N A T I V E S T R U C T U R E

Urban Vocational-Technical School
(Connecticut)



Notes:

- State consultants do not work with individuals below assistant director level
- Regional Council established by State - consultant designated to work with Council
- Responsibility areas proposed for assistant directors
  - (1) Adult programs, buildings, accounting - all classified personnel
  - (2) Curriculum and program (all day)
  - (3) Counseling. Occupational coordinators school relations

APPENDIX A

Stipulated Definitions Employed in the Cowley Holistic Taxonomy for the Study of Social Institutions

1. The Constitutional Triad: "Constitutional" here means foundational, that which undergirds all that follows:

   1.1 Structure: A social structure is a continuing institution consisting of 1) people engaged in associated activities and 2) the intertwining networks of the components of these activities.

   1.2 Energy-Power: The two elements of this taxon are conjoined because they constantly interrelate.

      1.21 Energy: Capacity to act or to be acted upon.

      1.22 Power: The possession by a social structure (individual or group) of some form of objective, projective, or subjective energy either in use (kinetic) or available for use (potential).

   1.3 Function: A function is a characteristic (usual, regular) action of a social structure.

2. The Directional Duad: These two taxons determine the directions followed by a structure.

   2.1 Values: A value constitutes a subjective attitude of a human individual or group at a given point in time and space about the worth of any objective, projective, or subjective entity.

   2.2 Purposes: A purpose is an expressed intention of a human individual or social structure to act in some more or less specific way, at some more or less specific time and place, in relationship to some entity or entities, but from which intention the specified action may or may not ensue.

3. The Contextual Duad: Every entity in the universe functions in time and space contexts.

   3.1 Temporal Continuity: The temporal context (past-present-future) in which a structure functions.

   3.2 Spatial Continuity:

      3.21 External Environment: The area and all its contents which encircle an entity at a point in time.

      3.22 Internal Environment: The area and all its contents within an entity at a given point in time.

4. The Personas Triad: The individuals and groups associated with a social structure or acting upon it from without.

4.1 Internal Personas: The personnels and clienteles of a structure.

4.2 External Personas: The individuals and groups acting upon a structure from without.

4.3 Interpolar Personas: The individuals and groups related to a structure both internally and externally.

5. The Operational Pentad: These five taxons describe how a structure functions:

5.1 Subject-Matters: The subject-matters of a structure constitute the distinctive entities with which it deals in performing its functions.

5.2 Material: The physical resources (money, plant, equipment, books, etc.) at the disposal of a structure.

5.3 Structuring: The internal ordering of a structure or of a system of structures.

5.4 Functioning: A functioning consists in the way(s) the function of a structure gets performed.

5.5 Controls: Anything, natural or cultural, which directs, regulates, or restrains the functioning of an individual human being or groups of human beings.

6. The Outcomes Triad: The functioning of a structure has outcomes, and these are classifiable as:

6.1 Products: The objective, projective, and subjective entities formed or modified by the functionings of a structure.

6.2 Images: The conceptions of an individual or of members of a group symbolizing a basic attitude and orientation toward something (as himself or the group per se or an external person, class, racial type, political philosophy, or nationality).

6.3 Character: The unique composite of all the features (taxonomic elements of a structure.

7. The Problems Triad: Problems consist in the puzzling questions a structure faces in the performance of its functions. They can profitably be categorized as:

7.1 Inherent Problems: These are the problems which arise because of the essential character of a structure. For example, administrators of colleges and universities continuously encounter the problems associated with finding new clients, but prison administrators do not.

7.2 Current Problems: These are the problems -- other than inherent problems -- which currently demand the time and attention of a structure's personas.

7.3 Emergent Problems: These are the problems which perspicacious members of a structure's personas see (perhaps only vaguely) as likely to be important in the near or distant future.

The Taxonomy as a Tool

The observation stressed in the 1967 version of my basic course must be stressed again and with vigor, to wit, that the taxonomy is a tool, not a theory. It has evolved in my long-time effort to analyze colleges and universities, but it can be applied to the study to all varieties of social institutions.

W. H. Cowley
October 10, 1968

BEST AVAILABLE COPY

Questions to be Asked in Using The Cowley Taxonomy

1. What STRUCTURE performs the FUNCTION under analysis? What individual or group established the structure?

2. What authority, that is (POWER), has the structure? Does the work of the structure, for example, have to be reviewed and approved by another structure with superior POWER?

3. What VALUES pervade the functioning of the structure? Have they been stated in writing? Are conflicts of value identifiable among the individuals or groups directly or indirectly related to the functioning? If so, which values have -- or are likely to have -- predominant influence (power)?

4. Have the PURPOSES of the structure in performing the function been clearly stated? In what form? Do they harmonize with the values just identified? Are some purposes more insistent (powerful) than others?

5. When was the structure established, and does its age contribute either positively or negatively to its prestige (power)? Are there any TIME FACTORS involved in the enterprise as, for example, a due date for the completion of the functioning? How firm (powerful) are such time factors?

6. Are there any INTERNAL ENVIRONMENTAL CIRCUMSTANCES OR SITUATIONS within the structure and/or its parent structures (school, university) which must be taken into account in the performance of the function. For example, how potent (powerful) are the vested interests of various individuals or groups, the prevailing traditions concerning work loads and working conditions within the institution, the morale of its various kinds of personas, etc.?

7. Comparable questions as in the last item must be asked here about the EXTERNAL ENVIRONMENT. For both environmental taxons, the influence (power) of each relevant factor must be estimated.

8. Is the individual or group assigned to undertake the function able enough (intellectual and personal power) to handle it adequately? What other INTERNAL PERSONAS considerations bear upon the functioning of the structure? As, for example, are there disagreements among the personnel of the structure about its values, purposes, functioning, etc.?

9. What EXTERNAL ANDINTERPOLAR PERSONAL CONSIDERATIONS bear upon the functioning of the structure? For example, are there any disagreements among the personas of the over-all structure concerning its values, purposes, functioning, etc.? If so, how stubborn (powerful) are they?

10. Is the SUBJECT MATTER of the structure clear and adequate? For example, if the structure has the function of finding a new faculty member in, say, public health nursing, has the structure appointed to undertake the function been thoroughly briefed concerning her teaching, research and other activities? In which of these should she be most able (have the most power)? Has the briefing also included information about salary, tenure, fringe benefits, etc.?

11. Does the structure need any MATERIAL RESOURCES such as budget, space, clerical assistance for effective (sufficiently powerful) functioning? Have these resources been put at its disposal?

12. Are STRUCTURING considerations adequate? For example, are the organizational designs of the parent structures (school, university) clear-cut and efficient, that is (powerful) enough to meet current institutional needs and challenges. Also, is the structure under study properly (efficiently) organized? Is its place in the chain of authority (power) clear and generally accepted?

13. Do enacted specifications bear upon the FUNCTIONING of the structure? If so, how do they get into the hands of its personnel? If no such specifications have been given to the structure, is it free to "follow the bends in the road" in doing its job? If not, what restrictions (power limitations) have been placed upon the structure?

14. In the preceding thirteen items CONTROLS upon the functioning of the structure being investigated have been frequently cited. Employing the stipulated definition in the memorandum of February 16, 1968, this question must now be canvassed: has "anything natural or cultural" been englected "which direct, regulates, or restrains" the structure in undertaking the function? If such controls come to light, the vigor (power) of each should be appraised.

15. An illustration of the PRODUCTS taxons seems more useful here than a generalization. If for example, the function being undertaken is to fill a faculty vacancy in public health nursing, the individual found and appointed constitutes the IMMEDIATE PRODUCT of the functioning under analysis, but everyone involved in the enterprise should frequently give thought to the LONT-TIME PRODUCTS of their work: to the IMAGE of the School and that of its public health program, and to the evolving CHARACTER of the school and the university. It needs constantly to be remembered that over an unknown term of years she will be influential (powerful) positively, negatively, or colorlessly.

16. After rereading the summaries of the PROBLEMS taxons in the memorandum referred to inItem 14 above, those engaged in the function being analyzed need to ask and answer two questions. First, are there any INHERENT PROBLEMS of the parent structures (school, university) which need to be specifically identified and pointedly attended to — as, for example, inadequate funding? Second, are there any CURRENT OR EMERGING PROBLEMS of the same general kind? It would be the part of wisdom to ferret out and assess the relative strength (power) of such problems at the very start of the analysis.

W. H. Cowley
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ABSTRACT - This study analyzes manpower requirements through 1977 for pilots and mechanics in each of the principal sectors of civil aviation. Short-range requirements are estimated by the Manpower Administration in a survey of employers among the airlines and general aviation categories. The Bureau of Labor Statistics' long-range projections through 1972 and 1977 are based on Federal Aviation Administration forecasts of future aviation activity, supplemented with data obtained from civil aviation officials, concerning technology and manpower utilization. This report describes individually the findings of the short-range analysis and the long-range projections. (BH)

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Pilots and Mechanics in Civil Aviation 1967-77

A STUDY OF MANPOWER REQUIREMENTS

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Pilots and Mechanics in Civil Aviation 1967-77

A STUDY OF MANPOWER REQUIREMENTS

Part I, Current Situation and the Short-Range Outlook (Manpower Administration)

Part II, Long-Range Manpower Requirements (Bureau of Labor Statistics)

1970

4104

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Preface

As a result of the unprecedented expansion in civil aviation during the past few years and the prospect of continuing growth in the 1970's, considerable attention has been focused recently on the current and future supply-demand situation for trained aviation manpower. In recognition of the need for up-to-date comprehensive information on the manpower aspects of the civil aviation industry, the Department of Labor undertook this study designed to appraise current and future requirements and resources for pilots and mechanics in civil aviation. The study was done at the request and with the support of the Federal Aviation Administration and the Department of Defense—the two Federal agencies most concerned with manpower developments in civil aviation.

The study was conducted in two parts: Part I, which was prepared under the direction of the United States Training and Employment Service (USTES) of the Department of Labor's Manpower Administration presents an analysis of current and short-range requirements and resources for pilots and mechanics in each of the principal sectors of civil aviation—both in the airlines and general aviation categories. This analysis is based on a special survey of employers in these industry groups, conducted by USTES in cooperation with affiliated State employment security agencies. Part II, conducted by the Bureau of Labor Statistics (BLS), presents projections of long-range manpower requirements, also by principal sectors of civil aviation, and the methods used to derive these projections.

The Department of Labor is grateful for the assistance and cooperation of the airlines, firms in general aviation, aviation schools, aircraft manufacturers, trade associations, trade unions, government agencies and others who cooperated generously in providing information. We especially would like to acknowledge the cooperation of the Air Transport Association of America, which encouraged all its members in advance to complete and return the questionnaires in a survey of firms in the various sectors of civil aviation. The work of the General Aviation District Offices of the FAA in following up on the nonresponding firms in the air taxi, aerial applicator, aircraft repair stations, and flight and ground schools segments of general aviation, was also very much appreciated.

The analysis of the data in the USTES portion of the study was prepared by Edward D. Hollander and Eleanor F. Silverman of the staff of Robert R. Nathan Associates Inc., under contract with the U.S. Department of Labor. The planning and preparation for the USTES-State employment security agency survey of employers in the civil aviation industry and the assembly of the survey data for analysis were by Robert L. Miller under the supervision of Harold Kuptzin, Chief, Division of Job Market Analysis in the USTES.

The BLS portion of the study was prepared by Richard E. Dempsey, assisted by Kevin Kasunic, LaVerne Lang, and David P. Lafayette. Jerry Kursban assisted in the linear regression analysis used to project manpower requirements. The BLS portion was conducted in the Bureau of Labor Statistics' Division of Manpower and Occupational Outlook, Russel B. Flanders, Chief.

Introduction

The growth of civil aviation during the mid-1960's has been phenomenal—in terms of all major measurements of business activity: revenue, passenger traffic, air cargo carried and size of employment. Revenue passenger miles (including domestic and international) during 1968 passed the 100 billion mark—more than 3 times the record of a decade previous.[1] According to the Federal Aviation Administration (FAA), the 152 million passengers carried in 1968 nearly tripled the number 10 years earlier. By 1980, FAA figures indicate, U.S. airlines are expected to fly a total of 379 billion revenue passenger-miles and carry 470 million passengers in scheduled domestic and international service.

The demand for transportation of cargo by air has also increased sharply in recent years—topping 4.1 billion cargo-ton miles in 1968.[2] By 1970, an all cargo plane capable of carrying nearly 3 times as much freight as today's largest cargo aircraft will be entering airline fleets.

At the same time, there has been a strong uptrend in all phases of business flying (executive transportation) and other types of general aviation activity, and the outlook for continued growth in the next decade is extremely favorable. The number of active general aviation aircraft rose from 85,000 in 1964 to 114,000 in 1968.[3] The FAA forecast is that the number of these aircraft will nearly double by 1980.

In 1962, the certificated route air carriers employed 17,971 pilots, copilots, flight engineers and navigators. By 1967 this number had reached 30,956.[4] During this same period, the number of mechanics employed by these carriers moved up from 34,925 to 50,016.[4]

The overall expansion of civil aviation activity, coupled with the pending introduction of jumbo and stretched jet transport and new shorthaul aircraft for local service, are expected to result in a further increase in the annual requirements for pilots, mechanics, and other ground service personnel.

The contribution of military training to commercial aviation manpower has always been highly significant. According to a survey conducted by the Air Transport Association in early 1967,[5] two-thirds of all pilots hired during 1966 and two-thirds of those employed at the time of the survey had their principal training in the military services. Military training for pilots, however, is today but a fraction of what it was during World War II and considerably below the peak reached during the Korean conflict.

Projections made as recently as 1964 with respect to manpower needs for pilots and mechanics in 1970 have already been greatly surpassed. The estimates erred on the low side mainly because while increases in productivity due to new equipment were foreseen, no one then anticipated the tremendous growth in passenger miles, hours flown, and the number of aircraft in use which has occurred in the past few years.

The study by the U.S. Training and Employment Service (USTES) and the Bureau of Labor Statistics (BLS) represented a two-pronged approach to manpower analysis as indicated by the different procedures and responsibilities of each. Most of the information for the USTES portion of the study was obtained through a sample survey of firms in the various segments of civil aviation. The questionnaire for the survey was developed with the assistance and cooperation of FAA and DOD. The USTES portion covers the current situation and the short-range growth requirements (to March 1970) for pilots and mechanics, training facilities for these occupations and their potential output, age of employees, and information on pilots with respect to ratings, hours flown, and certification to fly fixed-wing planes and/or helicopters.

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The BLS long-range projections of pilot and mechanic requirements through 1972 and 1977, were based on an in-depth analysis of historical trends of the factors affecting manpower requirements in the various sectors of civil aviation. The basic data used in developing estimates and projections of manpower requirements came from FAA, including forecasts of future aviation activity. Information on manpower utilization and expected developments in civil aviation, including the impact of technology on manpower requirements, were analyzed and incorporated. Much of the information was developed through discussions with and data obtained from civil aviation officials representing management, labor and government.

The coverage of the USTES and BLS portions of the study also differ in some other respects. The USTES portion covers civilian pilots and mechanics employed by the Army, Navy, and Air Force and the nonmilitary Federal agencies; the BLS portion excludes those civilian pilots and mechanics employed in the Army, Navy, and Air Force. The USTES portion includes in general aviation the pilots and mechanics employed by State and local governments; the BLS portion includes these workers in the government sector.

[1] *Aviation Forecasts,* Fiscal years 1969-80, Federal Aviation Administration, January 1969.
[2] *1969 Air Transport Facts and Figures,* Air Transport Association of America.
[3] *Aviation Forecast,* op. cit.
[4] *1968 Air Transport Facts and Figures,* Air Transport Association of America.
[5] *Scheduled Airline Industry Pilot Requirements,* Report by Air Transport Association, February 1967.

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Part I

Current Situation and the Short-Range Outlook

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Summary

Pilots

Of the nearly 67,000 pilots employed in civil aviation in the spring of 1968, 34,500 worked for air carriers, 31,800 were employed in general aviation activities, and about 550 were civilian employees of the Department of Defense.

All three divisions of the industry planned to continue to expand their pilot work forces through 1970, although to varying degrees. The largest and most rapid growth was scheduled for general aviation, where employers contemplated reaching an estimated pilot em ployment level of 38,000 in spring 1970, about 11,000 above spring 1967.[6] Air carriers expected to add only 4,300 during this 3-year period, an estimated prospective increase of only about 1,500 pilots a year. This would represent a considerable slowing down and leveling off in the sharp uptrend which characterized the carriers' employment growth in the years from 1964 to 1967. Reported Department of Defense civilian pilot employment expansion needs were negligible.

No shortage of pilots to meet the estimated short-term growth requirements was experienced or anticipated by employers in the spring of 1968, with the possible exception of pilots with specialized skills and experience, such as agricultural pilots. Both major sources of pilot supply—those with military-training and those with civilian-training backgrounds—were being drawn upon. Civilian training facilities for pilots are adequate in number, highly elastic in response to increases in demand, and well dispersed geographically. Government aid to student pilots in the form of veteran's benefits is exceptionally generous. All sectors of the industry provide on-the-job training.

Of the approximately 34,500 pilots and copilots employed by civil air carriers in spring 1968, about 1,250 or 3.5 percent were flight instructors, according to estimates based on the U.S. Training and Employment Service (USTES) survey. In addition, about 4,000 pilots were engaged in providing instruction in flying at general aviation flight and ground schools. Both major divisions of the industry contemplated increases in their flight instructor employment and expected no difficulty in meeting their needs.

Nearly a third of all pilots and copilots, excluding flight instructors, employed by route air carriers in spring 1968 were also qualified flight engineers, and no change in this proportion was contemplated during the period under review.

More than 92 percent of all employed civil aviation pilots were certified to fly fixed-wing aircraft only. The proportion was about 97 percent for route airlines and 87 percent in general aviation, where the remainder were certified to fly helicopters only or both fixed-wing aircraft and helicopters. Some increase by peak 1970 in the proportions of fixed-wing pilots employed was expected in all sectors except industrial/special flying.

Airline transport ratings were held by nearly 43 percent of all employed civil aviation pilots in the spring of 1968—about 49 percent of those on carriers and about 36 percent of those employed in general aviation. Nearly 87 percent of all employed pilots whose highest rating was commercial were also instrument-rated.

About 11 percent of all employed pilots were 50 years of age or over in the spring of 1968. The proportion for route airlines, where the compulsory retirement age is 60, was 9.4 percent. For general aviation firms it was 12.6 percent.

Approximately 32,355,000 flight hours were logged by professional civilian pilots in the year ending April/May 1968, of which route airlines accounted for about half. Annual hours flown per pilot averaged 512 for the entire industry, with route airline pilots (excluding flight instructors) flying an average of 522, and all general aviation pilots combined, an average of 509 hours. There was wide variation among general aviation sectors in the average hours flown by pilots annually, ranging from 166 in industrial/special flying to 763 in air taxi operations.

Mechanics

Employment of civilian aircraft mechanics in the spring of 1968 totaled 144,000, more than twice the number of pilots. Air carriers employed 51,000; general aviation, which includes all independent repair stations, engaged 54,800; and 38,400 were civilian mechanics employed by the Department of Defense.

The carriers and general aviation firms expected to continue to augment their mechanic work forces

[6] Expansion plans of general aviation firms, particularly those in the executive transportation and air taxi sectors, may be adversely affected by the FAA's new flight-rationing regulation limiting IFR (Instrument Flight Rules) nonairline flying at five airfields serving Washington, New York, and Chicago. The rule went into effect on June 1, 1969.

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through 1970, but the Defense Department planned a small reduction. As in the case of pilots, the bulk of the increase was scheduled for general aviation with an estimated spring 1970 mechanic employment level of 62,800, more than 11,000 above spring 1967. Air carriers expected to raise their mechanic employment by only 6,000 to a total of 55,000 during this period. By 1970, Defense Department employment was expected to total several hundred below the 1967 level, after reaching a high of 39,500 in 1969, according to plans reported to the USTES in the spring of 1968.

Many reports, from both general aviation firms and air carriers, indicated a rising and crucial need for mechanics skilled in certain occupational specialties. These included airplane electricians and electronic, radio, and instrument mechanics, as well as avionic technicians. The need for all-around airframe and engine mechanics appeared to be falling off, but remained at a substantial level. Job opportunities in general aviation were best for certificated airframe and powerplant (A&P) mechanics who could also function as pilots.

About 15 percent of all aircraft mechanics employed in civil aviation, excluding the Department of Defense, in the spring of 1968, were 50 years of age or over, according to estimates based on the USTES survey of employers. The proportion was only about 12 percent for air carriers, but close to 17.5 percent in general aviation. There is no compulsory retirement age for aircraft mechanics.

Some tightness in the supply of mechanics, particularly of those with certain special technical skills, appeared to be developing in the spring of 1968. Half of the 28 labor areas surveyed by the USTES survey reported stringencies ranging from slight to critical. Employers complained of shortages of fully qualified and certificated airplane electricians, electronic and instrument mechanics, and radio and avionic technicians, as well as of airframe and engine mechanics.

Aircraft mechanic schools are much less numerous and less well dispersed geographically than are training facilities for pilots. Graduates of many of these schools, the great majority of which are public institutions at vocational high school or technical trade school levels, can qualify only as trainees or apprentices ready for on-the-job training. The same is true of most aircraft mechanics with military-service training backgrounds only. In contrast to the situation for pilots, no special VA benefits beyond the standard ones are available to veterans who might wish to study for aircraft mechanic jobs. While all sectors of the industry were providing on-the-job training in 1968, many employers felt that they would nevertheless probably be unable to meet all anticipated short-run growth and replacement needs in this way, especially for mechanics with highly developed specialized skills.

Expansion of apprenticeship and other formal on-the-job training programs, planned sufficiently in advance of expected needs, might ease this problem in the future. More generous government student aid grants or benefits might encourage enrollment of veterans and others in the better equipped private schools and universities.

Pilots and mechanics employed by the Department of Defense

Very few civilian pilots—550 in all—but more than 38,000 civilian aircraft mechanics were employed by the Defense Department in 1968. The civilian mechanic work force, on the basis of plans existing in the summer of that year, was expected to drop by more than 2,000 between 1969 and 1970, almost entirely as a result of employment reductions contemplated by the Air Force.

While the bulk of Defense Department civilian aircraft mechanic employment is in the Air Force, the Navy accounted for a substantial proportion—about 14,600, or 38 percent—in 1968, and expected to add about 1,000 between 1968 and 1970. The Army, with 850 civilian aircraft mechanics, primarily helicopter mechanics, in 1968, contemplated an increase of about 200.

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Chapter I. Pilots and Mechanics

There are more than twice as many civilian mechanics as pilots employed in aviation activities,[7] and mechanics greatly outnumber pilots in each of the three major divisions of the industry (table 1). Air carriers employed three mechanics for every two pilots in 1967. In general aviation, which includes all aircraft repair stations, the ratio of mechanics to pilots was even higher. All but a handful of the civilian aviation employees of the military services were mechanics.

About 49,000, or 35.5 percent of all civilian aviation mechanics employed in 1967, worked for air carriers; about 51,500, or 37.3 percent, were in general aviation, mainly at repair stations; and the remainder, nearly 38,000, or more than 27 percent of the total, were civilian employees of the Department of Defense (table 2). At the 1970 peak of mechanic employment of 168,500, according to estimates based on employer anticipations, the air carriers will account for nearly 60,000, or 35.5 percent of the total, the same proportion as in 1967. General aviation will account for more than 71,000, or about 42 percent, while Defense Department civilian mechanic employment will drop to roughly 37,000, or 22 percent of the total.

The distribution of civilian pilot employment is quite different from that of mechanics. Air carriers employ more pilots than does the general aviation division of the industry, and the Department of Defense employs very few. In the spring of 1967, about 33,000, or 54.6 percent of the total of nearly 60,700 employed pilots, worked for carriers, and 27,000 or 44.5 percent, for general aviation firms. However, these proportions were expected to be nearly reversed by 1970. According to estimates based on employers' hiring plans as reported to the USTES survey in the spring of 1968, pilot employment at the peak of 1970 will total 82,200, of which 39,400 or 48 percent will be on air carriers, and 42,200 or more than 51 percent in general aviation. Defense Department civilian pilot employment was expected to increase very slightly by peak 1970, and to remain at less than 1 percent of total civilian pilot employment.

The two major occupational groups under review—civilian pilots and mechanics—differ sharply in their job content and qualifications as well as their labor market situations. In the sections which follow, they are, therefore, considered separately. Moreover, the civilian pilots and mechanics employed by the Defense Department are considered separately from those employed by the two other major components of the civil aviation industry—air carriers and general aviation. The divisions and sectors of the civil aviation industry are described in appendix A.

PILOTS AND MECHANICS

Table. 1. All civil aviation, including Department of Defense employment trends, 1967-70

Date	Number employed			
	Total	Air carriers	General aviation	Dept. of Defense 1/
	Pilots 2/			
Spring of:				
1967	60,670	33,100	27,000	570
1968	66,860	34,500	31,800	560
1969 (est.)	71,700	36,000	35,100	600
1970 (est.)	76,020	37,400	38,000	620
Peak of:				
1967	66,580	34,900	31,100	580
1968 (est.)	71,220	36,300	34,300	620
1970 (est.)	82,220	39,400	42,200	620
	Mechanics 3/			
Spring of:				
1967	138,200	49,000	51,500	37,700
1968	144,200	51,000	54,800	38,400
1969 (est.)	152,900	53,000	60,400	39,500
1970 (est.)	155,100	55,000	62,800	37,300
Peak of:				
1967	150,000	53,300	58,000	38,700
1968 (est.)	157,900	55,400	62,500	40,000
1970 (est.)	168,500	59,800	71,400	37,300

1/ Civilian Aviation employees only.
2/ Includes pilots, copilots, pilot/flight engineers, and flight instructors.
3/ Includes aircraft mechanics and instructors only; excludes maintenance workers such as carpenters and electricians.
SOURCE: See appendix C. *Air Carriers* — USTES survey data inflated to national totals and adjusted on basis of relationship between FAA total employment and survey sample data for 1967 and 1968. *General Aviation* — USTES survey data inflated to national totals on basis of relationship between BLS employment estimates and survey sample data for 1967. Not adjusted. *Department of Defense* — National totals reported by Army, Navy, Air Force.

PILOTS AND MECHANICS

Table 2. All civil aviation, including Department of Defense percentage distribution of employment, 1967-70

Date	Percentage distribution of employment			
	Total	Air carriers	General aviation	Dept. of Defense
	Pilots			
Spring of:				
1967	100.0	54.6	44.5	0.9
1968	100.0	51.6	47.6	.8
1969 (est.)	100.0	50.2	49.0	.8
1970 (est.)	100.0	49.2	50.0	.8
Peak of:				
1967	100.0	52.4	46.7	.9
1968 (est.)	100.0	51.0	48.2	.9
1970 (est.)	100.0	47.9	51.3	.8
	Mechanics			
Spring of:				
1967	100.0	35.5	37.3	27.3
1968	100.0	35.4	38.0	26.6
1969 (est.)	100.0	34.7	39.5	25.8
1970 (est.)	100.0	35.5	40.5	24.0
Peak of:				
1967	100.0	35.5	38.7	25.8
1968 (est.)	100.0	35.1	39.6	25.3
1970 (est.)	100.0	35.5	42.4	22.1

SOURCE: Based on table 1.

[7] All civil aviation, including civilian employees of the Department of Defense.

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Chapter II. Pilots

Employment trends

About 60,000 pilots[8] were employed in civil aviation[9] in the spring of 1967. By the spring of 1968, about 6,200, or 10.3 percent, had been added. At that time, however, a slowing down in the rate of employment expansion over the following 2 years was contemplated. Spring 1969 pilot employment is estimated, on the basis of the USTES sample survey,[10] at about 71,000, roughly 4,800 or 7.2 percent above spring 1968, and spring 1970 pilot employment at 75,400, about 4,300 or 6.0 percent above spring 1969 (tables 3 and 4). If the hiring schedules anticipated by employers in the spring of 1968 are realized, pilot employment will total an estimated 81,600[11] at the peak of 1970, about 15,600 or nearly 25 percent above the 1967 peak, and will represent an average increase of about 5,200 pilots a year for the 3-year period. Most of the contemplated increase is attributable to the expansion plans of the general aviation division of the industry.

The air carriers' pilot work force increased only about 1,400, or 4.5 percent, between 1967 and 1968. Similar annual increases of 1,400 to 1,500, or about 4.0 percent a year, in 1969 and 1970 are estimated. Peak 1970 employment of pilots on all civil air carriers is estimated at 39,400, about 13 percent above the peak of 1967, and would require the net addition of about 4,500 pilots (1,500 a year) over the 3-year period. All but a couple of hundred of these would be for certificated route carriers.

PILOTS

Table 3. Civil aviation, employment trends, all pilots, by industry division, 1967-70

Date	Total	Air carriers		General aviation
		All	Certificated route	
	Number employed			
Spring of:				
1967	60,100	33,100	31,100	27,000
1968	66,300	34,500	32,500	31,800
1969 (est.)	71,100	36,000	33,900	35,100
1970 (est.)	75,400	37,400	35,300	38,000
Peak of:				
1967	66,000	34,900	32,800	31,100
1968 (est.)	70,600	36,300	34,200	34,300
1970 (est.)	81,600	39,400	37,100	42,200
	Percentage distribution			
Spring of:				
1967	100.0	55.1	51.7	44.9
1968	100.0	52.0	49.0	48.0
1969 (est.)	100.0	50.6	47.7	49.4
1970 (est.)	100.0	49.6	46.8	50.4
Peak of:				
1967	100.0	52.9	49.7	47.1
1968 (est.)	100.0	51.4	48.4	48.6
1970 (est.)	100.0	48.3	45.5	51.7

SOURCE: See table 1.

Historical data on the employment of pilots and other flight personnel by certificated route air carriers indicate that the prospective annual increases of 1,400 to 1,500 a year for the 1967-70 period would represent both a sharp slow-down and a leveling out in the very rapid employment expansion which had been going on since 1964. As shown in the following tabulation, such an annual increase would be less than half the size of that which occurred between 1966 and 1967, and about a fourth of the 1965-66 increment of more than 5,800. On the other hand, it would greatly exceed the annual growth rate prevailing in the early 1960's.

Years	*Changes in employment of pilots, copilots, flight engineers, and navigators by certificated route air carriers*[1]
1960-61	750
1961-62	-125
1962-63	340
1963-64	1,240
1964-65	2,420
1965-66	5,835
1966-67	3,150

[1] FAA, *Statistical Handbook of Aviation*, and Air Transport Association of America, *Air Transport Facts and Figures*.

Since 1967,[12] general aviation firms have been augmenting their pilot work forces at a much faster rate than the carriers, and are expected to continue to do so, according to estimates based on the USTES survey. Employing 27,000 pilots in the spring of 1967, they had added 4,800 (a 17.8-percent increase) by spring 1968, and planned to add an additional 3,300 (or 10.4 percent more) by the spring of 1969, and 2,900 (or 8.3 percent more) between 1969 and 1970, to bring their total pilot employment up to about 38,000, or 41 percent above spring 1967. Plans through peak 1970 called for an estimated pilot work force of more than 42,000, about 11,000 or nearly 36 percent above peak 1967, compared

[8] The term "pilot" as used in this survey includes pilots, copilots, pilot/flight engineers, and flight instructors, unless otherwise specified. Each occupation is described in Appendix B.

[9] Air carriers and general aviation, excluding civilian employees of the Department of Defense, who are considered in Section IV, but including nondefense government employees.

[10] Manpower Administration, U.S. Training and Employment Service, April/May 1968, see Appendixes B and C.

[11] This estimate was made before United Airlines was required, by union agreement, to have three pilots instead of two on its two-engine Boeing 737's. This will add 400 to pilot requirements.

[12] Earlier figures are not available.

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with an estimated increase of 4,500 or 13 percent for air carriers. To reach this estimated peak 1970 employment level, general aviation firms would have to add an average of nearly 3,700 pilots a year during the 3-year period from peak 1967 to peak 1970.

If all contemplated employment growth is realized, there will be a continued change in the distribution of pilot employment between the two major components of the civil aviation industry. By the spring of 1968, general aviation firms had already increased their share of total pilot employment[13] to 48 percent from 45 percent in the previous spring. At the estimated peak 1970 employment level, this proportion would rise to nearly 52 percent, while the proportion for air carrier pilot employment would decline from 55 percent in 1967 to 48 percent.

In summary, net 1967-70 requirements of the civil aviation industry for pilots, for purposes of growth only and not including replacements, are estimated at around 5,200 a year, on the basis of employer plans reported in spring 1968. Over the 3-year period, it is estimated that air carriers would require an average of roughly 1,500 pilots a year, and general aviation firms an average of about 3,700 pilots a year, to reach estimated peak 1970 staff levels.

Air carrier pilots, by type. The USTES survey of spring 1968 provided a breakdown, for air carriers only, of pilot employment by type, from which it was possible to estimate the varying prospective employment trends during the 1967-70 period under review for: All pilots and copilots, including flight instructors; pilots and copilots, excluding flight instructors; flight instructors; and pilots and copilots, excluding flight instructors, who are also flight engineers (tables 5, 6, 7, and 8).

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Table 4. Civil aviation, increases in employment over specified periods, by industry division, 1967-70

Date	Total	Air carriers		General aviation
		All	Certificated route	
	Employment increases			
Spring of:				
1967-68	6,200	1,400	1,400	4,800
1968-69 (est.)	4,800	1,500	1,400	3,300
1969-70 (est.)	4,300	1,400	1,400	2,900
1967-70 (est.)	15,300	4,300	4,200	11,000
Peak of:				
1967-68 (est.)	4,600	1,400	1,400	3,200
1968-70 (est.)	11,000	3,100	2,900	7,900
1967-70 (est.)	15,600	4,500	4,300	11,100
	Percentage increases			
Spring of:				
1967-68	10.3	4.2	4.5	17.8
1968-69 (est.)	7.2	4.3	4.3	10.4
1969-70 (est.)	6.0	3.9	4.1	8.3
1967-70 (est.)	25.5	13.0	13.5	40.7
Peak of:				
1967-68 (est.)	7.0	4.1	4.3	10.3
1968-70 (est.)	15.6	8.5	8.5	23.0
1967-70 (est.)	23.6	12.9	13.1	35.7

SOURCE: Based on table 3.

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Table 5. Civil air carriers employment trends, by type of pilot, 1967-70

Date	Number employed		
	Pilots and copilots		Flight instructors
	Including flight instructors	Excluding flight instructors	
	All air carriers		
Spring of:			
1967	33,100	31,910	1,190
1968	34,500	33,255	1,245
1969 (est.)	36,000	34,700	1,300
1970 (est.)	37,400	36,050	1,350
Peak of:			
1967	34,900	33,655	1,245
1968 (est.)	36,300	35,000	1,300
1970 (est.)	39,400	38,000	1,400
	Certificated route air carriers only		
Spring of:			
1967	31,100	29,980	1,120
1968	32,500	31,330	1,170
1969 (est.)	33,900	32,680	1,220
1970 (est.)	35,300	34,030	1,270
Peak of:			
1967	32,800	31,620	1,180
1968 (est.)	34,200	32,970	1,230
1970 (est.)	37,100	35,770	1,330

SOURCE: Total employment as shown in table 3 distributed on basis of USTES survey sample data.

Of the 33,100 pilots and copilots employed by all civil air carriers in spring 1967, 1,190 (or 3.6 percent) were flight instructors. Estimates indicate that employers expected to add about 160 by the spring of 1970, and that peak 1970 flight instructor employment would be 155 above the peak of 1967. The expansion of flight instructor employment was expected to proceed at about the same rate as that for all other pilots as table 7 shows.

Nearly a third (31 percent) of all pilots and copilots, excluding flight instructors, employed by route air carriers in spring 1968 were also qualified flight engineers. The figures in table 8 reflect fairly accurately a cockpit manning pattern consisting of a crew of three pilots, of whom at least one is also a flight engineer. No change in the ratio of pilot/flight engineers (or second officers, as they are sometimes called) to all pilots was contemplated by route carriers throughout the 1967-70 period under review.

Route airlines employed 9,420 pilot/engineers in the spring of 1967 and expected to add an estimated 1,230 by spring 1970. At the estimated peak of pilot employ-

[13] Excluding civilian employees of the Department of Defense.

Table 6. Civil air carriers, changes in employment over specified periods, by type of pilot, 1967-70

Date	Increases in number employed		
	Pilots and copilots		Flight instructors
	Including flight instructors	Excluding flight instructors	
	All air carriers		
Spring of:			
1967-68	1,400	1,345	55
1968-69 (est.)	1,500	1,445	55
1969-70 (est.)	1,400	1,350	50
1967-70 (est.)	4,300	4,140	160
Peak of:			
1967-68 (est.)	1,400	1,345	55
1968-70 (est.)	3,100	3,000	100
1967-70 (est.)	4,500	4,345	155
	Certificated route air carriers only		
Spring of:			
1967-68	1,400	1,350	50
1968-69 (est.)	1,400	1,350	50
1969-70 (est.)	1,400	1,350	50
1967-70 (est.)	4,200	4,050	150
Peak of:			
1967-68 (est.)	1,400	1,350	50
1968-70 (est.)	2,900	2,800	100
1967-70 (est.)	4,300	4,150	150

SOURCE: Based on table 5.

ment during 1970, a total of approximately 10,650 pilot/flight engineers, or 1,290 more than at peak 1967, would be employed. This would represent an average annual increase of about 400 over the 3-year period.

Several major airlines reported that they engaged professional flight engineers or flight navigators who were not qualified pilots.

General aviation pilots, by industry sector. Nearly 44 percent of the estimated 31,800 professional pilots employed in the general aviation division of the civil aviation industry in 1968 were engaged in executive transportation activities (table 9). Air taxi operations accounted for about a fourth (24 percent) and instructional activities at pilot flight and ground schools for 13 percent. Firms engaged in aerial application, such as crop dusting, and in industrial/special activities, such as pipeline patrolling, each employed about 5 percent of all general aviation pilots. State and local government and nondefense Federal agency flying activities accounted for more than 2,000 pilots, or nearly 7 percent of the total. Repair stations engaged 650, or 2 percent of the estimated total, for checking out and testing aircraft.

Sharp employment increases to peak 1970, assuming the availability of pilots for jobs in general aviation, were planned by all sectors. All general aviation firms combined hoped to expand their pilot work forces by an estimated 11,000, or more than a third, between peak 1967 and peak 1970 (table 10). Numerically, the greatest increases were scheduled for executive transportation, pilot schools, and air taxi operations, many of which also double as schools. Contemplated increases for other general aviation sectors, while relatively small in number, represented substantial proportional expansion. Industrial/special operators, for example, expected to add an estimated 660, for a more than 40-percent increase in pilot employment. The contemplated addition of roughly 150 to 550 pilots by peak 1970 in each of the other general aviation sectors would represent about a one-fourth increase in each pilot work force above peak 1967.

Rough estimates of the average annual growth requirement for pilots in each of the general aviation sectors, for the 3 peak years 1967-70, based on employers' reports, indicate that about 2,500 of the estimated total demand of 3,700 a year would arise from the expansion plans of executive transportation and air taxi operations combined. The next largest requirement, 600 a year, would be for pilot instructors at schools. A summary tabulation follows:

General aviation industry sector	*Estimated average annual requirement for contemplated expansion of pilot employment, 1967-70*
Executive transportation	1,300
Air taxis	1,200
Flight and ground schools	600
Industrial/special	220
Government (nonmilitary)	190
Aerial application	160
Repair stations	60
Total	3,730

Not all sectors, of course, would require the same kinds of pilots. As executive transportation and air taxi operators increase their use of larger and more sophisticated aircraft, they will need more pilots trained on this kind of equipment. On the other hand, a good part of the demand in industrial/special work, for example, would be for helicopter pilots, and aerial application companies would need specialized pilots well-trained in agricultural flying activities.

Pilot certification to fly specified types of aircraft

Of the total of 66,260 pilots employed in the civil aviation industry in the spring of 1968, 61,255, or 92.4 percent, were certified to fly fixed-wing aircraft only; 815, or 1.2 percent, were certified to fly helicopters

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only; and 4,190, or 6.3 percent, were certified to fly both fixed-wing aircraft and helicopters, according to estimates based on the USTES survey of employers (table 11). More than 97 percent of the pilots employed by air carriers had fixed-wing certification only, while the corresponding proportion for general aviation firms was about 87 percent, with 2.5 percent certified to fly helicopters only, and about 10 percent certified to fly both fixed-wing aircraft and helicopters.

There was considerable variation among the sectors of the general aviation division of the industry in the type of certification held by employed pilots. The proportions of pilots with only fixed-wing certification ranged from around 90 percent in executive transportation, pilot schools, and nonmilitary government agencies, down to 40 percent in industrial/special activities, of which about 28 percent were certified to fly helicopters only, and 32 percent to fly both fixed-wing aircraft and helicopters. In no other sector did helicopter-only certification bulk nearly so large, ranging from 0.7 percent in nonmilitary government to 3 percent in repair stations. However, in all other general aviation sectors, sizable proportions of all pilots (ranging from 7 to 12 percent) were certified to fly both fixed-wing aircraft and helicopters.

Asked to estimate the distribution of their anticipated peak 1970 employment as between fixed-wing and helicopter pilots, civil aviation firms as a whole placed fixed-wing pilots at 95 percent of the prospective total and helicopter pilots at 5 percent (table 12). Route carriers, of which only a few are helicopter airlines, expected to have about 200 helicopter pilots out of an estimated total pilot employment of approximately 37,000. The employment of helicopter pilots in general aviation, on the other hand, was expected to total an estimated 4,000, or 9.5 percent of a prospective 42,000, at peak 1970. The executive transportation and air taxi sectors each anticipated having about 900 helicopter pilots on their payrolls, and industrial/special companies expected that about 1,500, or two-thirds, of their employed pilots would be qualified to fly helicopters, according to estimates based on the survey sample.

More detailed breakdowns, by type of pilot as well as by type of certification, are available from the survey for air carriers only (tables 13 and 14). They indicate that, both in 1968 and at estimated prospective peak employment in 1970, there is virtually no difference between flight instructors and all other pilots in the distribution of employees by type of certification. In the spring of 1968, of 33,255 noninstructor pilots and copilots employed by air carriers, 97.3 percent were certified to fly fixed-wing aircraft only, 0.1 percent were certified to fly helicopters only, and 2.6 percent were certified to fly both fixed-wing aircraft and helicopters. The corresponding proportions for flight instructors were almost

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Table 7. Civil air carriers, percentage change in employment over specified period, by type of pilot, 1967-70

Date	Percent change in employment		
	Pilots and copilots		Flight instructors
	Including flight instructors	Excluding flight instructors	
	All air carriers		
Spring of:			
1967-68	4.2	4.2	4.6
1968-69 (est.)	4.3	4.3	4.4
1969-70 (est.)	3.9	3.7	3.8
1967-70 (est.)	13.0	13.0	13.4
Peak of:			
1967-68 (est.)	4.0	4.0	4.4
1968-70 (est.)	8.5	8.6	7.7
1967-70 (est.)	12.9	12.9	12.4
	Certificated route air carriers only		
Spring of:			
1967-68	4.5	4.5	4.5
1968-69 (est.)	4.3	4.3	4.3
1969-70 (est.)	4.1	4.1	4.1
1967-70 (est.)	13.5	13.5	13.4
Peak of:			
1967-68 (est.)	4.3	4.3	4.2
1968-70 (est.)	8.5	8.5	8.1
1967-70 (est.)	13.1	13.1	12.7

SOURCE: Based on table 5.

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Table 8. Civil air carriers, ratio of pilot/flight engineers to all pilots, 1967-70

Date	Pilots and copilots, excl. flight instructors—		
	Total number	Who are also flight engineers	
		Number	Percent of total
	All air carriers		
Spring of:			
1967	31,910	9,540	29.9
1968	33,255	9,940	29.9
1969 (est.)	34,700	10,360	29.9
1970 (est.)	36,050	10,790	29.9
Peak of:			
1967	33,655	10,040	29.8
1968 (est.)	35,000	10,460	29.9
1970 (est.)	38,000	11,350	29.9
	Certificated route air carriers only		
Spring of:			
1967	29,980	9,420	31.4
1968	31,330	9,815	31.3
1969 (est.)	32,680	10,230	31.3
1970 (est.)	34,030	10,650	31.3
Peak of:			
1967	31,620	9,920	31.4
1968 (est.)	32,970	10,330	31.3
1970 (est.)	35,770	11,210	31.3

SOURCE: Total employment as shown in table 3 distributed on basis of USTES survey sample data.

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identical. By peak 1970, air carriers expected that 99.4 percent of their projected total noninstructor pilot complement would consist of fixed-wing pilots and that 0.6 percent would be helicopter pilots. The corresponding proportions for instructors were, again, almost identical.

Ratings held by pilots

Airline transport ratings (ATR's) were held by 43 percent of all employed civil aviation pilots in the spring of 1968, while for 56 percent the highest rating held was commercial (table 15). The proportion of pilots holding ATR's was considerably higher for carriers—49 percent—than for general aviation—about 36 percent. Conversely, about half of all air carrier pilots had ratings no higher than commercial. These were, presumably, functioning as copilots or second officers. The proportion of commercial rating holders in general aviation was 62 percent, with 2 percent of the total having other ratings, mainly helicopter or instructor, as their highest.

Variations among general aviation sectors in the proportion of employed pilots with ATR's was extremely wide, ranging from 2 percent in aerial application to 57.5 percent in executive transportation, a higher proportion than that reported for carriers, as might be expected where there is frequently only one pilot in the cockpit. Roughly 80-90 percent of pilots employed in air taxi, aerial application, industrial/special, and instructional activities held no more than a commercial certificate, as did 58 percent of nonmilitary government pilots.

Viewed another way, as in table 16, about 60 percent of the 28,360 ATR's employed in 1968 worked for civil air carriers, with more than 56 percent of the total employed by certificated route airlines. General aviation activities employed 40 percent of all employed ATR's, with executive transportation accounting for 28 percent of the civil aviation total.

Of the 37,250 employed pilots whose highest rating was commercial, 47 percent were employed by carriers of all types and about 44 percent by certificated route airlines. About 16 percent were engaged in the air taxi business, more than 15 percent in executive transporta-

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Table 9. General aviation, employment trends and percentage distribution, by industry sector, 1967-70

Date	Total	Executive transportation	Air taxi	Aerial application	Industrial/ special	Flight and ground schools	Government 1/	Repair stations
	Number employed							
Spring of:								
1967	27,000	11,900	6,200	1,500	1,500	3,300	2,000	600
1968	31,800	13,900	7,640	1,750	1,620	4,100	2,140	650
1969 (est.)	35,100	14,770	9,110	1,900	1,680	4,600	2,300	710
1970 (est.)	38,000	15,520	9,970	2,110	2,070	5,200	2,400	730
Peak of:								
1967	31,100	13,400	7,500	1,880	1,630	3,950	2,100	640
1968 (est.)	34,300	14,200	8,680	2,020	1,770	4,570	2,350	710
1970 (est.)	42,200	17,230	11,070	2,350	2,300	5,780	2,660	810
	Percentage distribution							
Spring of:								
1967	100.0	44.1	23.0	5.5	5.5	12.2	7.4	2.2
1968	100.0	43.7	24.0	5.5	5.1	12.9	6.7	2.0
1969 (est.)	100.0	42.1	26.0	5.4	4.8	13.1	6.6	2.0
1970 (est.)	100.0	40.8	26.2	5.6	5.4	13.7	6.3	1.9
Peak of:								
1967	100.0	43.1	24.1	6.0	5.2	12.7	6.8	2.1
1968 (est.)	100.0	41.4	25.3	5.9	5.2	13.3	6.9	2.1
1970 (est.)	100.0	40.8	26.2	5.6	5.5	13.7	6.3	1.9

1/ Excluding Department of Defense.
SOURCE: See table 1.

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Table 10. General aviation, increases in employment over specified periods, by industry sector, 1967-70

Date	Total	Executive transportation	Air taxi	Aerial application	Industrial/ special	Flight and ground schools	Government 1/	Repair stations
	Increase in number employed							
Spring of:								
1967-68	4,800	2,000	1,440	250	120	800	140	50
1968-69 (est.)	3,300	870	1,470	150	60	500	160	60
1969-70 (est.)	2,900	750	860	210	390	600	100	20
1967-70 (est.)	11,000	3,620	3,770	610	570	1,900	400	130
Peak of:								
1967-68 (est.)	3,200	800	1,180	140	130	610	250	70
1968-70 (est.)	7,900	3,030	2,390	330	530	1,210	310	100
1967-70 (est.)	11,100	3,830	3,570	470	660	1,820	560	170
	Percentage increase							
Spring of:								
1967-68	17.8	16.8	23.2	16.6	8.0	24.2	7.0	8.3
1968-69 (est.)	10.4	6.3	19.2	8.6	3.7	12.2	7.5	9.2
1969-70 (est.)	8.3	5.1	9.4	11.1	23.2	13.4	4.3	2.8
1967-70 (est.)	40.7	30.4	60.8	40.7	38.0	57.6	20.0	21.7
Peak of:								
1967-68 (est.)	10.3	6.0	15.7	7.4	8.6	15.7	11.9	10.9
1968-70 (est.)	23.0	21.3	27.5	16.3	29.9	26.5	13.2	14.1
1967-70 (est.)	35.7	28.6	47.6	25.0	41.1	46.3	26.7	26.6

SOURCE: Based on table 9.

tion, 8.6 percent in instructional flying, and 3-4 percent in each of the other sectors of general aviation, except repair stations where the proportion was lower.

All but a few of the 650 employed pilots whose highest rating was other than airline transport or commercial (mainly instructor or helicopter) were in general aviation, with 25 percent of the total in air taxi operations, about 22 percent in aerial application, 18.5 percent in executive transportation, and 14 percent in both flight and ground schools and nonmilitary government.

The USTES April/May 1968 survey of employers also gathered information on the number of employed pilots whose highest rating was commercial who also held instrument ratings. Estimates based on the survey sample are shown in table 17. According to these estimates, for all civil aviation activities combined, close to 32,300 pilots out of a total of 37,250 whose highest rating was commercial, or nearly 87 percent, also held instrument ratings. Virtually all carrier pilots whose highest rating was commercial, whether these are considered to include or exclude flight instructors, also held instrument ratings. The corresponding proportion for all general aviation pilots was 75 percent. It was 75 percent or more in each sector of general aviation except aerial application and industrial/special where, presumably, an instrument rating is less essential for the work performed.

More detailed estimates, for air carriers only, in which the highest ratings held are related to the various types of pilots employed, are shown in table 18. From this it may be seen, for example, that an estimated 49 percent of the 31,330 pilots and copilots, excluding flight instructors, employed in the spring of 1968 by certificated route carriers held air transport ratings, whereas for 51 percent the highest rating held was commercial. The distribution of flight instructor employment by type of rating held was virtually the same as that for all other pilots. Of the 31,330 route carrier pilots and copilots who were not flight instructors, about 9,800 were pilot/flight engineers (second officers). Nearly half of these held air transport ratings.

Pilots age 50 years and over

The age of employed pilots is one of the significant factors to be considered in estimating the probable level of new pilot hires to be required as the result of attrition

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through retirement or death. Most air carrier pilots aged 50 and over are approaching retirement age, since Federal Aviation Administration Regulation 121, Part 383, stipulates that the use of the services of pilots who have reached their 60th birthday is not permitted on scheduled air carriers. Moreover, most airline pilots have the option to choose early retirement at age 55. No age limitations are imposed by the Federal Government on pilots employed by nonscheduled air carriers or by general aviation firms.

It is estimated that about 11 percent of all pilots employed in the civil aviation industry in the spring of 1968 were 50 years of age or over (table 19). The preference of air carriers, as distinguished from the general aviation division of the industry, for younger pilots, as well as the effect of the airlines' early retirement provisions, are reflected in the figures. Only 9.4 percent of carrier pilots were in the 50-years-or-over category, compared with 12.6 percent in general aviation. Among the general aviation industry sectors, the use of older pilots ranged from 7.4 percent of all those employed in industrial/special flying to 18.7 percent in nonmilitary government.

Of the 7,265 employed pilots aged 50 years and over in the spring of 1968, about 3,260 were employed by carriers and about 4,000 were in general aviation. Carriers accounted for 52 percent of all the pilots employed in civil aviation in the spring of 1968, but for only about 45 percent of those aged 50 and over. Route carriers, with 49 percent of all pilots, employed 42 percent of the older ones. General aviation employed 48 percent of all civil aviation pilots, but 55 percent of

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Table 11. All civil aviation, number and percentage distribution of employed pilots certified to fly specified types of aircraft, by industry division and sector, spring 1968

Industry division/sector	All pilots and copilots[1]	Certified to fly–		
		Fixed-wing only	Helicopter only	Fixed-wing and helicopter
	Number employed			
Grand total	66,260	61,255	815	4,190
Civil air carriers, total	34,500	33,555	35	910
Certificated route	32,500	31,610	35	855
Others	2,000	1,945	([2])	55
General aviation, total	31,760	27,700	780	3,280
Executive transportation	13,880	12,680	140	1,060
Air taxi	7,640	6,660	80	900
Aerial application	1,750	1,510	30	210
Industrial/special	1,620	640	460	520
Flight and ground schools	4,080	3,680	40	360
Government	2,140	1,980	15	145
Repair stations	650	550	20	80
	Percentage distribution			
Grand total	100.0	92.4	1.2	6.3
Civil air carriers, total	100.0	97.3	0.1	2.6
Certificated route	100.0	97.3	0.1	2.6
Others	100.0	97.3	–	2.8
General aviation, total	100.0	87.2	2.5	10.3
Executive transportation	100.0	91.4	1.0	7.6
Air taxi	100.0	87.2	1.0	11.8
Aerial application	100.0	86.3	1.7	12.0
Industrial/special	100.0	39.5	28.4	32.1
Flight and ground schools	100.0	90.2	1.0	8.8
Government	100.0	92.5	0.7	6.8
Repair stations	100.0	84.6	3.1	12.3

[1] Including flight instructors.
[2] Fewer than 5.
SOURCE: Total employment as shown in tables 3 and 9 distributed on basis of USTES survey sample data.

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those in the 50-years-and-over age bracket. A fourth of the 7,265 older civil pilots were engaged in executive transportation and about an eighth in air taxi activities.

Hours flown by pilots

Pilots and copilots employed in the civil aviation industry flew an estimated total of 32,355,000 hours in the year ending April/May 1968 (see table 20). For the entire industry combined, this amounted to an average of 512 flight hours per pilot.

Air carriers accounted for 17.4 million, or about 54 percent, of the estimated total number of hours flown. Approximately 16.4 million hours, or just half of the grand total, were flown by route airline pilots, whereas nearly 15 million hours, or 46 percent of the grand total, were logged by general aviation pilots. Executive transportation and air taxi pilots combined flew more than 10 million hours, nearly a third of the total for all civil aviation.

Pilots and copilots employed by certificated route air carriers, where maximum monthly flight time per pilot is regulated by both the FAA and union agreements, flew, on the average, 515 hours during the year. If flight instructors are eliminated from the total for route carriers, the average for the remaining pilots rises to 522 hours. Flight instructors employed by route carriers flew an average of only 344 hours, indicating perhaps that much of the on-the-job flight instruction was given on the ground.

All general aviation pilots combined averaged 509 flight hours during the year, but there was extremely wide variation among the component sectors of the industry division. Average utilization of pilot time appeared to be much higher in the air taxi industry (763 hours flown per pilot) and in the flying schools (708 hours), than in executive transportation (407 hours), or in any of the other general aviation sectors, in which average annual hours flown ranged downward to 208 in nondefense government activities and 166 in industrial/special operations. Only in air taxi and flying school activities and at repair stations did the average annual hours flown exceed the average for pilots and copilots employed by route carriers. But the excess, for the first two of these sectors, was very large—40 to 50 percent.

Pilot supply

Evaluation of the supply of pilots available to the civil aviation industry may be considered from various viewpoints—in terms of supply available to each of the two major divisions of the industry (airlines and general aviation), in terms of the output of the two major

Table 12. All civil aviation, number and percentage distribution of fixed-wing and helicopter pilots, by industry division and sector, anticipated employment at peak 1970

Industry division/sector	Anticipated employment at peak 1970		
	All pilots and copilots[1/]	Fixed-wing pilots	Helicopter pilots
	Number of employees		
Grand total	81,600	77,380	4,215
Civil air carriers, total	39,400	39,180	215
Certificated route	37,100	36,910	205
Others	2,300	2,270	10
General aviation, total	42,200	38,200	4,000
Executive transportation	17,230	16,350	880
Air taxi	11,070	10,160	910
Aerial application	2,350	2,120	230
Industrial/special	2,300	760	1,540
Flight and ground schools	5,780	5,580	200
Government	2,660	2,520	140
Repair stations	810	710	100
	Percentage distribution		
Grand total	100.0	94.8	5.2
Civil air carriers, total	100.0	99.4	0.5
Certificated route	100.0	99.5	0.6
Others	100.0	98.7	0.4
General aviation total	100.0	90.5	9.5
Executive transportation	100.0	94.9	5.1
Air taxi	100.0	91.8	8.2
Aerial application	100.0	90.2	9.8
Industrial/special	100.0	33.0	67.0
Flight and ground schools	100.0	96.5	3.5
Government	100.0	94.7	5.3
Repair stations	100.0	87.7	12.3

1/ Including flight instructors.
SOURCE: Total employment as shown in tables 3 and 9 distributed on basis of USTES survey sample data.

sources of supply (civilian and military), or in terms of the type of pilot involved (sophisticated aircraft, light aircraft, helicopter, etc.). Supply in the context of each of these approaches is discussed briefly below.

The airlines prefer to hire military trained, young pilots (under 35 years of age) who have had considerable experience in flying heavy aircraft and, secondarily, apt, civilian-trained, young, commercial-rated pilots who have logged at least 1,000 flight hours, preferably on heavy equipment. Hiring specifications in regard to physical condition and educational achievement are very high. Because of union seniority rules, both types of recruit are started at the bottom of the promotional ladder, no matter what their previous experience, and are assigned, at the beginning, to the lightest, cheapest, and least sophisticated aircraft. Reportedly, training (largely orientation) of these types of pilots for these entry jobs, which is provided by the airlines, requires only a few months or less, whether the pilot has a military or a civilian background.

General aviation sectors with relatively high proportions of heavy and sophisticated equipment, such as executive transport and air taxis, also look to the military and to qualified civilian-trained pilots, but are

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Table 13. Civil air carriers, number and percentage distribution of employed pilots certified to fly specified types of aircraft, by industry division, spring 1968

Industry division	Total pilots	Certified to fly--		
		Fixed-wing only	Helicopter only	Fixed-wing and helicopter
	Number employed			
All civil air carriers				
All pilots and copilots	34,500	33,555	35	910
Pilots and copilots, except flight instructors	33,255	32,345	35	875
Flight instructors	1,245	1,210	(1/)	35
Certificated route carriers				
All pilots and copilots	32,500	31,610	35	855
Pilots and copilots, except flight instructors	31,330	30,470	35	825
Flight instructors	1,170	1,140	(1/)	30
	Percentage distribution			
All civil air carriers				
All pilots and copilots	100.0	97.3	0.1	2.6
Pilots and copilots, except flight instructors	100.0	97.3	0.1	2.6
Flight instructors	100.0	97.2	–	2.8
Certificated route carriers				
All pilots and copilots	100.0	97.3	0.1	2.6
Pilots and copilots, except flight instructors	100.0	97.3	0.1	2.6
Flight instructors	100.0	97.4	–	2.6

1/ Fewer than 5.
SOURCE: Total employment as shown in table 3 distributed on basis of USTES survey sample data.

willing to hire older men, and hiring specifications are lower. Sectors using light equipment hire any qualified pilot, particularly if he is trained in a desired specialty such as, for example, crop dusting.

Viewed another way, young pilots released from the military services and young civilian commercial pilots with heavy aircraft experience are the major sources of supply for the airlines. Older military-trained pilots and civilian commercial pilots with adequate or specialized training, not necessarily on heavy equipment, are the major sources for general aviation.

In terms of pilot type, those with training, experience, and skill in flying heavy equipment come primarily from the military services; those with training and skill in flying light equipment, or in providing specialized flying services of some kind, come either from the older military or from civilian training facilities. Helicopter pilots, for both airlines and general aviation, are an exception; the military will continue to provide almost all of the helicopter pilots for civil aviation, as it always has. Flight instructors at schools are, for the most part, a transient civilian-trained group seeking to log a sufficient number of flying hours for possible advancement to jobs on airlines or elsewhere in general aviation. They are readily available.

Adequacy of supply. The relationship of probable pilot supply to prospective demand may be viewed from the same three viewpoints. The overall supply is and promises to be quite adequate, at least in the short run. No airline reported a scarcity of qualified pilot recruits in the USTES survey. General aviation companies, as a whole, were similarly having no trouble hiring. Some, however, complained of retention problems. They were losing their company-trained pilots to the airlines or to government jobs as soon as they had acquired the requisite number of flight-hours and training. Others could not provide their pilots with full-time, steady

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employment and, consequently, competitive annual earnings. Some solved this problem by using their pilots as mechanics or to give flying instruction, as in many small taxi operations, in slack periods. Most general aviation companies, however, were finding it possible to hire and retain a sufficient number of qualified pilots who did not meet the high personnel standards of the airlines and were, perforce, content with general aviation jobs. A few, notably some of those engaged in aerial application activities such as crop dusting, were encountering a stringency in the supply of pilots with the necessary special qualifications for their particular type of work.

The supply of pilots with the desired background of military training appeared to be adequate for current and short-range future needs. Similarly, civilian training facilities appeared to be generating a sufficient number of professional pilots to keep the civil aviation pipeline filled with prospective recruits.

Pilot schools. Civilian pilot training facilities, except on heavy aircraft, are numerous and widely available. As of January 1, 1968, more than 1,700 flight and ground schools offered FAA-approved instruction programs to potential pilots. In addition, there were perhaps as many as 1,500 noncertificated pilot schools whose course content and standards met FAA requirements. Many small general aviation companies, such as air taxis, teach flying in addition to their other activities, but do not consider that they are running "schools," and so are not counted as such.

The 1,720 FAA-certificated pilot schools as of January 1968 represented, as table 21 shows, a substantial increase in number over the 1,182 in December 1965,[14] and there is every indication that this growth is continuing to the present time. Certification by FAA depends not on the size of the school, but on quality of curriculum, including actual course content, facilities, and equipment, as well as on qualification of instructors. Approved schools range from operations with one part-time teacher to universities offering professional pilot courses entailing 4 years of intense study and flight training. By January 1, 1968, there were 65 FAA-approved schools being operated by, or in conjunction

[14] There were 953 FAA-approved schools offering flight training in 1963, and 994 in 1964, according to FAA, "Project Long Look," op. cit., p. 94.

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Table 14. Civil air carriers, number and percentage distribution of fixed-wing and helicopter pilots, by industry division, anticipated employment at peak 1970

Industry division	Anticip. empl. at peak 1970		
	Total pilots	Fixed-wing pilots	Helicopter pilots
	Number of employees		
All civil air carriers			
All pilots and copilots	39,400	39,185	215
Pilots and copilots, except flight instructors	38,000	37,790	210
Flight instructors	1,400	1,395	5
Certificated route carriers			
All pilots and copilots	37,100	36,895	205
Pilots and copilots, except flight instructors	35,780	35,580	200
Flight instructors	1,320	1,315	5
	Percentage distribution		
All civil air carriers			
All pilots and copilots	100.0	99.5	0.5
Pilots and copilots, except flight instructors	100.0	99.4	0.6
Flight instructors	100.0	99.6	0.4
Certificated route carriers			
All pilots and copilots	100.0	99.4	0.6
Pilots and copilots, except flight instructors	100.0	95.9	0.5
Flight instructors	100.0	99.6	0.4

SOURCE: Total employment as shown in table 3 distributed on basis of USTES survey sample data.

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with, an accredited college or university. About 185 schools had attained sufficient stature to be granted examining authority. But the vast majority were small enterprises with a few pupils, conducted on a part-time basis at small fields in relatively light aircraft, frequently in conjunction with other commercial operations which constituted the main business.

Flight and ground training for pilots at certificated schools is widely available on a geographic basis, as shown in table 22. California had the largest number (235) in any one State in January 1968, with Texas second (142), and New York third (80). But each of the other 47 States and the District of Columbia had a substantial number in relation to its size, ranging from 2 in the District of Columbia to 66 in Pennsylvania. All 27 labor areas for which the USTES received reports in the spring of 1968 indicated that they had adequate training facilities for pilots.

The schools offered a broad range of instruction, from elementary flight and ground courses through programs for flight instructors and commercial flying with instruments, as table 22 also shows. Altogether, a total of 7,025 instruction programs were authorized for the 1,720 certificated schools. About 1,600 of these FAA authorizations, or ratings, applied to basic and advanced ground school programs; 2,864 to primary and commercial airplane flying programs; 1,108 to instrument flying programs; and 1,257 to flight instructor

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Table 15. All civil aviation, number and percentage distribution of employed pilots by highest rating held, by industry division and sector, spring 1968

Industry division/sector	All pilots and copilots	Pilots and copilots whose highest rating was–		
		Airline transport	Commercial	Other rating[1]
	Number employed			
Grand total	66,260	28,360	37,250	650
Air carriers, total	34,500	16,990	17,510	(2)
Certificated route	32,500	16,000	16,500	(2)
Others	2,000	990	1,010	(2)
General aviation, total	31,760	11,375	19,740	645
Executive transportation	13,880	7,980	5,780	120
Air taxi	7,640	1,360	6,120	160
Aerial application	1,750	35	1,570	145
Industrial/special	1,620	310	1,300	10
Flight and ground schools	4,080	770	3,220	90
Government	2,140	800	1,250	90
Repair stations	650	120	500	30
	Percentage distribution			
Grand total	100.0	42.8	56.2	1.0
Air carriers, total	100.0	49.2	50.8	–
Certificated route	100.0	49.2	50.8	–
Others	100.0	49.5	50.5	–
General aviation, total	100.0	35.8	62.2	2.0
Executive transportation	100.0	57.5	41.6	0.9
Air taxi	100.0	17.8	80.1	2.1
Aerial application	100.0	2.0	89.7	8.3
Industrial/special	100.0	19.1	80.3	0.6
Flight and ground schools	100.0	18.9	78.9	2.2
Government	100.0	37.4	58.4	4.2
Repair stations	100.0	18.5	76.9	4.6

1/ Mainly instructor or helicopter.
2/ Fewer than 5.
SOURCE: Employment totals as shown in tables 3 and 9 distributed on the basis of USTES survey sample data.

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Table 16. All civil aviation, percentage distribution of airline transport rated and commercial rated pilots, by industry division and sector, spring 1968

Industry division/sector	All pilots and copilots	Pilots and copilots whose highest rating was–		
		Airline transport	Commercial	Other rating
Grand total	100.0	100.0	100.0	100.0
Air carriers, total	52.1	59.9	47.0	0.8
Certificated route	49.0	56.4	44.3	–
Others	3.0	3.5	2.7	–
General aviation, total	47.9	40.1	53.0	99.2
Executive transportation	20.9	28.1	15.5	18.5
Air taxi	11.5	4.8	16.4	24.6
Aerial application	2.6	0.1	4.2	22.3
Industrial/special	2.4	1.1	3.5	1.5
Flight and ground schools	6.2	2.7	8.6	13.8
Government	3.2	2.8	3.4	13.8
Repair stations	1.0	0.4	1.3	4.6

SOURCE: Based on table 15.

programs. Very few schools offered approved training related to glider and helicopter flying. As previously noted, the civilian aviation industry depends almost entirely on the military for its supply of helicopter pilots because of the high cost of such training. More importantly, very few schools have or are able to offer training on jets or other types of heavy, sophisticated equipment which are used by air carriers, in some executive flying, and by some air taxis. Where they do offer this type of training, it is usually by special tie-in arrangement with companies owning the necessary aircraft and the runways on which to operate them.

Government aid. The recent sharp increase in the number, and, in many instances, the capacity of FAA-certificated flight schools received its major impetus from the provisions of the Veterans Pension and Readjustment Assistance Act of 1967 (Public Law 90-77), effective October 1, 1967. This Act approved financial assistance by the Veterans Administration for ex-servicemen who are qualified to take flight training leading to a commercial pilot's license. The benefits are quite liberal–90 percent of established tuition and fee charges for a period up to 36 months.[15]

The 1967 GI benefit law represented a drastic change from the provisions of its 1966 counterpart. The 1966 Act contained a clause specifying that flight training would be paid for only if it were part of an accredited college course leading to a degree. The 1967 Act relaxed the college-course provisions of the 1966 Act, but substituted others. To qualify for benefits under PL 90-77, a veteran must have been in the military service for more than 180 days, already possess a private pilot's license or the equivalent number of flight hours to earn such a license, pass a Class II medical examination, and must take advanced flight training in an FAA-certificated school and only for the purpose of seriously preparing for a career in civil aviation with, at least, a commercial pilot's license. The Act covers an 8-year period ending August 31, 1975.

The response by veterans to the opportunity to undertake serious career flight training with VA reimbursement has been enormous. Many additional schools have applied for and been granted FAA certification to become eligible under the program. Moreover, since the 1967 Act became effective, the content of the approved programs has been enlarged to include special courses for additional pilot ratings, as well as proficiency courses in agricultural and specialized helicopter operations for which no ratings are given. Under amendments to the regulations governing certification of pilot schools (Part 141 of the Federal Aviation Regulations), FAA will now approve courses for aircraft class and type ratings, and for preparation for airline transport pilot certificates, agricultural flying, and special operations involving external loads on helicopters, as well as courses leading

[15] In addition, the U.S. Office of Education will lend up to $1,000 for students taking flight training at certificated schools. The loan program is open to all students, including those who cannot fully meet VA criteria.

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Table 17. All civil aviation, employed pilots whose highest rating was commercial who also held instrument ratings, spring 1968

Industry division/sector	Commercial rated pilots		
	Total number	Instrument rated	
		Number	Percent of total
Civil aviation, total	37,250	32,275	86.6
All carriers	17,510	17,485	99.9
Excluding flight instructors	16,880	16,855	99.9
Flight instructors	630	630	100.0
Certificated route carriers	16,500	16,465	99.8
Excluding flight instructors	15,900	15,875	99.8
Flight instructors	600	590	98.3
General aviation, total	19,740	14,790	74.9
Executive transportation	5,780	4,745	82.1
Air taxi	6,120	4,800	78.4
Aerial application	1,570	535	34.1
Industrial/special	1,300	605	46.5
Flight and ground schools	3,220	2,675	83.1
Government	1,250	1,055	84.4
Repair stations	500	375	75.0

SOURCE: Employment totals as shown in tables 3 and 9 distributed on the basis of USTES survey sample data.

to a certificate as a commercial pilot, flight instructor, or instrument-rated pilot.

By the end of February 1969, according to a VA survey,[16] about 29,400 veterans had completed flight training of some kind, and 21,370 were enrolled at flight schools. Schools were enlarging their capacity in anticipation of further increases in enrollments of veterans.

School graduates as source of supply. Evaluation of flying school graduates as additions to the professional pilot labor supply involves consideration of two aspects—numbers and qualifications. Unfortunately, there are no comprehensive FAA data on the number who graduate each year with at least a commercial license, or, more importantly, on the number of these who enter and remain in the civil aviation industry as professionals. While estimates based on the USTES spring 1968 survey of employers show that about 56,000 students were expected to be graduated from flight and ground schools in 1968, there is every indication that this figure is highly inflated to the extent that surveyed schools reported total enrollment rather than prospective graduates. Moreover, there was no indication of what type of pilot training these students had undertaken, for which licenses they were qualifying, nor whether they expected to make a career of aviation or were simply taking instruction for their private use or pleasure.

It is quite clear that not all flight school training is to be construed as adding to the civil aviation industry's professional pilot supply. Many students start training but drop out before completion. A great many others study only long enough to obtain a private license. Still others are already licensed commercial pilots merely seeking additional type or class ratings. For example, one large school reported in the USTES survey that, out of 600 pilots to be trained in 1968, 50 sought additional ratings, 540 sought check outs in various aircraft models, and only 10 were training for new licenses. It remains to be seen whether the new VA-supported school program, oriented as it is toward serious preparation for a civil aviation career, will eventually produce substantial numbers of additional qualified professional pilots.

On-the-job training. Some on-the-job training of pilots was going on in every sector of the civil aviation industry in 1968. It is estimated, on the basis of employer reports made in the spring of 1968, that about 25,000 pilots would complete formal company training programs of some kind during the year. Most of this was orientation, refresher, upgrading, class, or type training of experienced pilots. About 5,700 pilots were being trained by carriers and the remainder by general aviation firms,[17] primarily those in executive transportation and air taxi operations, many of which provide flight instruction as a sideline. Some of the training of general aviation pilots on the larger and more sophisticated aircraft which were coming into increasing use, especially in corporate or executive flying, was being provided by contract with airlines. Some aircraft manufacturers were also providing training of employed pilots on new generations of aircraft as they were put to use.

Conclusions

The potential supply of qualified professional pilots appears to be quite adequate for the overall needs of the civil aviation industry, at least for the short-run period under review. No shortage existed or was contemplated in employer reports.

School facilities are numerous and widespread. Unusually good VA benefits are available to veterans who qualify and are willing to undertake schooling leading to a professional pilot's career, and thousands have taken advantage of the opportunity. Companies are providing on-the-job training to meet their own particu-

[16] Veterans Administration, Department of Veterans Benefits, unpublished data.

[17] Not including flight and ground schools.

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Table 18. Civil air carriers, number and percentage distribution of employed pilots by highest rating held, by industry division, spring 1968

Industry division	All pilots and copilots	Pilots and copilots, excluding flight instructor–		Flight instructors
		Total	Who were also flight engineers	
	Number employed			
All carriers, total	34,500	33,255	9,940	1,245
Airline transport	16,990	16,375	4,895	615
Commercial	17,510	16,880	5,045	630
Instrument rated	17,485	16,855	n.a.	630
Certificated route carriers, total	32,500	31,330	9,815	1,170
Airline transport	16,000	15,430	4,835	570
Commercial	16,500	15,900	4,980	600
Instrument rated	16,465	15,875	n.a.	590
	Percentage distribution			
All carriers, total	100.0	100.0	100.0	100.0
Airline transport	49.2	49.2	49.2	49.4
Commercial	50.8	50.8	50.8	50.6
Instrument rated	50.7	50.7	n.a.	50.6
Certificated route carriers, total	100.0	100.0	100.0	100.0
Airline transport	49.2	49.2	49.3	48.7
Commercial	50.8	50.8	50.7	51.3
Instrument rated	50.7	50.7	n.a.	50.4

SOURCE: Employment totals as shown in table 3 distributed on the basis of USTES survey sample data.

lar standards and requirements, and there is no lack of recruits from among either releasees from the military services or from the civilian labor force.

Although general aviation companies were reportedly suffering from turnover resulting from the competition of the airlines for the cream of the trained pilot supply, this situation promised to ease as airline growth requirements tapered off to a plateau through 1970. General aviation's ability to hire and retain pilots will depend on the terms of employment being offered. Airlines have proven that they can attract the kind of pilot they desire. An airline pilot career is a desirable one, with provision for advancement on a seniority basis, and from the smaller, slower aircraft to the largest and fastest, with concomitant pay increases and other benefits. General aviation companies will have to take these factors into account in seeking to solve their turnover problems.

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Chapter III. Mechanics

Employment trends

A total of 100,500 aircraft mechanics[18] were employed in civil aviation[19] in the spring of 1967. By the spring of 1968, about 5,300 or 5.3 percent more had been added to payrolls and estimates based on employer anticipations at that time indicated a prospective even sharper employment rise of 7,600, or 7.2 percent, by spring 1969 (tables 23 and 24). The 1969-70 increase, however, was expected to drop to 4,400, or 3.9 percent. If reported hiring schedules materialize as planned, spring 1970 mechanic employment will be an estimated 17,300, or 17.2 percent above spring 1967, and peak 1970 mechanic employment will be approximately 20,000, or 18 percent above the 1967 peak. This would represent an average 3-year requirement of roughly 6,700 a year for expansion purposes alone, not including the need for replacement of workers who leave the industry for one reason or another.

As in the case of pilots, the major part of the demand for additional mechanics is attributable to the anticipated growth requirements of general aviation companies. Aircraft mechanic employment in general aviation totaled 51,500 in spring 1967. By spring 1968 this total had risen by 3,300, or 6.4 percent, to 54,800. Employers expected it to rise 5,600, or about 10 percent more, to 60,400 by the spring of 1969. Although between 1969 and 1970 the demand for general aviation aircraft mechanics was expected to be less than half that of the previous year, dropping to 2,400 or 4.0 percent, spring 1970 employment was expected to total 62,800, about 11,300 or 22 percent above spring 1967, according to estimates based on employers' reports to the USTES. The peak 1967 to peak 1970 growth requirements estimate was even higher—13,400 or 23 percent over the 3-year period. On the basis of these estimates, the average annual 1967-70 demand for aircraft mechanics by the general aviation industry for expansion purposes alone appears to be in the neighborhood of 4,500 a year.

Air carrier demand was expected to be less than half of this. Carriers employed 49,000 mechanics in spring 1967, had added 2,000 (or 4 percent) by spring 1968, and expected to continue to add about 2,000 (or roughly 4 percent) a year through 1970, for a total expansion of 6,000, or about 12 percent over the 3-year period. At peak 1970, air carrier mechanic employment was expected to total approximately 60,000, and to be only 6,500 or 12.2 percent above peak 1967.

Route airlines, both scheduled and nonscheduled, accounted for 96 percent of all air carrier mechanic employment and for virtually all of the estimated prospective employment increases. Other types of carriers (supplemental and commercial operator) expected to add only about 200 mechanics between peak 1967 and peak 1970.

While strictly comparable historical data are not available, closely related figures, including maintenance workers as well as mechanics, which are compiled each year by the Federal Aviation Administration,[20] indicate that the prospective 2000-a-year growth requirement for aircraft mechanics by certificated route airlines in 1969 and 1970 would represent a continued leveling off in the rapid employment expansion which had been going on since 1964. The 1963-64 increase in the employment of mechanics and maintenance workers was 4,900. Comparable year-to-year changes for the years through 1968 were approximately as follows: 1964-65, 2,300; 1965-66, 3,660; 1966-67, 4,700; 1967-68, 2,000.

If all plans for the expansion of mechanic employment through 1970 are realized, the general aviation division will employ, at that time, an even larger proportion of the total civilian aircraft mechanic force[21] than it did in 1967. In spring 1967, general aviation mechanics accounted for 51.2 percent of a total of 100,500 employed aircraft mechanics. Attainment of the spring 1970 employment levels, estimated on the basis of the anticipations reported in the USTES survey sample, by all civil aviation employers would raise general aviation's share to 53.3 percent. General aviation firms would have 7,800 more mechanics on their payrolls than did air carriers; the difference was 2,500 in 1967.

Air carrier mechanics, by occupation. The U.S. Training and Employment Service survey of the air carrier industry yielded a breakdown on the basis of which it was possible to estimate both current and

[18] Only aircraft mechanics are included in this survey. Maintenance workers, such as carpenters and electricians, are excluded. Each of the mechanic occupations covered is described in Appendix B.

[19] Air carriers and general aviation, excluding civilian employees of the Department of Defense, who are considered in Section IV.

[20] FAA, *Statistical Handbook of Aviation*, and Air Transport Association of America, *Air Transport Facts and Figures*.

[21] Excluding the Department of Defense.

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Table 19. All civil aviation, number and percentage distribution of employed pilots aged 50 years and over, spring 1968

Industry division/sector	Pilots		
	Total	Aged 50 years and over	Aged 50 years and over as percentage of total
	Number employed		
Grand total	66,260	7,265	11.0
Air carriers, total	34,500	3,255	9.4
Certificated route	32,500	3,065	9.4
Others	2,000	190	9.5
General aviation, total	31,760	4,010	12.6
Executive transportation	13,880	1,830	13.2
Air taxi	7,640	900	11.8
Aerial application	1,750	230	13.1
Industrial/special	1,620	120	7.4
Flight and ground schools	4,080	445	10.9
Government	2,140	400	18.7
Repair stations	650	85	13.1
	Percentage distribution		
Grand total	100.0	100.0	
Air carriers, total	52.1	44.8	
Certificated route	49.0	42.2	
Others	3.0	2.6	
General aviation, total	47.9	55.2	
Executive transportation	20.9	25.2	
Air taxi	11.5	12.4	
Aerial application	2.6	3.2	
Industrial/special	2.4	1.7	
Flight and ground schools	6.2	6.1	
Government	3.2	5.5	
Repair stations	1.0	1.2	

SOURCE: Employment totals as shown in tables 3 and 9 distributed on the basis of USTES survey sample data.

prospective employment of mechanics in specific occupations; i.e., certificated aircraft and engine mechanic,[22] certificated airplane electrician, electronic mechanic, and "other" types of mechanic, which includes certificated radio, instrument, propeller, and specialized services mechanic. Each of these occupations, or occupational categories, is described in Appendix B. A similar breakdown by specific mechanic occupation was not obtained for the general aviation industry.

About half of all mechanics employed by civil air carriers in the spring of 1968 were aircraft and engine mechanics certificated by the FAA, according to estimates based on employer reports, and about two-fifths were in the "other" category (table 25). Airplane electricians and electronic mechanics each constituted 5-6 percent of the total.

Air carriers employed about 25,300 certificated aircraft and engine mechanics (also known as licensed airframe and powerplant mechanics) in the spring of 1968, both on the line and in overhaul and maintenance bases. Spring 1968 employment was about 1,500 above spring 1967, but carriers expected to add only about 900 in the following 2 years. The overall 3-year estimated demand for licensed airframe and powerplant (A&P) mechanics, measuring from spring 1967 to spring 1970, totaled somewhat more than 2,400, of which more than half had apparently already been met by spring 1968.

The estimated 3-year growth requirement for the miscellaneous group of "other" mechanics, which embraces a variety of very specialized and highly skilled workers, was somewhat higher, totaling approximately 2,800. About 20,000 of these specialized mechanics worked for air carriers in spring 1968, only 220 more than in spring 1967. But the demand was increasing sharply. Employers hoped to hire an additional 2,600 by spring 1970, and to have nearly 3,600 more on their payrolls at peak 1970 than they had at peak 1967.

Roughly 2,800 airplane electricians and 2,800 electronic mechanics were in the employ of civil air carriers in the spring of 1968. Estimates based on reported employer anticipations indicated a need for an additional 250 electricians and 270 electronic mechanics in the ensuing 2 years. By peak 1970, employment in each of these occupations was estimated to total around 3,350, requiring the net addition of about 400 of each

[22] The title "aircraft and engine" mechanic and "airframe and powerplant (A&P)" mechanic are interchangeable.

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Table 20. All civil aviation, total and average annual hours flown by pilots, year ending April/May 1968

Industry division/sector	All pilots and copilots	Pilots and copilots excluding flight instructors	Flight instructors
	Total hours flown (thousands)		
Grand total	32,355.1		
Civil air carriers, total	17,415.1	16,977.0	438.1
Certificated route	16,390.4	15,996.9	393.5
Other	1,024.7	980.1	44.6
General aviation, total	14,940.0		
Executive transportation	5,241.8		
Air taxi	5,280.9		
Aerial application	791.2		
Industrial/special	259.1		
Flight and ground schools	2,612.6		
Government	430.8		
Repair stations	323.6		
	Average annual hours flown per pilot		
Grand total	512		
Civil air carriers, total	515	521	360
Certificated route	515	522	344
Other	512	508	615
General aviation, total	509		
Executive transportation	407		
Air taxi	763		
Aerial application	487		
Industrial/special	166		
Flight and ground schools	708		
Government	208		
Repair stations	519		

SOURCE: USTES survey sample data for total hours flown by pilots inflated to national totals by same factor as used to inflate 1967 survey employment data. Average annual hours flown per pilot computed by dividing total hours flown by average of employment in spring of 1967 and spring of 1968.

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type of mechanic above peak 1967. Air carrier needs for licensed airplane electricians and electronic mechanics were relatively small in number, but reportedly crucial to operations.

General aviation mechanics, by industry sector. While about three-fourths of the nearly 55,000 general aviation aircraft mechanics were in repair stations in the spring of 1968, some were employed in each of the other sectors, according to estimates based on employers' reports to the USTES survey (table 26). About 6,000, or 11 percent of the total, were engaged in maintaining and repairing aircraft used in executive transportation; close to 2,600, or nearly 5 percent of the total, were employed by air taxi operations; and more than 3,000, or close to 6 percent, were at schools, both teaching and maintaining equipment. State and local governments and Federal Government nonmilitary agencies employed about 1,000. Approximately 900 were employed by firms engaged in industrial/special activities, and 700 were in the aerial/application sector.

Not all of these mechanics were full-time or certificated or licensed, but most were all-around mechanics. The general aviation industry is characterized by small establishments, frequently with no more than one or two aircraft to maintain. If a mechanic is employed, he must be able to do all the work. In many one-man operations, particularly in the aerial/application and industrial/special sectors of the industry, the pilot, who is also frequently the owner-operator, is a qualified airframe and engine mechanic as well, and performs the maintenance function on a when-needed basis. Operators who do not employ their own mechanics, or whose repair needs are beyond the abilities of their staffs, have their work done at repair stations or at the overhaul and maintenance bases of air carriers.

Repair stations employed about 39,000 mechanics and repairmen in 1967, and estimates based on the USTES sample of firms indicate a peak 1967 to peak 1970 need for about 8,300 or 19 percent more (table 27). An expansion of more than 1,800, or 31 percent, was planned by companies providing executive transportation. The sharpest relative increase was contemplated by schools and by air taxis. Both mechanic schools and air taxi operations hoped to have roughly 45 percent more mechanics on their payrolls at peak 1970 than they had at peak 1967. Each of the other general aviation sectors also planned to expand its mechanic work force well above previous levels.

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Table 21. Number of FAA-certificated flight and ground schools for pilots, by type of school, 1965-68

Type of school	Number of certificated schools for pilots		
	Dec. 31, 1965	Dec. 31, 1966	Jan. 1, 1968
Combined flight and ground .	402	505	813
Flight only	734	773	780
Ground only	46	74	127
Total	1,182	1,352	1,720

SOURCE: U.S. Department of Transportation, Federal Aviation Administration, *Statistical Handbook of Aviation,* 1966 and 1967 editions, for 1965 and 1966 data. January 1, 1968 data compiled from FAA:AC No. 140-2 D.

Mechanics age 50 years and over

Age is less of an employment barrier for mechanics than for pilots. There are no FAA retirement age regulations for mechanics employed by air carriers, as there are for pilots or in general aviation firms, and a good number are in the upper age brackets.

Estimates based on the USTES survey indicate that about 15 percent of the 105,800 mechanics employed in civil aviation in spring 1968, excluding civilians employed by the Department of Defense, were 50 years of age and over (table 28). Older mechanics accounted for 12 percent of the total number employed by air carriers and for 17 percent of all mechanics employed in general aviation, reflecting again the preference of carriers for younger workers.

Although mechanic employment was divided fairly evenly between the carriers and general aviation in 1968, the carriers employed slightly less than 40 percent of the 15,800 older mechanics; about 60 percent were employed in general aviation, with 47 percent of the 15,800 at repair stations.

Mechanic supply

The major sources of supply for mechanics in recent years have been, and continue to be, graduates of public and private vocational institutions and veterans who have had some aircraft mechanic training and experience in the armed forces. Each of these sources, as well as the extent of on-the-job training being provided by employers, is evaluated below, within the framework of available information.

Aircraft Mechanic Schools. As of mid-January 1969, a total of 106 aviation mechanic schools had been certificated by the FAA. Altogether these schools offered: 86 programs in powerplant mechanic skills, 82 programs in airframe mechanic skills, and 75 programs in

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Table 22. FAA-certificated pilot flight and ground schools, by state and certificated program (rating)
January 1, 1968

Region1/ and State	Number of certificated programs (ratings)2/											Total number	
	B	A	P	C	PG	CG	PH	CH	F	FH	I	Schools	Ratings
Total, U.S., Territories, and Europe	869	733	1,518	1,346	17	8	93	69	1,257	7	1,108	1,720	7,025
North East:													
New England	39	17	74	60	2		2		55		49	82	298
Maine	7	1	10	8					8		7	10	41
New Hampshire	5		7	5					3		5	8	25
Vermont	3		8	5	1				6		3	10	26
Massachusetts	16	9	29	23	1		1		21		19	33	119
Rhode Island			6	6			1		6		3	7	22
Connecticut	8	7	14	13					11		12	14	65
Middle Atlantic	97	68	148	131	3		12	5	111	1	105	177	681
New York	49	32	60	52	3		5	3	43		42	80	289
New Jersey	14	13	27	27			3		21		20	31	125
Pennsylvania	34	23	61	52			4	2	47	1	43	66	267
North Central:													
East North Central	130	109	231	207	3	1	11	6	196	1	174	256	1,069
Ohio	23	17	46	41	1		1	1	39		39	48	208
Indiana	20	14	30	25	1		3	2	24		18	38	137
Illinois	41	40	65	58	1	1	5	1	53		50	74	315
Michigan	40	32	59	56			2	2	55	1	49	64	296
Wisconsin	6	6	31	27					25		18	32	113
West North Central	89	74	165	145			11	8	140		110	179	742
Minnesota	24	21	34	31			4	4	31		25	38	174
Iowa	7	4	22	20			1	1	20		15	24	90
Missouri	20	19	29	25			2	2	26		23	32	146
North Dakota	14	9	15	13					14		10	15	75
South Dakota	9	6	12	10					8		7	15	52
Nebraska	6	4	21	17			2	1	16		9	23	76
Kansas	9	11	32	29			2		25		21	32	129
South:													
South Atlantic	110	110	189	170	2	2	7	6	156		138	217	890
Delaware	2	1	3						3		3	4	15
Maryland	6	4	13	13					9		10	15	55
Dist. of Col.	2	1	2	2					1		1	2	9
Virginia	7	7	20	18					16		13	21	81
West Virginia	2	1	8	7					6		3	8	27
North Carolina	10	13	25	22					22		22	26	114
South Carolina	13	10	20	15	1	1	2	2	15		10	25	89
Georgia	26	21	37	30					27		26	40	167
Florida	42	52	61	60	1	1	5	4	57		50	76	333

See footnotes at end of table.

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Table 22. FAA-certificated pilot flight and ground schools, by state and certificated program (rating) January 1, 1968—Continued

Region[1] and State	Number of certificated programs (ratings)[2]											Total number	
	B	A	P	C	PG	CG	PH	CH	F	FH	I	Schools	Ratings
East South Central	53	42	88	78			2	2	77	1	66	92	409
Kentucky	14	12	16	15			1	1	15		15	19	89
Tennessee	17	9	28	25			1	1	24	1	24	29	130
Alabama	12	12	20	17					17		13	20	91
Mississippi	10	9	24	21					21		14	24	99
West South Central	141	126	214	181	3	3	13	11	168	1	156	232	101
Arkansas	7	6	18	15					13		11	19	70
Louisiana	14	11	28	23			4	2	23		21	29	126
Oklahoma	25	18	36	28	1	1	1		24		25	42	159
Texas	95	91	132	115	2	2	8	9	108	1	99	142	662
West:													
Mountain	43	41	124	114	2	2	13	13	104	1	86	134	543
Montana	15	14	27	24			2	2	26		16	28	126
Idaho			13	11			1	1	12		9	13	47
Wyoming		1	4	3					2		1	4	11
Colorado	11	6	24	25	1	1	1	1	23		21	26	114
New Mexico	6	8	14	14			2	2	12		10	15	68
Arizona	7	5	20	20			3	3	14	1	15	25	88
Utah	4	3	13	9	1	1	2	2	8		8	14	51
Nevada		4	9	8			2	2	7		6	9	38
Pacific	160	139	280	256	2		22	18	247	2	222	344	1,348
Washington	22	19	50	47	1		3	3	47	1	38	58	231
Oregon	7	7	25	23			2	2	24		18	31	108
California	116	99	187	170	1		16	12	164		153	235	918
Alaska	11	10	11	11			1	1	9	1	10	13	65
Hawaii	4	4	7	5					3		3	7	26
Territories:													
Puerto Rico	5	5	3	2					2		1	5	18
Guam	1	1	1	1								1	4
Europe:													
Antwerp	1	1	1	1					1		1	1	6

1/Regional distribution has been converted from FAA to Labor Department pattern.

2/Key to ratings:

B — Basic Ground School; A — Advanced Ground School; P — Primary Flying School - Airplane; C — Commercial Flying School - Airplanes; PG — Primary Flying School - Glider; CG — Commercial Flying School - Glider; PH — Primary Flying School - Helicopter; CH — Commercial Flying School - Helicopter; F — Flight Instructor School; CH — Commercial Flying School - Helicopter; F — Flight Instructor School; FH — Flight Instructor School - Helicopter; I — Instrument Flying School.

SOURCE: Derived from U.S. Department of Transportation, Federal Aviation Administration, *List of Certificated Pilot Flight and Ground Schools*, January 1, 1968, AC 140-2D, pp. 1-46.

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Table 23. All civil aviation, employment trends, all mechanics,[1] by industry division, 1967-70

Date	Total	Air carriers		General aviation
		Total	Certificated route	
	Number employed			
Spring of:				
1967	100,500	49,000	47,000	51,500
1968	105,800	51,000	49,000	54,800
1969 (est.)	113,400	53,000	51,000	60,400
1970 (est.)	117,800	55,000	53,000	62,800
Peak of:				
1967	111,300	53,300	51,100	58,000
1968 (est.)	117,900	55,400	53,300	62,500
1970 (est.)	131,200	59,800	57,600	71,400
	Percentage distribution			
Spring of:				
1967	100.0	48.8	46.8	51.2
1968	100.0	48.2	46.3	51.8
1969 (est.)	100.0	46.7	45.0	53.3
1970 (est.)	100.0	46.7	45.0	53.3
Peak of:				
1967	100.0	47.9	45.9	52.1
1968 (est.)	100.0	47.0	45.2	53.0
1970 (est.)	100.0	45.6	43.9	54.4

1/Aircraft mechanics only; does not include maintenance workers.
SOURCE: See table 1.

combined airframe and powerplant mechanic skills (table 29).

Both the number of schools and the number of certificated programs being offered have increased rapidly since the middle of 1967. FAA-certificated aviation mechanic schools totaled 69 in 1963,[23] 10 were added in the 4½ years between then and July 1, 1967, but 27 more were brought into the program in the ensuing year and a half to reach the total of 106 on January 15, 1969.[24] During the same 18-month period, the total number of FAA-approved courses given by these schools also increased sharply, from 192 to 243.

In table 30, all certificated aviation mechanic school programs offered during the period August 1966 to January 1969 have been grouped according to the regions and labor areas in which they were located. From this it may be seen that, in January 1969, more than three-fifths of all approved programs were being offered in the North Central and Western States. Nine States[25] and the District of Columbia had no approved programs at all. Indeed, location of the certificated schools appears to bear only a minor relationship to probable concentrations of demand for graduates. Thus, there are only three schools in the New York metropolitan area, of which only one is a major supplier; only three schools in the Chicago area, of which none is a major supplier; and no school at all in Nashville, Tenn., a medium-sized hub. On the other hand, aviation mechanics graduated from the major supplier in Pittsburgh, Pa., have to leave the area to find jobs; there is always a local surplus.

Comprehensive data on total enrollment and sizes of the annual graduating classes of certificated aviation mechanic schools are not readily available, since FAA does not require the schools to maintain or report such records. However, information gathered as a by-product of the two formal FAA school inspections which are made each year gives some clues. On this basis, as well as on the basis of data reported in the USTES 1968 survey, it is estimated that between 12,000 and 13,500 students were enrolled in FAA certificated aviation mechanic schools in 1968 (compared with 8,000 in 1963),[26] and that the total number of prospective graduates in 1968 was in the neighborhood of 4,000 to 5,000. The number of graduates per school per year varies widely, ranging between 2 to 5 and 500 to 600. Only seven schools are "major suppliers" of aviation mechanics. In addition to those mentioned above in the New York and Pittsburgh areas, major suppliers are located in Teterboro, New Jersey; Daytona Beach, Florida; Tulsa, Oklahoma; Lexington, Massachusetts; and Inglewood, California.

The great majority of aviation mechanic schools are public institutions at vocational high school and tech-

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Table 24. All civil aviation, increases in employment over specified periods, by industry division, 1967-70

Date	Total	Air carriers		General aviation
		Total	Certificated route	
	Employment increases			
Spring of:				
1967-68	5,300	2,000	2,000	3,300
1968-69 (est.)	7,600	2,000	2,000	5,600
1969-70 (est.)	4,400	2,000	2,000	2,400
1967-70 (est.)	17,300	6,000	6,000	11,300
Peak of:				
1967-68 (est.)	6,600	2,100	2,200	4,500
1968-70 (est.)	13,300	4,400	4,300	8,900
1967-70 (est.)	19,900	6,500	6,500	13,400
	Percentage increases			
Spring of:				
1967-68	5.3	4.1	4.3	6.4
1968-69 (est.)	7.2	3.9	4.1	10.2
1969-70 (est.)	3.9	3.8	3.9	4.0
1967-70 (est.)	17.2	12.2	12.8	21.9
Peak of:				
1967-68 (est.)	5.9	3.9	4.3	7.8
1968-70 (est.)	11.3	7.9	8.1	14.2
1967-70 (est.)	17.9	12.2	12.7	23.1

SOURCE: Based on table 23.

[23] FAA, "Project Long Look," op. cit., p. 69.

[24] There are, in addition, an unknown but undoubtedly large number of noncertificated schools that have, for one reason or another, not sought or been granted certification.

[25] Delaware, Kentucky, Maine, New Hampshire, Rhode Island, Tennessee, Vermont, Virginia, West Virginia.

[26] FAA, "Project Long Look," op. cit., p. 69.

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nical trade school levels; only 16 are private schools, and only 14 are part of public or private universities or colleges, not including junior colleges. The University of Illinois, San Jose, Purdue, Oklahoma State, Idaho State, Utah State, Southern Illinois, and Western Michigan are examples of colleges and universities which offer approved courses for aviation mechanic certification.

Government aid. A major impetus to the recent large increase in the number of aviation mechanic schools seeking FAA certification is the Federal aid offered to such schools through the U.S. Office of Education under the Smith-Hughes Act and under Title 3 of the George-Barden Act. Under these Acts, certificated schools are receiving both financial aid and surplus equipment for use in training aviation mechanics. Federally guaranteed loans for students are also available under the auspices of the U.S. Office of Education, as they are for pilots.

Unlike flight school attendance, attendance at an approved mechanic school of any type has always qualified a veteran for benefits under the "G.I. Bill of Rights." Aviation mechanics, however, are blanketed in with all other types of mechanics under the Veterans Educational Assistance Program and receive no special

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Table 25. Civil air carriers, employment trends, by type of mechanic,1/ 1967-70

Date	Total	Type of mechanic: Aircraft and engine mechanics	Airplane electricians	Electronic mechanics	Other mechanics
	Number employed				
Spring of:					
1967	49,000	23,770	2,720	2,700	19,810
1968	51,000	25,300	2,860	2,810	20,030
1969 (est.)	53,000	25,880	2,900	3,000	21,220
1970 (est.)	55,000	26,210	3,110	3,080	22,600
Peak of:					
1967	53,300	26,390	2,960	2,950	21,000
1968 (est.)	55,400	27,540	3,060	3,040	21,760
1970 (est.)	59,800	28,500	3,380	3,350	24,570
	Increases in number employed				
Spring of:					
1967-68	2,000	1,530	140	110	220
1968-69 (est.)	2,000	580	40	190	1,190
1969-70 (est.)	2,000	330	210	80	1,380
1967-70 (est.)	6,000	2,440	390	380	2,790
Peak of:					
1967-68 (est.)	2,100	1,150	100	90	760
1968-70 (est.)	4,400	960	320	310	2,810
1967-70 (est.)	6,500	2,110	420	400	3,570
	Percentage distribution				
Spring of:					
1967	100.0	48.5	5.6	5.5	40.2
1968	100.0	49.6	5.6	5.5	39.3
1969 (est.)	100.0	48.8	5.5	5.7	40.0
1970 (est.)	100.0	47.7	5.7	5.6	41.1
Peak of:					
1967	100.0	49.5	5.6	5.5	39.4
1968 (est.)	100.0	49.7	5.5	5.5	39.3
1970 (est.)	100.0	47.7	5.7	5.6	41.1

1/Aircraft mechanics only; does not include maintenance workers.

SOURCE: Employment totals as shown in table 23 distributed on the basis of USTES survey sample data.

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benefits such as pilots do. Allowances are nominal and are not related to school tuition and fee charges, as are those for pilots. The cost of a mechanic trainee's education may be nothing or much more than his allowance, but this cost is not taken into account in determining the amount of money he receives, nor are any incentives offered to induce him to undertake aviation mechanic schooling rather than any other kind. A veteran attending mechanic school full time receives $130 a month if he has no dependents, $165 a month if he has one dependent, $175 if he has two dependents, and $10 a month more for each dependent above two. Allowances for part-time school attendance are proportionately less.

The latest available Veterans Administration survey indicates that cumulatively through June 30, 1968, a total of only 7,327 men had undergone training as aircraft mechanics with VA benefits[27] (compared with 29,400 pilots). Of these, 7,310 had received their training in school and 17 on the job. Only about 2,300 of the school trainees had a[illegible] a vocational school or technical post-high school; the rest, about 5,000, had attended vocational or technical schools which did not require a previous high school education. No information is available as to how many of these 7,300 veteran-trainees had actually sought or found jobs as aircraft mechanics in the civil aviation industry.

School graduates as source of supply. It is said of public aviation mechanic schools that many enroll, few graduate. Moreover, not all graduates, by any means, find their way into jobs in the aviation industry. A graduate of a public school of high school level may have become adept at mechanical skills, but will still require 3 to 4 years of arduous on-the-job training under close supervision before he is ready to undergo FAA examination and fill a licensed aircraft mechanic's position. Many never reach this stage. Upon graduation, they tend to seek mechanic jobs in aircraft manufacturing or outside of the aviation industry where licensing is not required. Perhaps as many as half of them are thus lost to the civil aviation industry.

The quality of education offered in this field in public institutions, many of which are operating at or near capacity, is generally not of the best nor the most up-to-date. A very large amount of space is needed and

27 Veterans Administration, Department of Veterans Benefits, unpublished data.

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Table 26. General aviation, employment trends and percentage distribution, by industry sector, 1967-70

Sector	Spring of--				Peak of--		
	1967	1968	1969 (est.)	1970 (est.)	1967	1968 (est.)	1970 (est.)
	Number employed[1/]						
General aviation, total	51,500	54,800	60,400	62,800	58,000	62,500	71,400
Executive transportation	5,020	6,090	6,430	6,870	5,960	6,560	7,810
Air taxi	2,290	2,590	3,170	3,530	2,700	3,140	4,000
Aerial application	680	710	810	980	790	810	1,110
Industrial/special	900	910	960	990	960	960	1,130
Mechanic schools	2,490	3,120	3,680	3,880	3,050	3,550	4,400
Government	1,100	1,120	1,150	1,150	1,120	1,160	1,200
Repair stations	39,020	40,260	44,200	45,400	43,420	46,320	51,750
	Percentage distribution						
General aviation, total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Executive transportation	9.8	11.1	10.6	10.9	10.3	10.5	10.9
Air taxi	4.4	4.7	5.2	5.6	4.6	5.0	5.6
Aerial application	1.3	1.3	1.3	1.6	1.4	1.3	1.6
Industrial/special	1.8	1.7	1.6	1.6	1.6	1.5	1.6
Mechanic schools	4.8	5.7	6.1	6.2	5.3	5.7	6.2
Government	2.1	2.0	1.9	1.8	1.9	1.9	1.7
Repair stations	75.8	73.5	73.2	72.3	74.9	74.1	72.5

1/Aircraft mechanics only; does not include maintenance workers.
SOURCE: See table 1.

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Table 27. General aviation, changes in employment, by industry sector, 1967-70

Sector	Spring of–				Peak of–		
	1967-68	1968-69 (est.)	1969-70 (est.)	1967-70 (est.)	1967-68 (est.)	1968-70 (est.)	1967-70 (est.)
	Increases in number employed						
General aviation, total	3,300	5,600	2,400	11,300	4,500	8,900	13,400
Executive transportation	1,070	340	440	1,850	600	1,250	1,850
Air taxi	300	580	360	1,240	440	860	1,300
Aerial application	30	100	170	300	20	300	320
Industrial/special	10	50	30	90	0	170	170
Mechanic schools	630	560	200	1,390	500	850	1,350
Government	20	30	0	50	40	40	80
Repair stations	1,240	3,940	1,200	6,380	2,900	5,430	8,330
	Percentage increases						
General aviation, total	6.4	10.2	4.0	34.2	7.8	14.2	23.1
Executive transportation	21.3	5.6	28.1	36.9	10.1	19.1	31.0
Air taxi	13.1	22.4	38.4	54.1	16.3	27.4	48.1
Aerial application	4.4	14.1	21.0	44.1	2.5	37.0	40.5
Industrial/special	1.1	5.5	3.1	10.0	0	17.7	17.7
Mechanic schools	25.3	17.9	5.4	55.8	16.4	23.9	44.3
Government	1.8	2.7	0	4.5	3.6	3.4	7.1
Repair stations	3.2	9.8	2.7	16.4	6.6	11.7	19.2

SOURCE: Based on table 26.

often not available. At Aviation High School in Long Island City, New York, the largest aviation mechanic school in the country, for example, 2,400 day students and 525 evening students were enrolled in the spring of 1968, but there were only 2,000 bench spaces. The school was operating above capacity by using extended sessions, but the Board of Education planned no facilities expansion at that time. It is perhaps unreasonable to expect public high schools to be equipped with adequate supplies of materials and sophisticated tools and equipment, or with expensive airframes and jet engines for students to learn on. Only the basics can be taught at most public schools; the practical, real-world training and keeping abreast of the latest developments must take place where the equipment is, i.e., on the job.

Except for graduates of universities and the better private schools who have been certificated or licensed and choose to make a career of aeronautical mechanics, graduates of aviation mechanic schools are generally hired as trainees or apprentices. They are preferred over completely untrained men. As trainees or apprentices, they are in great demand, and it appears that the number that may become available for such work in the civil aviation industry as a whole in the next couple of years may be insufficient to meet the need.

Military-trained mechanics. Although aircraft mechanics trained in the military services are also an important source of manpower supply for civil aviation, employers in both the air carrier and general aviation divisions of the industry reported to the USTES, in the spring of 1968, that men who had received military training only were "severely restricted for immediate placement in the civilian aircraft maintenance industry as full-functioning mechanics" because of their limited work experience. They tend to be specialized, either on one system of one type of airplane, or on some type of aircraft which does not exist in the civilian economy. Like public school graduates, they are generally hired as trainees or apprentices only. Reportedly, they not only require technical retraining, but their general job knowledge must be increased.

Military-service-trained aircraft mechanics, no matter how adequate a source of good prospects for entry occupations, cannot meet civil aviation's short-range need for fully qualified licensed mechanics of various types. Some of the necessary training may be obtained by veterans who seek further instruction at well-equipped schools. But the bulk of it must be obtained on the job.

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Table 28. All civil aviation, number and percentage distribution of employed mechanics aged 50 years and over, spring 1968

Industry division/sector	Mechanics[1]		
	Total	Aged 50 years and over	Aged 50 and over as percentage of total
	Number employed		
Grand total	105,800	15,775	14.9
Air carriers, total	51,000	6,225	12.2
Certificated route	49,000	5,865	12.0
Others	2,000	360	18.0
General aviation, total	54,800	9,550	17.4
Executive transportation	6,090	930	15.3
Air taxi	2,590	305	11.8
Aerial application	710	115	16.2
Industrial/special	910	100	11.0
Aviation schools	3,120	420	13.5
Government	1,120	205	18.3
Repair stations	40,260	7,470	18.6
	Percentage distribution		
Grand total	100.0	100.0	
Air carriers, total	48.2	39.5	
Certificated route	46.3	37.2	
Others	1.9	2.3	
General aviation, total	51.8	60.5	
Executive transportation	5.8	5.9	
Air taxi	2.4	1.9	
Aerial application	0.7	0.7	
Industrial/special	0.9	0.6	
Aviation schools	2.9	2.7	
Government	1.1	1.3	
Repair stations	38.1	47.4	

[1] Aircraft mechanics only; does not include maintenance workers.

SOURCE: Employment totals as shown in tables 23 and 26 distributed on basis of USTES survey sample data.

On-the-job training. As of January 1, 1969, a total of about 1,000 trainees were enrolled in 3- or 4-year registered apprenticeship programs leading to licensing as aircraft mechanics.[28] The programs were being conducted mainly by airlines, but some general aviation firms, even very small ones, and some manufacturers were also participating. Most of the apprentices were preparing for certification as A&P mechanics or airplane electricians, but the list of occupations for which on-the-job apprenticeship training under registered programs was being provided by employers includes the following occupations as well: aircraft assembly mechanic, accessories mechanic, aircraft mechanic, engine mechanic, helicopter mechanic, instrument mechanic, line service mechanic, propeller mechanic, radio mechanic, aircraft machinist, and sheet metal mechanic.

It is estimated from the spring 1968 USTES survey data that nearly 12,000 aviation mechanics would complete formal company on-the-job training programs of some kind during 1968. Civil air carriers accounted for about 3,500 of this total, and general aviation companies,[29] mainly repair stations, for the rest.

The USTES questionnaire asked civil air carriers to report the number of workers "expected to complete training in 1968 for *promotion* to each of the specified occupations", i.e., certificated aircraft and engine mechanic, certificated airplane electrician, electronic mechanic, and "other" mechanics (see appendix B). Estimates based on the responses indicate the following breakdown:

	Number of aircraft mechanics to be trained in 1968
All mechanics, total	3,530
Aircraft and engine mechanics	2,450
Airplane electricians	250
Electronic mechanics	160
Other mechanics	670

No such occupational breakdown is available for general aviation where employers were simply asked to report the total number of mechanics expected to complete formal company training programs in 1968. The total number for general aviation is estimated, on the basis of these reports, at 8,300, of which 6,500 were in repair stations and nearly 1,000 in executive transportation. Some training of mechanics was going on, however, in each of the other sectors of the industry.

Interpretation of the figures reported to the USTES on the number of mechanics to be trained on the job must be tempered with caution. There is substantial evidence that they are heavily overstated to the extent that many employers included in their reports all mechanics undergoing training of any kind—orientation, refresher, upgrading, apprenticeship, etc.—rather than only those who would, upon completion of their training courses, be ready in 1968 for promotion to the position of a fully qualified and certificated mechanic of the type specified.

But even these highly inflated figures fall short of the estimated annual combined replacement and growth needs for fully qualified mechanics by both air carriers and general aviation firms in the short-term future. The discrepancy between on-the-job training and probable needs is most marked in regard to airplane electricians, electronic mechanics, and "other" mechanics, which includes radio, instrument, propeller, and such highly specialized mechanics as avionic technicians.[30]

[28] U.S. Department of Labor, Bureau of Apprenticeship and Training, unpublished data. The term "aircraft mechanic," as used here, encompasses all of the occupations listed in the paragraph.

[29] Not including mechanic schools.

[30] Avionic technicians check, repair, and install aircraft communication/navigation and control equipment.

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Table 29. Number of FAA-certificated schools and approved programs (ratings) for mechanics, by type, 1966-69

Program (rating)	Number of certificated schools for mechanics			
	Aug. 1, 1966	July 1, 1967	July 15, 1968	Jan. 15, 1969
Total schools	78	79	97	106
Number of approved programs (ratings) for:				
Combined airframe and powerplant mechanic	59	60	71	75
Airframe mechanic only	66	64	77	82
Powerplant mechanic only	68	68	80	86
Total Number of approved programs (ratings)	193	192	228	243

SOURCE: Derived from U.S. Department of Transportation, Federal Aviation Administration, *Advisory Circulars* AC147-2B, AC147-2C, AC147-2D, and AC147-2E.

Conclusions

A tightness in the overall supply of aircraft mechanics in relation to the estimated demand seems to be developing. Of the 27 labor areas surveyed by the USTES in the spring of 1968, half reported stringencies in the supply of aircraft mechanics varying from slight to critical. Employers complained of shortages of fully qualified and certificated airplane electricians, electronic and instrument mechanics, and radio and avionic technicians, as well as of airframe and powerplant mechanics.

Graduates of most, though not all, aviation mechanic schools, and mechanics released from the armed forces cannot meet the need; they are not experienced with sophisticated modern civilian aircraft and can qualify only as trainees or apprentices. There is insufficient incentive for them to enter the long road through training to FAA certification when alternative job opportunities at good pay are available. While all route carriers and many other civil aviation companies, as well as some manufacturers of aircraft, are providing on-the-job training, it is inadequate for all expected replacement and growth needs in the short-run future, especially in the most highly skilled and specialized occupations where the stringency already seems to be acute.

General aviation firms are at a particular disadvantage in hiring and retaining fully qualified mechanics of the types they need. Many of them complain that they cannot hold mechanics after they have spent a great deal of time and money training them because, once trained, they leave for better paying and more stable government or airline jobs. A very common practice among general aviation companies to meet this problem is to hire only certificated airframe and engine mechanics who are also pilots and can, therefore, justify higher and steadier pay by doing everything. In very small companies, the pilot/mechanic is frequently the employer himself.

It is clear that all demands for fully qualified and certificated aircraft mechanics and specialized technicians of various kinds cannot be met by recruitment in the open market. Expanded formal company on-the-job training programs, especially apprenticeship programs, planned sufficiently in advance of anticipated needs, appear to offer one practical approach to the problem. Study at the better equipped private schools might be encouraged through more generous government student aid grants or benefits under the Veterans Educational Assistance Program. If small general aviation firms are to compete in the labor market for a limited mechanic supply, they may have to offer inducements in the form of an adequate guaranteed annual wage or something similar.

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Table 30. FAA-certificated mechanic schools, by labor area and certificated program (rating), 1966-69

Region and labor area[1]	Number of certificated programs (ratings)[2]											
	August 1, 1966			July 1, 1967			July 15, 1968			Jan. 15, 1969		
	A	P	C	A	P	C	A	P	C	A	P	C
Total U.S. and Territories	66	68	59	64	68	60	77	80	71	82	86	75
North Eastern States	12	13	11	11	12	10	11	12	12	12	13	12
New England	3	3	3	3	3	3	3	3	3	3	3	3
Boston, Mass.	2	2	2	2	2	2	2	2	2	2	2	2
Danielson, Conn.	1	1	1	1	1	1	1	1	1	1	1	1
Middle Atlantic	9	10	8	8	9	7	8	9	9	9	10	10
Buffalo, N.Y.	1	1	1	1	1	1	1	1	1	1	1	1
New York, N.Y.	2	3	1	2	3	1	2	3	2	2	3	2
Utica-Rome, N.Y.	1	1	1	0	0	0	0	0	1	1	1	2
Newark, N.J.	1	1	1	1	1	1	1	1	1	1	1	1
Paterson-Clifton-Passaic, N.J.	1	1	1	1	1	1	1	1	1	1	1	1
Pittsburgh, Pa.	1	1	1	1	1	1	1	1	1	1	1	1
Philadelphia, Pa.	1	1	1	1	1	1	1	1	1	1	1	1
Williamsport, Pa.	1	1	1	1	1	1	1	1	1	1	1	1
North Central States	14	14	14	13	13	16	19	19	20	21	20	22
East North Central	9	9	9	8	8	12	9	8	12	9	8	12
Columbus, Ohio	0	0	0	1	1	0	1	1	0	1	1	0
Lafayette, Ind.	1	1	0	0	0	1	0	0	1	0	0	1
Vincennes, Ind.	0	0	1	0	0	1	0	0	1	0	0	1
Chicago, Ill.	2	2	3	2	2	3	2	2	3	2	2	3
St. Louis, Mo.-Ill.	1	1	1	0	0	1	0	0	1	0	0	1
Carbondale, Ill.	1	1	1	1	1	1	1	1	1	1	1	1
Champaign-Urbana, Ill.	1	1	1	1	1	1	1	1	1	1	1	1
Detroit, Mich.	1	1	0	1	1	1	1	1	1	1	1	1
South Haven, Mich.	0	0	0	0	0	0	1	0	0	1	0	0
Kalamazoo, Mich.	0	0	1	0	0	1	0	0	1	0	0	1
Milwaukee, Wis.	1	1	0	1	1	1	1	1	1	1	1	1
Beloit, Wis.	1	1	1	1	1	1	1	1	1	1	1	1
West North Central	5	5	5	5	5	4	10	11	8	12	12	1[illegible]
Thief River Falls, Minn.	1	1	1	1	1	1	1	1	1	1	1	1
Minneapolis-St. Paul, Minn.	1	1	0	1	1	0	1	1	0	1	1	0
Kansas City, Kans./Mo.	1	1	1	1	1	1	2	3	2	2	2	2
Salina, Kans.	0	0	0	0	0	0	1	1	1	1	1	1
Topeka, Kans.	0	1	0	0	1	0	0	1	0	0	1	0
Wichita, Kans.	0	0	0	0	0	0	0	0	0	1	1	1
Des Moines, Iowa	0	0	1	0	0	1	0	0	1	0	0	1
Ottumwa, Iowa	0	0	0	0	0	0	0	0	1	0	0	1
Waterloo, Iowa	0	0	0	0	0	0	1	1	1	1	1	1
Fargo-Moorhead, N.D.	1	1	1	1	0	0	1	0	0	1	0	0
Sioux Falls, S.D.	0	0	0	0	0	0	0	0	0	1	1	0
Watertown, S.D.	1	0	0	1	1	0	1	1	0	1	1	0
Omaha, Nebr.-Iowa	0	0	0	0	0	0	1	1	1	1	1	1
Lincoln, Nebr.	0	0	1	0	0	1	0	0	1	0	0	1
Sidney, Nebr.	0	0	0	0	0	0	1	1	0	1	1	0
Southern States	12	12	13	13	13	13	16	17	16	17	19	17
South Atlantic	6	6	7	7	7	7	8	8	8	8	9	8
Baltimore, Md.	0	0	1	0	0	1	0	0	1	0	0	1
Winston-Salem, N.C.	0	0	0	1	1	1	1	1	1	1	1	1
Florence, S.C.	1	1	1	1	1	0	1	1	0	1	1	0
Americus, Ga.	1	1	1	1	1	1	1	1	1	1	1	1
Atlanta, Ga.	0	0	0	0	0	0	1	1	1	1	1	1
Miami, Fla.	2	2	2	2	2	2	2	2	2	2	2	2
St. Petersburg, Fla.	0	0	0	0	0	0	0	0	0	0	1	0

See footnotes at end of table.

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Table 30. FAA-certificated mechanic schools, by labor area and certificated program (rating), 1966-69—Continued

Region and labor area[1]	Number of certificated programs (ratings)[2]											
	Aug. 1, 1966			July 1, 1967			July 15, 1968			Jan. 15, 1969		
	A	P	C	A	P	C	A	P	C	A	P	C
South Atlantic—Cont.:												
Daytona Beach, Fla.	1	1	1	1	1	1	1	1	1	1	1	1
Tallahassee, Fla.	1	1	1	1	1	1	1	1	1	1	1	1
East South Central	1	1	1	1	1	1	2	3	2	2	3	2
Jackson, Miss.	0	0	0	0	0	0	0	1	0	0	1	0
Ozark, Ala.	1	1	1	1	1	1	1	1	1	1	1	1
Hamilton, Ala.	0	0	0	0	0	0	1	1	1	1	1	1
West South Central	5	5	5	5	5	5	6	6	6	7	7	7
Camden, Ark.	0	0	0	0	0	0	0	0	0	1	1	1
New Orleans, La.	1	1	1	1	1	1	1	1	1	1	1	1
Lake Charles, La.	0	0	0	0	0	0	0	0	1	0	0	1
Stillwater, Okla.	1	1	1	1	1	1	1	1	1	1	1	1
Tulsa, Okla.	1	1	1	1	1	1	1	1	1	1	1	1
Enid, Okla.	0	0	0	0	0	0	0	1	0	0	1	0
Ft. Worth, Tex.	1	1	1	1	1	1	2	1	1	2	1	1
Longview, Tex.	1	1	1	1	1	1	1	1	1	1	1	1
Western States	27	28	21	26	29	21	30	31	23	31	33	24
Mountain	5	6	4	5	6	7	7	7	6	7	8	7
Helena, Mont.	1	1	1	1	1	1	1	1	1	1	1	1
Pocatello, Idaho	1	1	0	1	1	0	1	1	0	1	1	0
Denver, Colo.	2	2	2	2	2	2	2	2	2	2	2	2
Las Vegas, Nev.	0	0	0	0	0	0	1	1	1	1	1	1
Douglas, Ariz.	0	0	0	0	0	0	0	0	0	0	1	0
Phoenix, Ariz.	0	1	0	0	1	0	0	1	0	0	1	0
Logan, Utah	1	1	1	1	1	1	1	1	1	1	1	1
Alamagordo, N.M.	0	0	0	0	0	0	1	0	0	1	0	0
Roswell, N.M.	0	0	0	0	0	0	0	0	1	0	0	1
Cheyenne, Wyo.	0	0	0	0	0	0	0	0	0	0	0	1
Pacific	22	22	17	21	23	17	23	24	17	24	25	17
Moses Lake, Wash.	1	0	0	0	1	0	1	1	0	1	1	0
Tacoma, Wash.	1	1	1	1	1	1	1	1	1	1	1	1
Spokane, Wash.	1	1	0	1	1	0	1	1	0	1	1	0
Seattle, Wash.	1	1	0	1	1	0	1	1	0	1	2	0
Eugene, Ore.	1	1	0	1	1	0	1	1	0	1	1	0
Anaheim-Santa Ana-Garden Grove, Calif.	0	0	0	0	0	0	0	0	0	1	0	0
San Bernardino-Riverside-Ontario, Calif.	2	2	2	2	2	2	2	2	2	2	2	2
San Francisco-Oakland, Calif.	3	3	1	3	3	1	4	4	0	4	4	0
Stockton, Calif.	1	1	1	1	1	1	1	1	1	1	1	1
Los Angeles-Long Beach, Calif.	5	5	5	5	5	5	5	5	5	5	5	5
Fresno, Calif.	2	2	2	2	2	2	2	2	2	2	2	2
Hollister, Calif.	0	0	1	0	0	1	0	0	1	0	0	1
San Jose, Calif.	1	2	1	1	2	1	1	2	1	1	2	1
San Diego, Calif.	0	0	1	0	0	1	0	0	1	0	0	1
Sacramento, Calif.	1	1	1	1	1	1	1	1	1	1	1	1
Fairbanks, Alaska	1	1	0	1	1	0	1	1	1	1	1	1
Honolulu, Hawaii	1	1	1	1	1	1	1	1	1	1	1	1
Territories	1	1	0	1	1	0	1	1	0	1	1	0
San Juan, Puerto Rico	1	1	0	1	1	0	1	1	0	1	1	0

1/ Regional distribution has been converted from FAA to Labor Department pattern. Labor areas are as defined by the U.S. Department of Labor, Manpower Administration.

2/ Key to ratings: A — Airframe mechanic; P — Powerplant mechanic; C — Combined Airframe and Powerplant mechanic.

SOURCE: Derived from U.S. Dept. of Transportation, Federal Aviation Administration, *Advisory Circulars*, AC 147-2B, AC 147-2C, AC 147-2D, and AC 147-2E.

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Chapter IV. U.S. Department of Defense Pilots and Mechanics

Civilian pilots

In mid-1968 relatively few civilian pilots, 560 in all, were employed by the military services of the Department of Defense. Sixty percent of these were working for the Army and the remainder for the Air Force. The Navy employs no civilian pilots.

Available information on the Defense Department's employment of civilian pilots for the period 1967 to 1970 is summarized in table 31. In these years, the total number employed was expected to vary only slightly and to remain close to the 600 level. Peak-1970 employment was estimated at 620, only 40 above peak 1967. The size of the civilian pilot force used by the Army and the Air Force is relatively stable, resulting from the distinctive characteristics of the programs to which they are assigned. The Air Force employs civilian pilots to staff reserve stations. These pilots are a cadre necessary to maintain the reserve stations in a state of readiness. They are civil servants working a regular work week on maintenance and administrative tasks. When reservists are present in force and the station is functioning in its training capacity, these civilian pilots, who are themselves reserve officers, form the nucleus of the reserve staff.[31] The Army uses civilian pilots primarily as flight instructors to train military pilots, but they also function in other areas, e.g., for aerial mapping and for test flying planes which have been repaired.

Many civilian pilots with the Army and Air Force have retired from military service. Many of them, about 60 percent, had not acquired FAA commercial pilot certificates, and less than 10 percent had qualified for FAA airline transport ratings.

Civilian mechanics

Substantial numbers of civilian aircraft mechanics are employed by the Department of Defense. They are used by the military to provide continuity in repair and maintenance work, in addition to enlisted military aircraft mechanics.

[31] Pilots are employed in a similar capacity by the Air and Army National Guard.

The three military services reported that, in mid-1968, they had about 38,400 civilian aircraft mechanics on their payrolls, or more than a fourth of all the 144,200 civilian aircraft mechanics employed. This number represented an increase of 700 over 1967. Employment was expected to increase 1,100 more by 1969 but to drop sharply between 1969 and 1970. Peak 1970 civilian aircraft employment was estimated at 37,300, or 1,400 below peak 1967.

The Navy and Air Force together accounted for nearly 98 percent of the 1968 employment. The largest group of aircraft mechanics, 60 percent of the total, was employed by the Air Force. Its plan to cut back its civilian aircraft mechanic employment, if carried out, would reduce the number by 2,500, from 23,000 at peak 1967 to 20,500 at peak 1970. The Navy, the second largest military employer of civilian aircraft mechanics with 38 percent of the total, and the Army, with about 2 percent, reported plans for increases in civilian aircraft mechanic employment between peak 1967 and peak 1970 totaling 1,250.

U.S. DEPARTMENT OF DEFENSE PILOTS AND MECHANICS

Table 31. Civilian aviation, employment trends, by service, 1967-70

Date	All services	Army	Navy	Air Force
	Number of civilian pilots employed			
Summer of:				
1967	570	330	0	240
1968	560	335	0	225
1969 (est.)	600	355	0	245
1970 (est.)	620	355	0	260
Peak of:				
1967	580	330	0	250
1968 (est.)	620	355	0	265
1970 (est.)	620	360	0	260
	Number of civilian aircraft mechanics employed			
Summer of:				
1967	37,700	700	14,000	23,000
1968	38,400	850	14,650	22,900
1969 (est.)	39,500	970	15,880	22,650
1970 (est.)	37,300	1,100	15,700	20,500
Peak of:				
1967	38,700	840	14,710	23,150
1968 (est.)	40,000	900	15,600	23,500
1970 (est.)	37,300	1,100	15,700	20,500

SOURCE: National employment totals reported by Army, Navy, Air Force in USTES survey.

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Appendix A. Civil Aviation, Definitions of Industry Divisions and Sectors

1. Air carriers

The civil air carrier division of the industry consists of two sectors, each of which is considered separately in this study.

Certificated route carriers include all scheduled and nonscheduled U.S. domestic and international airlines. These account for about 94 percent of all air carrier pilot and mechanic employment.

Other carriers refers to supplemental air carriers which are authorized to perform passenger and cargo charter services supplementing the scheduled route air carriers, and commercial operators which operate on a private for-hire basis.

2. General aviation

The definition of general aviation, as used in this study, differs from that of the Federal Aviation Administration. The term "general aviation," as defined by the FAA[1] includes all nonmilitary or civilian flying except that performed by the interstate and intrastate air carriers operating large aircraft. General aviation flying, thus defined, embraces a wide range of diverse uses of aircraft, from the transportation of personnel and cargo by business firms in privately owned aircraft, to special uses such as for crop dusting, power and pipeline patrol, and aerial advertising, as well as private flying for pleasure. These activities have been classified by the FAA into four major categories: Business flying, which includes executive transportation and business transportation; instructional flying; commercial flying, which includes air taxi, aerial application, and industrial/special flying; and personal flying.

Since this study is concerned only with *professional* pilots and with aviation mechanics employed as such, personal flying and business transportation[2] (as distinguished from executive transportation) have been eliminated from consideration and are not included in the figures for the general aviation division of the civil aviation industry. Included, moreover, are local, State, and nonmilitary Federal Government civilian flying activities which the FAA does not include in its general aviation category.

The categories of general aviation which are within the scope of this study may be described as follows:

Executive (corporate) transportation is any use of an aircraft by a corporation, company, or other organization for the purposes of transporting its employees and/or property, not for compensation or hire, and employing professional pilots for the operation of the aircraft.

Air taxi transportation includes both scheduled and nonscheduled air taxi service, as well as contract service, and charter service.

Aerial application is any use of an aircraft for work purposes which concern the production of food, fiber, and health control, in which the aircraft is used in lieu of farm implements or ground vehicles for the particular task accomplished. It includes the distribution of chemicals or seeds in agriculture, reforestation, and insect control. It excludes fire fighting operations. There are a

[1] FAA, Economics Division, *General Aviation - A Study and Forecast of the Fleet and its Use in 1975*, July 1966.

[2] Business transportation is defined by the FAA as any use of an aircraft, not for compensation or hire, by an individual for the purposes of transportation required by a business or profession in which he is engaged. A high proportion of its fleet is made up of small, single-engine aircraft which are used by individuals for transportation, much as an automobile might be, in conducting a business or providing a service. The business pilot is not a professional pilot, just as a man who drives a car in the course of his business is not a chauffeur.

multitude of specific uses for aircraft in agriculture and forestry operations, such as insect and plant disease control, weed and brush control, control of animal pests, application of fertilizers and trace elements, defoliation, seeding, restocking of fish and other wild life, cloud seeding to induce precipitation or fog dispersal, and the production of air turbulence (mainly by the downdraft from helio blades) for frost prevention, drying fruit and athletic fields, harvesting ripe fruit and nuts, chasing birds from crops, etc.

Industrial/special use includes specialized work allied with industrial activity, excluding transportation and aerial application. Examples are: pipeline and highway patrolling, aerial surveying, emergency and rescue operations, advertising, photography, helicopter hoist, fire fighting, etc.

Instructional flying in general aviation includes any use of an aircraft for the purpose of formal instruction with the flight instructor aboard, or with the maneuvers on the particular flight(s) specified by the flight instructor. It excludes military and air carrier flight instruction but does include all other forms of civil private pilot training.

Government, which the FAA does not include in general aviation but which is included in this report, covers State and local governments and Federal Government nonmilitary agencies such as the Coast Guard, the Federal Aviation Administration, the Departments of Agriculture, Justice, and Interior, the Tennessee Valley Authority, etc. Included are such activities as traffic surveillance and forest protection programs, but not flight instruction at public institutions which is included under instructional flying.

Repair stations are independent companies or firms engaged in the maintenance and repair of aircraft. Both certificated and noncertificated repair stations are included. Data for mechanics cover aircraft mechanics and aircraft repairmen.

3. U.S. Department of Defense

Included are the civilian flying and aircraft maintenance activities of the Army, Navy, and Air Force.

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Appendix B.

Manpower Administration

U.S. Training and Employment Service

Questionnaires and Instructions

Including Descriptions of

Occupations

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U.S. DEPARTMENT OF LABOR
Bureau of Employment Security
Form ES-552 (3-68)

Budget Bureau No. 44-S68002

QUESTIONNAIRE ON PILOTS AND AIRCRAFT MECHANICS --CIVIL AIR CARRIERS
AIR TRANSPORTATION SURVEY

1. DATE OF SURVEY (Month, day, year)	2. STATE CODE	3. STATE	4. LABOR AREA NO.	5. LABOR AREA NAME

6. TYPE OF ACTIVITY (Check one)

A. CERTIFICATED ROUTE CARRIER	B. OTHER (Specify)

7. FLEET SIZE					8. FIRM NO.	9. FIRM SIC CODE
A. TOTAL (Items 7B–7E)	B. NO. SINGLE ENGINE	C. NO. MULTI-ENGINE, PISTON	D. NO. TURBO	E. NO. HELICOPTER		

TO:

CIVIL AIR CARRIERS

(Fold)

10. SELECTED OCCUPATIONS
(If workers are not employed in either of these occupations, enter a zero.)

	ITEM	LINE NO.	PILOTS: TOTAL PILOTS (Cols. B & D) A	PILOTS: EXCLUDING FLIGHT INSTRUCTORS: TOTAL NUMBER B	PILOTS: EXCLUDING FLIGHT INSTRUCTORS: NUMBER WHO ARE FLIGHT ENGINEERS C	PILOTS: FLIGHT INSTRUCTORS D	AIRCRAFT MECHANICS: TOTAL MECHANICS (Cols. F–I) E	AIRCRAFT MECHANICS: AIRCRAFT AND ENGINE MECHANICS F	AIRCRAFT MECHANICS: ELECTRICIAN AIRPLANE G	AIRCRAFT MECHANICS: ELECTRONIC MECHANIC H	AIRCRAFT MECHANICS: OTHER MECHANICS I
EMPLOYMENT	CURRENT	01									
	AGE 50 YEARS AND OVER	02									
	ONE YEAR AGO	03									
	PEAK EMPL. IN 1967 (Enter month in paren.)	04	( )				( )				
	REPLACEMENT NEEDS IN 1968	05									
CURRENT VACANCIES	TOTAL	10									
	LESS THAN 1 MONTH	11									
	ONE MONTH OR MORE	12									
PROJECTED EMPLOYMENT	ONE YEAR HENCE	20									
	PEAK EMPL. IN 1968 (Enter month in paren.)	21	( )				( )				
	PEAK EMPL. IN 1970	22									
	FIXED-WING	23									
	HELICOPTER	24									
TRAINING	NUMBER TO BE TRAINED BY FIRM IN 1968	30									
HIGHEST RATING HELD	AIRLINE TRANSPORT	40									
	COMMERCIAL	41									
	INSTRUMENT	42									
CERTIFIED TO FLY	FIXED-WING ONLY	50									
	HELICOPTER ONLY	51									
	FIXED-WING AND HELIO	52									
HOURS FLOWN	TOTAL PILOT HOURS IN PAST 12 MONTHS	60									

COMMENTS (Use reverse if additional space is required.)

NAME OF PERSON RECORDING THIS INFORMATION	TITLE

U.S. DEPARTMENT OF LABOR
Bureau of Employment Security
Form ES-553 (3-68)

Budget Bureau No. 44-S68002

QUESTIONNAIRE ON PILOTS AND AIRCRAFT MECHANICS --GENERAL AVIATION
AIR TRANSPORTATION SURVEY

1. DATE OF SURVEY (Month, day, year)	2. STATE CODE	3. STATE	4. LABOR AREA NO.	5. LABOR AREA NAME

6. TYPE OF ACTIVITY (Check one)

A. BUSINESS	B. AERIAL APPLICATION	C. INDUSTRY SPECIAL	D. AIR TAXI	E. FLIGHT GROUND SCHOOLS	F. FEDERAL, STATE, AND LOCAL GOVERNMENT	G. OTHER (Specify)

7. FLEET SIZE

A. TOTAL (Items 7B–7E)	B. NO. SINGLE ENGINE	C. NO. MULTI-ENGINE, PISTON	D. NO. TURBO	E. NO. HELICOPTER	8. FIRM NO.	9. FIRM SIC CODE

TO:

GENERAL AVIATION

(Fold)

10. SELECTED OCCUPATIONS
(If workers are not employed in either of these occupations, enter a zero.)

	ITEM	LINE NO.	TOTAL PILOTS A	TOTAL MECHANICS B
EMPLOYMENT	CURRENT	01		
	AGE 50 YEARS AND OVER	02		
	ONE YEAR AGO	03		
	PEAK EMPL. IN 1967 (Enter month in paren.)	04	( )	( )
	REPLACEMENT NEEDS IN 1968	05		
CURRENT VACANCIES	TOTAL	10		
	LESS THAN 1 MONTH	11		
	ONE MONTH OR MORE	12		
PROJECTED EMPLOYMENT	ONE YEAR HENCE	20		
	PEAK EMPL. IN 1968 (Enter month in paren.)	21	( )	( )
	PEAK EMPL. IN 1970	22		
	FIXED-WING	23		
	HELICOPTER	24		
TRAINING	NUMBER TO BE TRAINED BY FIRM IN 1968	30		
HIGHEST RATING HELD	AIRLINE TRANSPORT	40		
	COMMERCIAL	41		
	INSTRUMENT	42		
CERTIFIED TO FLY	FIXED-WING ONLY	50		
	HELICOPTER ONLY	51		
	FIXED-WING AND HELIO	52		
HOURS FLOWN	TOTAL PILOT HOURS IN PAST 12 MONTHS	60		

COMMENTS

NAME OF PERSON RECORDING THIS INFORMATION	TITLE

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Civil Air Carriers

Questionnaire on Pilots and Aircraft Mechanics for Civil Air Carriers and Instructions for Completion

Except for items 1 and 7, all items in the heading of the questionnaire have been completed. Enter in item 1 the date the questionnaire is completed. Enter in item 7A (Fleet size) the total number of planes in your firm at the time of the survey. The entry for 7A should be the sum of items 7B through 7E. Include planes owned as well as those rented or leased from other firms. Please note: Firms owning planes for the purpose of renting or leasing to other firms should include only those planes in the firm which are not currently rented or leased. This distinction will avoid duplication in the overall count of planes.

For the purpose of this survey, please assume the following conditions when completing the questionnaire.

1. Qualified workers will be available to meet any anticipated employment needs.
2. The present long-term trend of economic growth of the United States will continue with no major setbacks for the next few years.
3. Scientific and technological advances will continue, affecting production methods, manpower requirements, and consumption patterns.
4. The present-day normal workweek at your firm will continue through the forecast periods.
5. Your current plans for expansion or modernization will materialize according to schedule.
6. Delivery of new planes will be on schedule.
7. Airport facilities will be adequate.
8. No further significant change in the international situation.
9. The Viet Nam conflict will neither abate nor accelerate.
10. No further call-ups of air reservists.

If your firm is engaged in more than one air-related activity such as an air taxi service, flight training, and operating an aircraft repair station, the data on the questionnaire should include all pilots and/or mechanics employed in all activities in all establishments of your firm.

Include data for pilots and mechanics stationed in foreign countries who are citizens of the United States.

Following are instructions for entries on individual items in the body of the questionnaire. See pages 41-42 for descriptions of the occupations. If you have a copy of the *Dictionary of Occupational Titles* (DOT) Volumes I and II, third edition, you may wish to refer to the codes given at the end of the descriptions on pages 41-42.

Columns A through I: Selected Occupations

In making a count of the number of workers to be entered in columns A through I, include only those workers who spend more than one-half of their time in the specified occupations. See the section beginning on page 41 for descriptions of occupations. On all lines, the entries in column A should represent the sum of the entries in columns B and D, and the entries in column E should represent the sum of entries in columns F through I.

1. Employment

a. *Current, Line 01.* Enter the current total employment in each of columns A through I. Current employment pertains to workers employed at some time during the week the survey is made.

(1) *Age 50 years and over, Line 02.* In column A, enter the number of pilots and enter in column E the number of mechanics who are 50 years of age and over.

b. *Year ago, Line 03.* Enter in each of columns A through I the employment during the same week a year ago.

c. *Peak employment in 1967, Line 04.* Enter in each of columns A through I the 1967 peak employment, and enter in columns A and E in the parenthesis below, the name of the month this peak occurred.

d. *Replacement needs in 1968, Line 05.* Enter in each of columns A through I, the estimated number of workers you expect to need for replacements in 1968. Estimates of replacement needs should be the number of expected job separations due to workers (1) promoted to another occupation, and (2) leaving the labor force for such reasons as death, retirement, disability or entering the Armed Forces. Do *not* include workers who will leave to seek or accept other jobs, or workers expected to separate from your firm because of reduction in force, inadequate performance on the job or misconduct.

2. Current Vacancies

a. *Total, Line 10.* Enter for each of columns A through I the number of current unfilled job openings which are immediately available for filling by workers outside the firm and which the firm is actively seeking to fill. Include all part-time, permanent, and temporary vacancies. Exclude (1) jobs held for employees who will be recalled (2) jobs to be filled by transfer or demotion (3) jobs held for workers on paid or unpaid leave (4) jobs filled by overtime work which are not intended to be filled by new workers (5) job openings for which new workers are already hired and scheduled to start work at a later date, and (6) jobs unoccupied because of a labor-management dispute.

(1) *Less than 1 month, Line 11.* Enter in each of columns A and B, and D through I the number of job openings existing for less than 1 month.

(2) *One month or more, Line 12.* Enter in each of columns A and B, and D through I the number of job openings existing for 1 month or more. If an exact count is not available, an estimate will suffice.

Note: Entries for lines 11 and 12 should add to the totals entered in line 10.

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3. Projected Employment

a. *One year hence, Line 20.* Enter the estimated employment 1 year hence in each of columns A through I.

b. *Peak employment in 1968, Line 21.* enter in each of columns A through I the estimated 1968 peak employment, and enter in columns A and E in parenthesis below, the name of the month this peak is expected to occur.

c. *Peak employment in 1970, Line 22.* Enter in each of columns A through I the estimated 1970 peak employment.

(1) *Fixed-wing, Line 23.* Enter in columns A through D the estimated employment of fixed-wing pilots during the peak month in 1970.

(2) *Helicopter, Line 24.* Enter in columns A through D the estimated employment of helicopter pilots during the peak month in 1970.

Note: Entries for lines 23 and 24 should add to the total entered in line 22.

When making entries in lines 20, 21, and 22 please exercise care to insure that the employment data reflect total employment and not solely the additional workers needed. For example, if a firm has 100 pilots at the time of the survey and the number is estimated to increase by 20 in the following year, the total pilots 1 year hence should be reported as 120.

4. Training

a. *Number to be trained by firm in 1968, Line 30.* Enter in each of columns A through I the number of workers expected to complete formal company training programs for promotion to each of the specified occupations in 1968. Flight and ground schools should enter the number of trainees expected to graduate in 1968, and to be qualified for employment in the specified occupations described on pages 41-42.

5. Highest Rating Held

a. *Airline transport, Line 40.* Enter in each of columns A through D the number of pilots who possess an airline transport rating.

b. *Commercial, Line 41.* Enter in each of columns A through D the number of pilots whose highest rating is a commercial rating.

Note: The total of entries in lines 40 and 41 may be equal to but cannot exceed the number of pilots in line 01.

(1) *Instrument, Line 42.* Enter in each of columns A, B, and D the number of pilots with commercial ratings in Line 41 who also hold instrument ratings.

6. Certified to Fly

a. *Fixed-wing only, Line 50.* Enter in each of columns A, B, and D the number of pilots certificated to fly only fixed-wing aircraft.

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b. *Helicopter only, Line 51.* Enter in each of columns A, B, and D the number of pilots certificated only to fly helicopters.

c. *Fixed-wing and helicopter, Line 52.* Enter in each of columns A, B, and D the number of pilots certificated to fly both fixed-wing and helicopter aircraft.

Note: The total of entries in lines 50, 51, and 52 should equal the entry in line 01.

7. Hours Flown

Total pilot hours flown in past 12 months, Line 60. Enter in each of columns A, B, and D the total number of hours flown by pilots in your firm in the 12 months preceding the survey week. If this is not available, an estimate will suffice.

Comments

Please supply any information which would be helpful in analyzing future needs for pilots and mechanics. Examples are plans for expansion of facilities, increase in size of plane fleet, or technological changes or trends which may, in your opinion, point to the need for training programs for additional pilots and mechanics or upgrading the skills of those already in those occupations. Also explain changes in the nature and extent of formal company training programs planned in future years, or difficulty in recruiting to fill existing job vacancies, particularly vacancies open 1 month or longer.

Descriptions of Occupations

Columns A, B, and D: Pilots

Includes occupations concerned with piloting airplanes for the transportation of passengers, freight, and mail, and other purposes such as charting the courses of planes by the use of instruments, charts, celestial observation, and dead reckoning. Must be federally licensed. Includes occupations concerned with the supervision of flight operations and maintenance when a pilot's or navigator's license is required. Included are chief pilots, instructor pilots, check pilots, airline pilots, and executive pilots. (See *Dictionary of Occupational Titles*–DOT codes 196.168, .268, .283, and 621.281.)

Column C: Flight Engineer–Pilot

Although an individual must be a certificated pilot, he must also meet the qualifications of a flight engineer as described below:

Makes preflight, inflight, and postflight inspections, adjustments, and minor repairs to insure safe and efficient operation of aircraft. Inspects aircraft prior to takeoff for defects such as fuel or oil leaks and malfunction in electrical, hydraulic, or pressurization systems according to preflight checklist. Verifies passenger and cargo distribution, and amount of fuel to insure that weight and balance of specifications are met. Monitors control panel to verify aircraft performance, and regulates engine speed according to instructions of pilot (DOT code 621.281).

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Column D: Flight Instructor

Although an individual must be a certificated pilot, he must also meet the qualifications of a flight instructor as described below:

Trains new and experienced company airline pilots in policy and use of equipment. Instructs new pilots in company regulations and procedures. Conducts courses for experienced company pilots to familiarize them with new equipment. May conduct review courses for pilots. Also includes instructor pilots employed by certificated flight schools (DOT code 196.228).

Column F: Certificated Aircraft and Engine Mechanics

Services, repairs, and overhauls aircraft and aircraft engines to insure airworthiness; repairs, replaces, and assembles parts, such as wings, fuselage, tail assembly, landing gear, control cables, propeller assembly, and fuel and air tanks, using tools, such as power shears, sheet metal breaker, arc and acetylene welding equipment, rivet gun, and air and electric drills to rebuild or replace airframes or its components. Consults manufacturers' manuals and airlines' maintenance manuals for specifications, and to determine feasibility of repair or replacement according to malfunction (DOT code 621.281).

Column G: Certificated Airplane Electrician

Monitors and repairs airplane electrical equipment, using handtools. Examines conduits for breaks and weak areas before or after removal from airplane and replaces defective segments. Rewires airplane and arranges wiring and conduits so they do not become entangled or otherwise interfere with fuel lines or other equipment. Inspects and tests function boxes. Tests, repairs, and replaces airplane lighting systems including wiring, running, and landing light. Does not repair airplane ignition systems (DOT code 825.381).

Column H: Electronic Mechanics, as applied to Aviation

Repairs electronic equipment such as radar systems, telemetering systems, transmitters, antennas, and servomechanics, following blueprints and manufacturers' specifications, and using handtools and test instruments. Tests faulty equipment and applies knowledge of functional operation of electronic units and systems to diagnose cause of malfunction. Tests electronic components and circuits to locate defects, using instruments such as oscilloscopes, signal generators, ammeters, and voltmeters (DOT code 828.281).

Column I: Other Mechanics

Includes certificated radio, instrument, propeller, and specialized services mechanics not specified in the questionnaire. Also includes mechanics engaged in comparable work who have received some training in one or more of the aviation mechanic specialties but who are not certificated.

General Aviation

Questionnaire on Pilots and Aircraft Mechanics for Firms in General Aviation and Instructions for Completion

Except for items 1 and 7, all items in the heading of the questionnaire have been completed. Enter in item 1 the date the questionnaire is completed. Enter in item 7A (Fleet Size) the total number of

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planes in your firm at the time of the survey. The entry for 7A should be the sum of items 7B through 7E. Include planes owned as well as those rented or leased from other firms. Please note: Firms owning planes for the purpose of renting or leasing to other establishments should include only those planes in the firm which are not currently rented or leased. This distinction will avoid duplication in the overall count of planes.

For the purpose of this survey, please assume the following conditions when completing the questionnaire.

1. Qualified workers will be available to meet any anticipated employment needs.
2. The present long-term trend of economic growth of the United States will continue with no major setbacks for the next few years.
3. Scientific and technological advances will continue, affecting production methods, manpower requirements, and consumption patterns.
4. The present-day normal workweek at your firm will continue through the forecast periods.
5. Your current plans for expansion or modernization will materialize according to schedule.
6. Delivery of new planes will be on schedule.
7. Airport facilities will be adequate.
8. No further significant change in the international situation.
9. The Viet Nam conflict will neither abate nor accelerate.
10. No further call-ups of air reservists.

If your firm is engaged in more than one air-related activity such as an air taxi service, flight training, and operating an aircraft repair station, the data on the questionnaire should include all pilots and/or mechanics employed in all activities in all establishments of your firm.

Include data for pilots and mechanics stationed in foreign countries who are citizens of the United States.

Following are instructions for entries of individual items in the body of the questionnaire. See pages 46-47 for descriptions of the occupations. If you have a copy of the *Dictionary of Occupational Titles* (DOT) Volumes I and II, third edition, you may wish to refer to the codes given at the end of the descriptions on pages 46-47.

Selected Occupations

In making a count of workers to be entered in columns A and B, include only those workers who spend more than one-half of their time in these occupations. See the section beginning on page 46 for descriptions of occupations.

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1. Employment

a. *Current, Line 01.* Enter the current total employment in each of columns A and B. Current employment pertains to workers employed at some time during the week the survey is made.

(1) *Age 50 years and over, Line 02.* Enter the number of pilots and the number of mechanics who are 50 years of age and over.

b. *Year ago, Line 03.* Enter in each of columns A and B the employment during the same week a year ago.

c. *Peak employment in 1967, Line 04.* Enter in each of columns A and B the 1967 peak employment and enter in the parenthesis below, the name of the month this peak occurred.

d. *Replacement needs in 1968, Line 05.* Enter in each of columns A and B, the estimated number of workers you expect to need for replacements in 1968. Estimates of replacement needs should be the number of expected job separations due to workers (1) promoted to another occupation, and (2) leaving the labor force for such reasons as death, retirement, disability or entering the Armed Forces. Do not include workers who will leave to seek or accept other jobs, or workers expected to separate from your firm because of reduction in force, inadequate performance on the job or misconduct.

2. Current Vacancies

a. *Total, Line 10.* Enter in each of columns A and B the number of current unfilled job openings which are immediately available for filling by workers outside the firm and which the firm is actively seeking to fill. Include all part-time, permanent, and temporary vacancies. Exclude (1) jobs held for employees who will be recalled (2) jobs to be filled by transfer or demotion (3) jobs held for workers on paid or unpaid leave (4) jobs filled by overtime work which are not intended to be filled by new workers (5) job openings for which new workers are already hired and scheduled to start work at a later date, and (6) jobs unoccupied because of a labor-management dispute.

(1) *Less than 1 month, Line 11.* Enter in each of columns A and B the number of job openings existing for less than 1 month.

(2) *One month or more, Line 12.* Enter in each of columns A and B the number of job openings existing for 1 month or more. If an exact count is not available, an estimate will suffice.

Note: Entries for lines 11 and 12 should add to the totals entered in line 10, total number of vacancies.

3. Projected Employment

a. *One year hence, Line 20.* Enter the estimated employment 1 year hence in each of columns A and B.

b. *Peak employment in 1968, Line 21.* Enter the estimated 1968 peak employment and enter in the parenthesis below, the name of the month this peak is expected to occur in each of columns A and B.

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c. *Peak employment in 1970, Line 22.* Enter the estimated 1970 peak employment in each of columns A and B.

(1) *Fixed-wing, Line 23.* Enter in column A the estimated employment of fixed-wing pilots during the peak month in 1970.

(2) *Helicopter, Line 24.* Enter in column A the estimated employment of helicopter pilots during the peak month in 1970.

Note: Entries for lines 23 and 24 should add to the total entered in line 22.

When making entries in lines 20, 21, and 22 please exercise care to insure that the employment data reflect total employment and not solely the additional workers needed. For example, if a firm has 100 pilots at the time of the survey and the number is estimated to increase by 20 in the following year, the total pilots 1 year hence should be reported as 120.

4. Training

a. *Number to be trained by firm in 1968, Line 30.* Enter in each of columns A and B the number of workers expected to complete formal company training programs for promotion to each of the specified occupations in 1968. Flight and ground schools should enter in each of columns A and B the number of trainees expected to graduate in 1968 and be qualified for employment in the specified occupations described on pages 41-42 of this attachment.

5. Highest Rating Held

a. *Airline transport, Line 40.* Enter the number of pilots who possess an airline transport rating.

b. *Commercial, Line 41.* Enter the number of pilots whose highest rating is a commercial rating.

Note: The total of entries in lines 40 and 41 may be equal to but cannot exceed, the number of pilots in line 01.

(1) *Instrument, Line 42.* Enter the number of pilots with commercial ratings in line 41 who also hold instrument ratings.

6. Certified to Fly

a. *Fixed-wing only, Line 50.* Enter the number of pilots certificated to fly only fixed-wing aircraft.

b. *Helicopter only, Line 51.* Enter the number of pilots certificated only to fly helicopters.

c. *Fixed-wing and helicopter, Line 52.* Enter the number of pilots certificated to fly both fixed-wing and helicopter aircraft.

Note: The total of entries in lines 50, 51, and 52 should be equal to the entry in line 01.

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7. Hours Flown

Total pilot hours flown in past month, Line 60. Enter the total number of hours flown by pilots in your firm in the 12 months preceding the survey week. If this is not available, an estimate will suffice.

Comments

Please supply any information which would be helpful in analyzing future needs for pilots and mechanics. Examples are plans for expansion of facilities, increase in size of plane fleet, or technological changes or trends which may, in your opinion, point to the need for training programs for additional pilots and mechanics or upgrading the skills of those already in those occupations. Also explain changes in the nature and extent of formal company training programs planned in future years, or difficulty in recruiting to fill existing job vacancies, particularly vacancies open 1 month or longer.

Descriptions of Occupations

Pilots (Column A)

Includes occupations concerned with piloting airplanes for the transportation of passengers, freight, mail, agricultural operations, photography, and other purposes such as charting the courses of planes by the use of instruments, charts, celestial observation, and dead reckoning. Must be federally licensed. Includes occupations concerned with the supervision of flight operations and maintenance when a pilot's or navigator's license is required. Included are chief pilots, instructor pilots, check pilots, airline pilots, and executive pilots. (See *Dictionary of Occupational Titles*–DOT codes 196.168, .268, and .283.)

Mechanics (Column B)

1. Flight Engineer

Makes preflight, inflight, and postflight inspections, adjustments, and minor repairs to insure safe and efficient operation of aircraft. Inspects aircraft prior to takeoff for defects such as fuel or oil leaks and malfunction in electrical, hydraulic, or pressurization systems according to preflight checklist. Verifies passenger and cargo distribution, and amount of fuel to insure that weight and balance of specifications are met. Monitors control panel to verify aircraft performance, and regulates engine speed according to instructions of pilot (DOT code 621.281).

2. Certificated Aircraft and Engine Mechanics

Services, repairs, and overhauls aircraft and aircraft engines to insure airworthiness; repairs, replaces, and assembles parts, such as wings, fuselage, tail assembly, landing gear, control cables, propeller assembly, and fuel and air tanks, using tools, such as power shears, sheet metal breaker, arc and acetylene welding equipment, rivet gun, and air and electric drills to rebuild or replace airframes of its components. Consults manufacturers' manuals and airlines' maintenance manuals for specifications, and to determine feasibility of repair or replacement according to malfunction (DOT code 621.281).

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3. Certificated Airplane Electrician

Monitors and repairs airplane electrical equipment, using handtools. Examines conduits for breaks and weak areas before or after removal from airplane and replaces defective segments. Rewires airplane and arranges wiring and conduits so they do not become entangled or otherwise interfere with fuel lines or other equipment. Inspects and tests function boxes. Tests, repairs, and replaces airplane lighting systems including wiring, running, and landing light. Does not repair airplane ignition systems (DOT code 825.381).

4. Electronic Mechanics, as applied to Aviation

Repairs electronic equipment such as radar systems, telemetering systems, transmitters, antennas, and servomechanics, following blueprints and manufacturers' specifications, and using handtools and test instruments. Tests faulty equipment and applies knowledge of functional operation of electronic units and systems to diagnose cause of malfunction. Tests electronic components and circuits to locate defects, using instruments such as oscilloscopes, signal generators, ammeters, and voltmeters (DOT code 828.281).

5. Other Mechanics

Include certificated radio, instrument, propeller, and specialized services mechanics not specified in the questionnaire. Also includes mechanics engaged in comparable work who have received some training in one or more of the aviation mechanic specialties but who are not certificated.

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Appendix C. USTES Survey Scope and Methodology

The April, 1968 survey of pilots and mechanics in civil aviation conducted by the U.S. Training and Employment Service (USTES) and the affiliated State employment security agencies covered all civil air carriers, about 10 percent of the estimated number of firms in general aviation, and the three military services of the U.S. Department of Defense. Descriptions of industry divisions and sectors included appear in appendix A.

Format of Survey Questionnaire

The questionnaire used in the survey was developed with the assistance and concurrence of the Federal Aviation Administration and the Department of Defense, the two agencies sponsoring the study. Space limitations on the questionnaire, and the effort to keep it as simple as possible, prevented the gathering of more detailed information.

The questionnaire used to survey the civil air carriers differed slightly from that designed for general aviation firms. While "line item" totals were the same on both questionnaires, that for civil air carriers requested detailed information on various categories of pilots and mechanics. The questionnaire for general aviation firms requested information only on totals for pilots and mechanics. Copies of the two questionnaires and instructions for their completion are included in Appendix B.

Survey Conducted by State Agencies

The survey was by mail and was conducted by the local offices of the State employment security agencies affiliated with the U.S. Department of Labor's Manpower Administration. Each State agency was furnished with lists of selected names and addresses of firms to be surveyed in its State. At least one followup by mail was made on every nonrespondent. Fund limitations restricted the number of personal followups that could be made as part of the study.

Assumptions for Respondents

Employers were asked to assume the following in making their projections of employment:

1. Qualified workers will be available to meet any anticipated employment needs.
2. The present long-term trend of economic growth of the United States will continue with no major setbacks for the next few years.
3. Scientific and technological advances will continue, affecting production methods, manpower requirements, and consumption patterns.
4. The present-day normal work-week of the firm will continue through the forecast periods.
5. Current plans for expansion or modernization will materialize according to schedule.
6. Delivery of new planes will be on schedule.
7. Airport facilities will be adequate.

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8. There will be no significant change in the international situation.

9. The Viet Nam conflict will neither abate nor accelerate.

10. There will be no further call-ups of air reservists.

Complete listings of establishments to use as a basis for sample selection were not readily available in many of the individual air transportation categories. However, after exploration with industry associations and other sources in the various sectors, USTES staff developed a reasonably complete listing of employers upon which the survey sample was based.

Listed below are the aviation categories covered in the survey and the sources of firm names used in drawing the sample for each category.

Category	Source
Civil Air Carriers	
Certificated route air carriers	Air Transport Association of America
Other (supplemental, commercial and intrastate carriers)	Federal Aviation Administration
General Aviation	
Executive transportation	National Business Aircraft Association
Aerial application	National Aerial Applicators Association, and State Aerial Applicator Associations
Air taxi, pilot and mechanic schools, and	FAA directories and the World Aviation Directory
Industrial/special	National Aerial Photographic Association, and firms indicating special activities on their questionnaires
Government–Federal nondefense, State, and local	National Association of Aviation Officials, and State employment security agencies. Coast Guard, FAA, TVA, Justice, Agriculture, and Interior. The remaining Federal agencies indicated that very few or no pilots or mechanics were employed.
Department of Defense	Army, Navy, Air Force

Cooperation Received

The U.S. Training and Employment Service and the affiliated State agencies received fine cooperation and assistance from many sources in obtaining responses from surveyed establishments and firms. The General Aviation District Offices (GADOS) of the FAA contacted and obtained responses from a number of aerial application firms, flight and ground schools, and repair stations which had failed to respond initially. In addition, these GADOS provided the State agencies with information on FAA-certificated aviation schools in selected labor areas for use in preparing

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statements assessing the current labor supply-demand and training situation for pilots and mechanics. The Air Transport Association of America, an organization of the scheduled airlines, encouraged all of its members in advance to complete and return the questionnaires. Moreover, the ATA supplied estimates of missing data on airline questionnaires and followed up on questionnaires from selected nonresponding airlines.

Problems Encountered in the Survey

The identification and survey of firms in the civil air carrier division presented relatively few problems because of the relatively small number of firms. Most air carriers are members of the Air Transport Association of America, and most are required to make reports to the Civil Aeronautics Board on their employment and operations.

This was not true of the survey of general aviation firms, however. As a result of the problems encountered in covering this division of the industry, special procedures for the collection of data had to be developed.

The assembly of sufficiently large lists of establishment names in each of the general aviation sectors from which to draw a 10-percent sample was a major problem. The lists of establishments available from membership rosters of various associations of aviation-oriented firms represented only a portion of the estimated total. For example, the membership directory of the National Business Aircraft Association contained less than 1,000 names—a total considerably lower than the estimated total number of firms using planes for transportation of business executives. Moreover, many membership lists included firms certificated by the FAA for two or more aviation activities. The FAA directories are limited to "certificated" schools, air taxi firms, and aircraft repair stations. The identification of firms in the industrial/special category was particularly difficult as this activity was usually a sideline for many firms. Firms known as "fixed base operators," were also difficult to categorize for purposes of the survey since they engage in multiple aviation services.

Finally, there was the problem of assuring adequate response due to: (1) the absence of any overall organization of these firms to encourage response; (2) the inclination of many firms to distrust the government's motive in requesting the information; (3) the lack of incentive for many firms to complete the questionnaire because of their failure to appreciate the ultimate benefits of the study; and, finally, (4) the large turn-over among these firms, resulting in no response from firms no longer in business.

Establishment Response in Survey

The overall establishment response rate for the survey was 53 percent, with civil air carriers showing a higher rate as follows:

Number of questionnaires[1]	*Total*	*Civil Air Carriers*			*General aviation*
		Total	*Certificated route carriers*	*Other*	
Sent	2,364	88	42	46	2,276
Received	1,251	55	34	21	1,196
Percent response	53	63	81	46	52

[1] Excludes the three military services and 112 questionnaires received from various State and local government establishments in 40 States.

The coverage of pilot and mechanic employment by certificated route air carriers was substantially higher than the 81 percent establishment response rate would indicate. The

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nonrespondents in the sector were mainly small carriers employing comparatively few pilots and mechanics.

Adjustments to Survey Data

The civil air carriers participating in the survey appeared to overestimate their short-term growth in pilots and mechanics. For example, the certificated route carriers indicated an increase of 8.2 percent in pilot employment between 1967 and 1968, or nearly double the actual increase of 4.5 percent subsequently reported by the Federal Aviation Administration. Accordingly, the survey data for 1968 were adjusted to show the actual rate of growth. Corresponding adjustments were made for other years on the assumption that the carriers also overestimated their prospective pilot employment growth. These adjustments affected projected gains between 1968 and 1969, and between peak employment in 1968 and peak employment in 1970. Appropriate adjustments were also made in the data for civil air carrier mechanics. However, no adjustments were made in the survey data for general aviation firms as no FAA "base employment" data were available for any year.

Inflation of Survey Data to National Totals

The 1967 and 1968 survey employment data for pilots and mechanics in civil air carrier firms were inflated to national totals on the basis of their relationship to the FAA figures for employment on certificate route air carriers for those years. Except for "hours flown by pilots," the other items on the questionnaire were inflated by the same factor as used to inflate the 1968 employment. "Hours flown" were inflated by the same factor used to inflate the 1967 employment, since this item was for "the past 12 months."

The survey employment data for general aviation firms were inflated to national totals by the ratio of the BLS employment estimates for 1967 to the survey employment data for 1967. (See U.S. Bureau of Labor Statistics, *Requirements for Pilots and Mechanics in Civil Aviation, 1967-77,* May 12, 1969).

Interpretation of Questionnaire Data

Peak Employment: Employers were asked for the month and level of peak employment for pilots and mechanics in 1967, 1968, and 1970. While the "peak employment" figure for a single employer would be valid, the sum of these figures probably would overstate the peak employment for the Nation. This is due to the fact that the individual employer peak months were spread over the year.

Training: Respondents were asked to report the number of persons expected to complete formal company training in 1968 for promotion to, or to qualify for, specified pilot and mechanic occupations in 1968. There were clear indications on many questionnaires that both employers and schools reported, instead, the number of employees or students in training. For this reason, these data are overstated.

Editing the Questionnaires: In addition to checking for internal consistency and arithmetical balance, each general aviation questionnaire was reviewed to determine that the firm was classified in the category most representative of its major activity, i.e., air taxi, school, aerial applicator, etc., as many firms indicated more than one activity.

Maintenance workers: The BLS and FAA data for civil air carrier mechanics include an estimated 3,000 maintenance workers, i.e., carpenters, electricians, etc., who work in air transportation establishments, but who are not considered aviation mechanics. The USTES survey data exclude these workers; they cover aircraft mechanics only.

Part II
Long-Range Manpower Requirements

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Summary

During the past two decades, airplane pilots and mechanics have been among the Nation's fastest growing occupations. In 1967, nearly 60,000 pilots and 103,500 mechanics were employed by the civil aviation industry. A continuation of this rapid employment expansion is expected during the 1967-77 period. The purpose of this study was to anticipate future needs and to establish, where data permitted, a sound procedure for estimating future requirements for these highly trained workers.

The projections presented in this study are based on the levels of aviation activity forecast by the Federal Aviation Administration (FAA).[1] Therefore, in evaluating the estimates of future manpower requirements, the assumptions underlying the FAA forecasts should be borne in mind. FAA defines the essential elements supporting its forecasts as:

> A continuing high rate of growth in the economy as measured by GNP and the assumption that the passenger fare structure will continue to decline. Gross national product is forecast at an average real growth rate of 4.25 percent, and average fares are forecast to decline, in real terms, between 2 and 3 percent per year.[2]

The FAA projections of aviation activity also were developed under the implicit assumption that the Viet Nam hostilities would not continue into the 1970's.

Expansion of employment in civil aviation is expected to be very rapid during the 1967-77 decade. Growth of the U.S. air carrier sector of civil aviation will be stimulated primarily by the rising transportation needs of the Nation's growing population, coupled with a continuing shift to air travel at the expense of other modes of commercial transportation. General aviation activity will continue to expand, spurred by population growth, rising personal and business incomes, and increased leisure time. Convenience and competitive advantage will attract more and more business firms to operate their own aircraft. The rising need for fast, convenient transportation service from airport to downtown business centers or other airports and between smaller urban areas will increase the need for air-taxi service. Growth in activities such as crop dusting, pipeline patrolling, and the use of aircraft in certain construction activities also will contribute to the growth of general aviation. In Federal, State and local governments, flying activities will continue to expand slowly, as aircraft are used increasingly in activity such as traffic surveillance, forest conservation protection programs, and flight instruction at public institutions.

The expansion of all civil aviation activities depends on the availability of qualified airplane pilots and mechanics. Requirements for pilots in civil aviation, resulting from both occupational employment growth and replacement needs, are expected to be approximately 60,000 through the decade ending in 1977. (See table 1.) More than 82 percent of total employment requirements, or about 50,000 workers, will result from growth as pilot employment requirements increase from an estimated 60,000 in 1967 to a projected 110,000 by 1977. (See table 2.) Approximately three-fifths, or about 37,000 of all pilot requirements will be needed during the 1973-77 period. The general aviation sector of the industry alone will require over 36,000 new pilots over the decade, with more than half of these needs occurring in the last half of the projection period. Total requirements for aircraft mechanics throughout civil aviation are expected to number 75,000, and most of these requirements will result from occupational growth as mechanic employment needs increase sharply from approximately 104,000 to 164,000 between 1967 and 1977. Unlike the situation for pilots, however, the need for mechanics is divided more equally between the first and second half of the projection period. Of the 75,000 new mechanics that will be needed, two-thirds, or 50,000, will be employed in general aviation.

[1] New air carrier forecasts to 1979 have been released recently by the FAA. Although direct comparisons for the target year 1977 cannot be made, indications are that several key variables (e.g., number of aircraft hours flown) may be somewhat higher in the more recent report. Consequently, the projections of pilot and mechanic requirements presented in this report may be understated, particularly in a specific flying activity, such as instructional flying, to the extent that the FAA forecasts for 1977 have been revised. Overall, however, such changes should not change substantially the future pilot and mechanic employment requirements shown in this report.

[2] *Aviation Forecasts Fiscal Years 1967-1977* (Federal Aviation Administration, January 1967), p. 3.

Note: The Federal Aviation Administration designation has changed recently from the Federal Aviation Agency. The title Federal Aviation Administration is used in this study to apply to both designations.

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Table 1. Projected requirements for pilots and mechanics resulting from employment growth and from retirements and deaths, by sector of civil aviation, 1968-77, 1968-72, and 1973-77

Occupation and civil aviation sector	Projected requirements									Average annual requirements 1968-77
	1968-77			1968-72			1973-77			
	Total requirements	Growth	Replacements	Total requirements	Growth	Replacements	Total requirements	Growth	Replacements	
Pilots	60,200	49,600	10,600	23,400	19,600	3,900	36,800	30,100	6,800	6,000
Air carriers	22,800	18,000	4,800	6,500	5,000	1,500	16,300	13,000	3,300	2,300
General aviation	36,200	30,700	5,500	16,300	14,100	2,200	19,900	16,600	3,300	3,600
Government	1,200	900	300	600	500	200	600	500	200	100
Mechanics	75,000	60,400	14,600	37,200	30,700	6,500	37,900	29,700	8,200	7,500
Air carriers	24,700	18,000	6,700	12,100	9,000	3,100	12,600	9,000	3,600	2,500
General aviation	50,200	42,400	7,800	25,000	21,700	3,300	25,200	20,700	4,500	5,000
Government	100	--	100	100	--	100	100	--	100	(1/)

1/Less than 50.
2/Employment estimates in this bulletin are for 1967; projected requirements reflect the 1968 to 1977 period.

NOTE: Individual items may not add to totals due to rounding.

SOURCE: Bureau of Labor Statistics.

Table 2. Employment of pilots and mechanics, by sector of civil aviation, estimated 1967 and projected employment requirements, 1972 and 1977

Occupation and civil aviation sector	Estimated 1967 employment	Employment requirements		Net growth		
		1972	1977	Total 1968-77	1968-72	1973-77
Pilots	60,100	79,700	109,700	49,600	19,600	30,100
Air carrier	33,100	38,100	51,100	18,000	5,000	13,000
General aviation	25,000	39,200	55,700	30,700	14,100	16,600
Government1/	2,000	2,400	2,900	900	500	500
Mechanics	103,500	134,200	163,900	60,400	30,700	29,700
Air carrier	52,000	61,000	70,000	18,000	9,000	9,000
General aviation	50,400	72,100	92,800	42,400	21,700	20,700
Government1/	1,100	1,100	1,100	--	--	--

1/Excludes all civilian pilots and mechanics employed by U.S. Department of Defense as well as military personnel.

NOTE: Individual items may not add to totals due to rounding.

SOURCE: Bureau of Labor Statistics.

Chapter I. U.S. Air Carrier Industry[3]

The U.S. air carrier industry is one of the fastest growing industries in the United States. As illustrated in chart 1, the number of domestic intercity passenger miles flown by scheduled air carriers has grown at a tremendous pace during the 1950's and 1960's. Commercial motor carrier passenger miles declined from 1951 through 1959, then moved upward through 1966 but did not exceed the 1951 level. Since 1951, intercity passenger miles traveled by railroads have declined.[4]

As table 3 indicates, only 10.3 billion revenue passenger miles (including domestic and international) were flown by air carriers in 1950; yet, by the end of the decade this number had nearly quadrupled, reaching 37.8 billion in 1959. The rapid rise in passenger traffic continued unabated into the present decade, and by 1967 revenue passenger miles topped 111.8 billion. Other indicators of airline activity showed similar increases. Between 1950 and 1967, revenue ton-miles grew from 1.4 billion in 1950 to 15.7 billion; revenue passenger originations jumped from 19.5 million to 135.4 million.[5]

Although employment has increased at a rapid pace, the growth in the volume of air carrier traffic has been much greater. This faster growth in traffic has been possible because of rapid productivity gains in the industry. Improvements in aircraft and a myriad of other innovations, ranging from improved baggage handling techniques to the introduction of computerized reservation procedures, have produced a rapid rise in output per man-hour. According to a recent BLS study, "output per employee indexes for the air transportation industry have increased at a rate of almost 8 percent a year since 1947, the highest rate for any major industry. As a result of this rate of gain, productivity levels in 1966 were five times greater than in 1947. By contrast, output per worker in the total private economy during the same period increased at an annual average rate of only 2.8 percent."[6] The growth in traffic, however, increased faster than the gains in productivity and resulted in the rapid growth of employment levels experienced by the industry during the past two decades.

Industry outlook

During the 1967-77 decade, the Nation's air carriers are expected to undergo further expansion. In 1977, scheduled route air carriers are expected to fly a total of 266 billion revenue passenger miles, compared with an estimated 87.5 billion in 1967, an increase of 204 percent. (See table 6.) This growth represents an annual increase of nearly 12 percent, almost equal to the annual rate of growth experienced during the 1950-67 period, but substantially lower than the average growth of 20 percent reported for 1964-67.[7] Increases in air freight volume are anticipated to be even greater. Freight and express revenue ton-miles accounted for only 11 percent of total revenue ton-miles in 1947, yet by 1966, it had increased to about 25 percent.[8] Even faster growth is expected in the coming decade with the advent of aircraft specially designed to carry cargo. Such aircraft will make possible faster service at reduced rates, which will attract additional customers. Because of larger, more

Table 3. Scheduled and nonscheduled route air carrier activity, selected measures, 1950, 1955, 1958-67

[In thousands of miles flown]

Year	Revenue passenger miles	Revenue cargo ton-miles	Revenue ton-miles	Revenue aircraft miles
1950	10,343,000	380,385	1,397,670	488,227
1955	24,732,502	682,885	3,087,808	800,499
1958	32,967,549	951,578	4,120,228	1,022,044
1959	37,782,162	1,104,424	4,734,093	1,081,678
1960	40,049,643	1,173,816	5,024,283	1,040,058
1961	41,791,655	1,372,831	5,394,631	1,017,090
1962	46,269,857	1,780,437	6,238,261	1,074,044
1963	53,216,469	1,756,272	6,860,302	1,143,890
1964	61,798,668	2,058,097	8,015,942	1,239,127
1965	73,215,954	2,807,221	9,894,983	1,418,373
1966	88,142,740	3,862,774	12,440,855	1,602,785
1967	111,778,520	4,760,382	15,683,236	2,009,032

SOURCE: 1950: BLS Estimates Based on *Handbook of Airline Statistics*, 1965 Edition, (Civil Aeronautics Board). 1955, 1958-64: *Handbook of Airline Statistics*, 1965 Edition, (Civil Aeronautics Board), p. 129. 1965-66: FAA *Statistical Handbook of Aviation*, 1967 Edition (Federal Aviation Administration), pp. 160-161. 1967: Unpublished Data from the Federal Aviation Administration.

[3] The U.S. air carrier industry, as covered in this report, includes (1) scheduled and nonscheduled domestic and international route airlines, (2) supplemental air carriers authorized to perform passenger and cargo charter service, and (3) commercial-operator air carriers that do business on a private for-hire basis.

[4] Since employment and traffic data are incomplete for supplemental and commercial-operator air carriers, the discussion of past trends is limited to the (scheduled and nonscheduled) route air carriers. However, in the discussion of projected employment requirements, the needs of all U.S. certified air carriers, including the supplemental and commercial operators, are taken into account.

[5] *FAA Statistical Handbook of Aviation*, 1958 through 1967 Editions, (Federal Aviation Administration).

[6] Joseph E. Dragonette and Chester Myslicki, "Air Transport: Trends in Output Per Employee," *Monthly Labor Review* (U.S. Department of Labor, Bureau of Labor Statistics, February 1968), pp. 13-16.

[7] *Aviation Forecasts, Fiscal Years 1967-1977* (Federal Aviation Administration, January 1967), p. 20.

[8] Dragonette and Myslicki, op. cit., p. 16.

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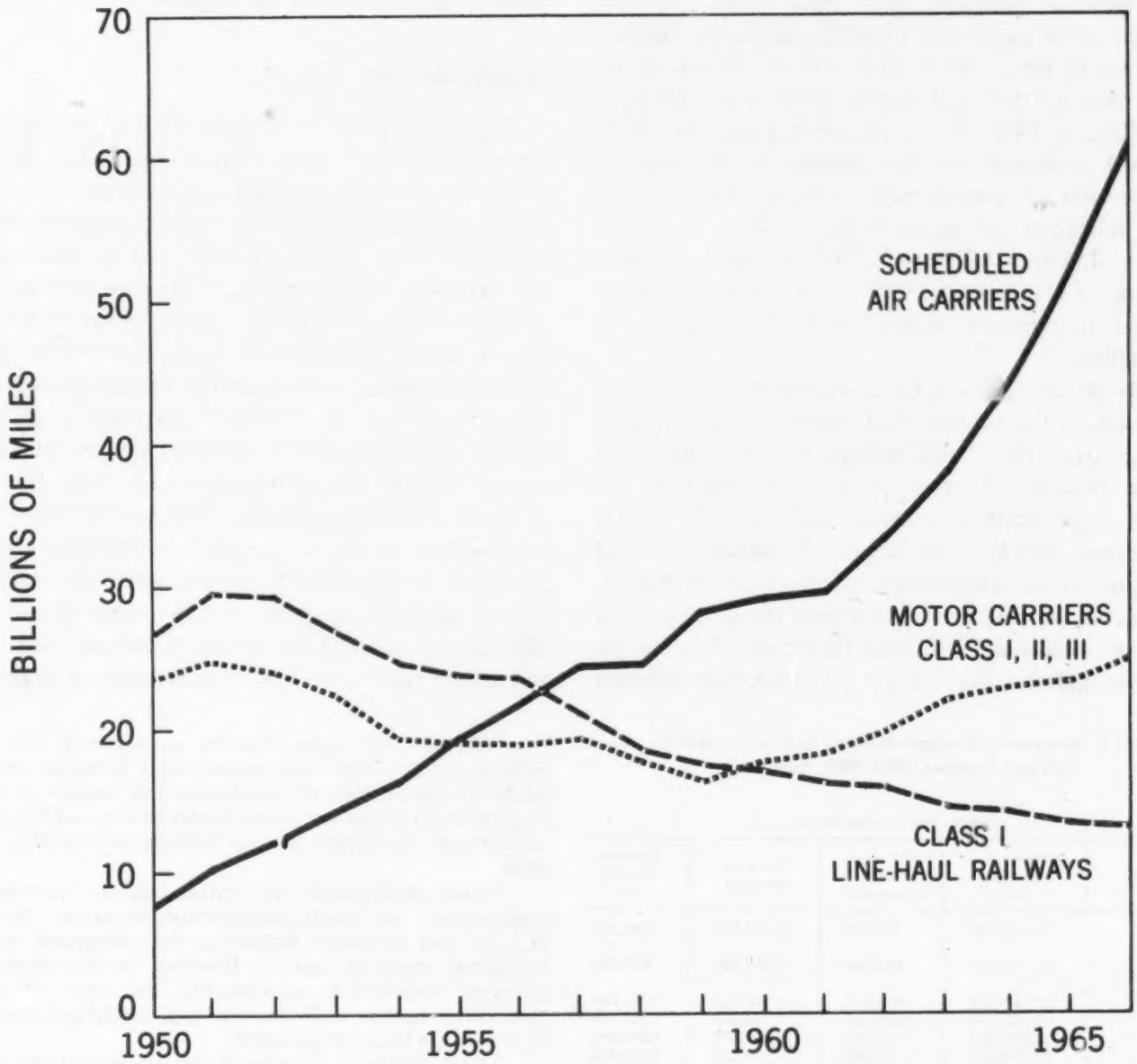
CHART 1

DOMESTIC INTERCITY PASSENGER-MILES, SELECTED CARRIERS, 1950-66



SOURCES: FAA STATISTICAL HANDBOOK OF AVIATION, (FEDERAL AVIATION ADMINISTRATION), 1962 AND 1967 EDITIONS.

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Table 4. Aircraft in certificated route air carrier operations, by type of aircraft, 1950, 1955, 1958-67

Year	Fleet size	Aircraft type			
		Piston	Turboprop	Turbojet	Helicopter
1950 . .	1,179	1,168	--	--	11
1955 . .	1,480	1,453	8	--	19
1958 . .	1,895	1,777	90	6	22
1959 . .	1,850	1,530	213	84	23
1960 . .	1,867	1,413	227	202	25
1961 . .	1,877	1,282	257	319	19
1962 . .	1,831	1,164	251	396	20
1963 . .	1,832	1,136	250	426	20
1964 . .	1,863	1,026	259	558	20
1965 . .	1,896	867	296	712	21
1966 . .	2,027	676	352	978	21
1967 . .	2,188	460	414	1,292	22

SOURCE: 1950: *FAA Statistical Handbook of Aviation*, 1960 edition, op. cit. 1955: *FAA Statistical Handbook of Aviation*, 1963 edition, op. cit., table 7.3, p. 83. 1958-1966: *FAA Statistical Handbook of Aviation*, 1967 edition, op. cit., table 7.8, p. 83. 1967: *Facts and Figures, 1968* (Air Transport Association of America, Washington, D.C.), p. 38

powerful aircraft that are now in the development and testing stages, all indications point toward a substantial increase in air-freight activity during the next decade.

The size and composition of the aircraft fleet are expected to change substantially during the next decade. According to FAA estimates, the number of aircraft operated by U.S. air carriers will grow from an estimated 2,337 in 1967 to 3,500 in 1977. (See table 7.) The growing volume in both passengers and freight will increase aircraft requirements. During the past decade, fleet size has remained relatively stable, as the increases in passenger and freight volume largely were absorbed through the transition to larger capacity and faster aircraft. Between 1958 and 1964, the number of aircraft in operation remained approximately the same, yet available seat miles doubled from 55 billion to 110 billion and revenue cargo ton-miles more than doubled from about 1 billion to slightly over 2 billion. (See table 3.) Future increases in aircraft capacity and speed will be more than offset by the growth expected in passenger and freight volume and will result in an increase in the fleet size and change in its composition. (See table 7.)

The number of aircraft operated by route air carriers also has grown but at a far slower pace; this figure increased from 1,179 in 1950 to 2,188 in 1967. (See table 4.) The rapid growth in traffic unaccompanied by a corresponding increase in fleet size was possible because of the transition from the piston powered aircraft of the early 1950's to turboprop and turbojet aircraft which are larger and faster. Turbine powered aircraft were utilized for the first time in the air carrier service in 1955. The first pure jets, or turbojets, were put into service in 1958. By 1967, turbine powered aircraft made up over three-fourths of the route air carrier fleet; turbojets alone accounted for nearly three-fifths of all aircraft.

[9] For the purpose of this study, pilots are defined as all cockpit personnel including pilots, copilots, flight engineers, and navigators.

Employment trends

Pilots. In response to the rapid increase in the demand for air travel, employment in the U.S. air carrier industry also has undergone a dramatic increase. As table 5 shows, only 86,000 workers were employed by certificated route air carriers in 1950. Throughout the 1950's employment increased steadily as the volume of passenger traffic moved upward. By 1960, employment had reached 167,300 workers, an increase of 95 percent during the decade. Employment continued to expand during the early 1960's and by 1967 reached a high of 276,000 workers. Between 1950 and 1967, employment in the route airlines increased 221 percent, far outstripping the growth rate reported in nearly every major industry.

During the same period, employment in manufacturing increased only 27 percent; finance, insurance, and real estate, 68 percent; and transportation and public utilities, 6 percent. (See chart 2.)

In 1967, about 31,000 pilots[9] were employed by U.S. certificated route air carriers, and another 2,000 were estimated to be employed by suplemental and commercial operator air carriers. (See table 8.) The number of pilots employed by certificated route air

Table 5. Total employment and pilot and mechanic employment in certificated route air carriers, 1950, 1955, 1958-67

Year	Total air carrier employment	Pilots 1/	Mechanics 2/
1950	85,900	9,500	20,500
1955	126,900	14,600	30,400
1958	152,100	17,600	30,800
1959	165,500	18,800	32,800
1960	167,300	17,500	34,500
1961	169,941	18,098	34,065
1962	172,827	17,971	34,925
1963	178,887	18,310	34,453
1964	191,818	19,551	39,360
1965	210,795	21,972	41,667
1966	243,701	27,807	45,327
1967	276,023	30,956	50,016

1/ Include pilots, copilots, flight engineers, and navigators.

2/ Includes small number of other maintenance workers, such as carpenters and electricians, that are included in Federal Aviation Administration statistics covering mechanics.

SOURCE: 1950, 1955, 1958-60: *Employment Requirements and Changing Occupational Structure in Civil Aviation*, (BLS Bulletin 1367, June 1964), table 8, p. 18. 1961-66: *FAA Statistical Handbook of Aviation*, op. cit., 1962-67 Editions. 1967: *Facts and Figures, 1968*, op. cit., p. 40.

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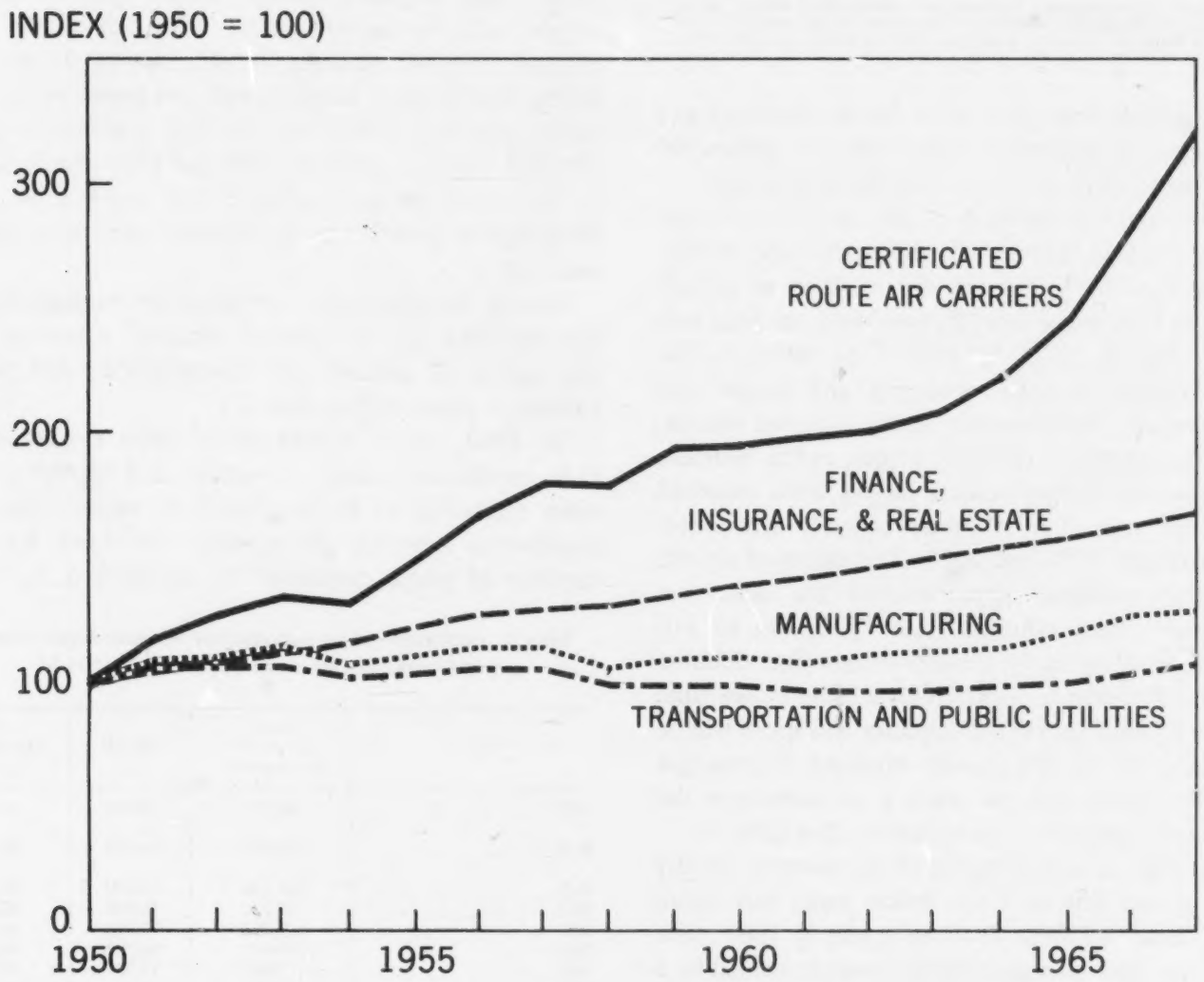
CHART 2

EMPLOYMENT IN U.S. CERTIFICATED ROUTE AIR CARRIERS, AND SELECTED INDUSTRY GROUPS, 1950-67



SOURCE: AIR CARRIER EMPLOYMENT – FAA STATISTICAL HANDBOOK OF AVIATION, op. cit., 1958 THROUGH 1967 EDITIONS.

OTHER INDUSTRIES – EMPLOYMENT AND EARNINGS STATISTICS FOR THE UNITED STATES 1909-68, (BUREAU OF LABOR STATISTICS, AUGUST 1968).

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Table 6. Revenue passenger miles flown by scheduled route air carriers, by type of traffic, estimated 1967 and projected 1972 and 1977

Type of traffic	Estimated 1967	Projected		Percent increase 1967-77
		1972	1977	
Revenue passenger miles (billions) . .	87.5	149.0	266.0	204
Domestic	66.1	112.0	200.0	203
International	21.4	37.0	66.0	208

SOURCE: *Aviation Forecast Fiscal Years 1967-1977,* (Federal Aviation Administration, January 1967,) table 1, p. 20.

carriers has grown substantially during the 1950's and 1960's. As shown in table 5, fewer than 10,000 pilots were employed by these air carriers in 1950. During the 1950's, employment grew rapidly and reached nearly 19,000 by 1959. Little change in pilot employment occurred during the early 1960's. However, since 1964, the number of pilots employed by certificated route air carriers has grown by over 58 percent, increasing from 19,600 in 1964 to nearly 31,000 in 1967. Pilots employed by supplemental and commercial operator air carriers increased from fewer than an estimated 1,000 in 1950 to about 2,200 in 1967.

In general, pilot employment has grown in response to an acceleration in the demand for air transportation services. However, although measures of output, such as revenue passenger miles flown or revenue ton-miles flown, have increased at a fairly constant rate since 1950, pilot employment has grown in a more irregular manner. These varying trends result primarily from factors influencing pilot productivity. Overall, pilot productivity increased dramatically during the 1950's and 1960's. Revenue passenger miles flown grew tenfold during this period, whereas pilot employment only tripled. These gains in productivity resulted primarily from the introduction of larger and faster aircraft.

Table 7. Total aircraft in the service of U.S. air carriers, estimated 1967 and projected 1972 and 1977

Aircraft type	Estimated 1967	Projected		Percent change 1967-77
		1972	1977	
Total aircraft	2,337	2,875	3,500	+ 50
Fixed wing aircraft	2,315	2,847	3,470	+ 50
Jet	1,044	2,194	2,923	+180
Turboprop	396	402	488	+ 23
Piston	875	251	59	- 93
Helicopter	22	28	30	+ 36

NOTE: Total aircraft in service differs from aircraft in certification route air carrier operations (table 4 of this report) in that it includes aircraft operated by supplemental and commercial operator air carriers.

SOURCE: *FAA Aviation Forecasts Fiscal Years 1967-1977,* (Federal Aviation Administration, January 1967) table 3, p. 22.

Between 1958 and 1963, the shift toward jet-powered aircraft was largely responsible for a 61 percent increase in revenue passenger miles flown, but pilot employment did not increase. Over the long run, however, growth in traffic volume has more than offset productivity gains and the net effect has been a rise in the requirement for pilots. During the past 3 years (1965-67), increases in traffic volume have far outstripped productivity gains, and pilot employment has grown at an unprecedented pace. (See table 5.) The increase in pilot employment was 2,400 in 1965, 5,800 in 1966, and 3,100 in 1967, or an average increase of 3,800 a year for the period. Although a number of factors, such as increased training and retraining and pilot stockpiling, played a role in this rapid rise, the primary determinant was the unprecedented growth in air carrier traffic.

Mechanics. In 1967, the Nation's air carriers employed 52,000 mechanics, certified route air carriers employed about 50,000, and supplemental and commercial operator air carriers employed an estimated 2,000. (See table 8.) During the 1950's and 1960's, the number of mechanics employed by certificated route air carriers increased rapidly, though at a somewhat slower pace than the employment of pilots. (See table 5.) Mechanic employment by these carriers rose from 20,500 in 1950 to 50,000 by 1967, an increase of 144 percent. Employment of these workers increased nearly every year during this period; the most rapid growth occurred during the 1960's, especially since 1963.

To a large extent, the mechanic work force has expanded to meet the growing maintenance needs of a larger, more sophisticated aircraft and an expanded aircraft fleet. In 1950, only 1,179 piston aircraft were operated by route air carriers (table 4). Many of these aircraft were relatively small, such as the DC-3. By 1967, the number of aircraft owned and operated by the Nation's certificated route air carriers had grown to 2,188—larger turbojet aircraft accounted for nearly three-fifths of these.

Several new types of aircraft will be introduced during the decade. The first "jumbo" jets (Boeing 747) were scheduled to enter service in late 1969 and will account for an important part of the total fleet by 1977. The smaller 2-engine jets already in operation also will grow in number as more are put into service on intermediate and short distance routes.[10] According to

[10] *Aviation Forecasts, Fiscal Years 1967-1977* (Federal Aviation Administration, January 1967), table 3, p. 22.

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Table 8. Employment of pilots and mechanics by U.S. air carriers, estimated 1967 and projected employment requirements, 1972 and 1977

Occupation	Estimated 1967 employment	Projected requirements		Percent increase, 1967-77
		1972	1977	
Pilots	33,100	38,100	51,100	54
Mechanics	52,000	61,000	70,000	35

NOTE: Percents based on unrounded numbers.

SOURCE: Bureau of Labor Statistics.

FAA, the first supersonic transport, the "Concorde," will begin operations in 1972, with the American SST joining the air carrier fleet in 1975. The introduction of these aircraft will be a continuation of the historical trend toward larger and faster aircraft. By 1977, the FAA estimates that 86 SST's will be in operation; undoubtedly most will be used in transoceanic flights. As the size and speed of aircraft increased, the need for more sophisticated instrumentation and increasingly complex guidance, communication, and control systems also increased. These and other technological advances in aircraft design added substantially to maintenance requirements, especially for electronics and instrument repairmen.

Some technological innovations partially offset the increases in maintenance requirements during the 1950's and 1960's. Turbine engines required less maintenance than the piston engines they replaced. Increases in the reliability of airframes, communication systems, and many other aircraft parts made possible by new materials, such as plastics and new alloys as well as improvements in component design, also have reduced maintenance needs. The development of modern test equipment and advances in tool design also reduced maintenance requirements. Overall, such advances increased the productivity of the maintenance work force and tended to moderate the growth in maintenance manpower requirements.

Projected pilot and mechanic requirements

Total pilot and mechanic requirements of the Nation's air carriers for 1972 and 1977 were made within the framework of the air carrier activity and fleet forecasts developed by the FAA in its 1967 report, *Aviation Forecasts Fiscal Years 1967-1977.* In preparing these projections, a variety of methods were tested. For a complete discussion of the methods selected for use in developing the projections of employment requirements and the procedures followed in determining replacement needs, see chapter IV, Projection Methods.

Pilot requirements. A total of about 23,000 additional pilots will be needed by the Nation's air carriers between 1967 and 1977. Nearly four-fifths of the new requirements will result from occupational growth. (See table 9.) Between 1967 and 1977, pilot requirements resulting from growth of the occupation are expected to rise 18,000, from 33,000 to 51,000, an increase of 54 percent (See table 8.) By comparison, during the 1958-67 decade, pilot employment increased 13,000, about one-fourth less than the projected growth over the decade ahead. However, the 1967-77 rate of increase implied by this projection is only 54 percent, compared with the 76-percent increase of the 1958-67 decade. A large share (over 11,000) of this past employment growth occurred in 3 years, 1965-67. Except for this period, the rate of increase was far less than that projected for the 1967-77 decade.

In addition to occupational growth requirements, 4,800 new pilots will be needed over the next decade as replacements. Based on age data from FAA airmen-medical records and unpublished data obtained from the Air Transport Association, 1 out of every 7 pilots currently employed by the air carriers can be expected to retire or die from 1968 through 1977. These relatively high replacement needs reflect the large number of air carrier pilots who received their flight training during World War II and now are approaching retirement age.

The employment needs for U.S. air carrier pilots are not divided equally between the two halves of the projection period. (See table 9.) Employment growth requirements for the 1968-72 period are projected to be considerably below that expected for the second half of the decade. These differing growth rates stem from several causes. Short-run projections are affected more strongly by cyclical influences. Pilot employment increased at an unusually rapid pace during 1966 and 1967, far above the long-run trends. Thus, the computed employment level for 1967, developed through regression analysis, was considerably lower than the actual employment level reported by the FAA. Although full assessment of the recent spurt in employment is difficult, much of the increase may reflect short-run influences, i.e., increases in training and retraining activity, transport demands of the Viet Nam situation, and possible pilot stockpiling due to concern over possible future shortages. During the 9-month period ending March 31, 1968, Civil Aeronautics Board records show

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Table 9. Projected requirements for pilots and mechanics resulting from employment growth and from retirements and deaths, by U.S. air carriers, 1968-77, 1968-72, and 1973-77

Occupation and type of requirement	Requirements					
	1968-77		1968-72		1973-77	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
Total pilots	22,800	100	6,500	29	16,300	71
Growth	18,000	100	5,000	28	13,000	72
Retirement and death	4,800	100	1,500	31	3,300	69
Total mechanics	24,700	100	12,100	49	12,600	51
Growth	18,000	100	9,000	50	9,000	50
Retirement and death	6,700	100	3,100	46	3,600	54

NOTE: Individual parts may not add to total due to rounding.

SOURCE: Bureau of Labor Statistics.

that employment increased only 1,400, a possible indication that pilot employment growth patterns already may be returning to long-run trends. Also, pilot productivity is expected to increase more rapidly during the first 5-year period, modifying pilot requirements. During this period, jet aircraft will continue to replace the slower piston and turboprop aircraft and consequently increase pilot productivity. By 1972, most of the conversion to jet aircraft will have been completed, and pilot productivity increases should slow during the 1973-77 period. This slowdown is expected to result in a more rapid rise in the requirements for pilots during this period.

When compared with expected traffic growth, projections of pilot employment rise at a much slower pace, approximately 54 percent over the next decade. The much greater growth in traffic, unaccompanied by a correspondingly large increase in the number of pilots, reflects the impact of continuing technological change on pilot productivity. Primary among these changes will be further shifts in fleet composition. (See table 7.) Not only will the smaller capacity piston aircraft be phased out during the next decade, but new second and third generation jets will be put into service. The increase in average aircraft speed resulting from the expansion of the subsonic jet fleet (Boeing 747 and DC-10) and the introduction of supersonic aircraft will reduce further the trip time and increase output per pilot. Pilot productivity gains, however, will be moderated by a number of offsetting influences. Actual pilot flight hours, or "stick time," may decline as a result of scheduling difficulties and increased flight preparation time. Traffic congestion may lengthen landing and takeoff times and modify the effect of the increase in average flight speed. Increases in training and retraining resulting from the advent of new types of aircraft also will increase pilot needs. Furthermore, pilot requirements may be influenced by future shifts in institutional factors such as longer vacations or, even more important, by negotiated reductions in the pilots' maximum monthly duty hours.

Mechanic requirements. About 25,000 new airplane mechanics will be needed by U.S. air carriers during the 1967-77 decade. (See table 9.) About three-fourths of this increase will result from employment growth. The number of mechanics employed by the Nation's air carriers is expected to increase from 52,000 in 1967 to 70,000 in 1977, an increase of 35 percent (table 8). Most of the growth will occur in the certificated route air carriers, where employment is expected to increase by 17,000 to 67,000 in 1977, about equal to the employment growth experienced during the past decade. The remaining additional workers—about 1,000—will be required by the supplemental and commercial operator air carriers where mechanic employment will grow to about 3,000 by 1977.

Employment growth is projected to be equally divided between the two halves of the projection period, increasing 9,000 in each period. Replacement needs,

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Table 10. Revenue aircraft hours, by type of aircraft, U.S. air carriers, estimated 1967 and forecast 1972 and 1977

[In millions]

Aircraft type	Hours			Percent change, 1967-77
	Estimated 1967	Forecast		
		1972	1977	
Total aircraft	5.27	7.20	9.27	+ 76
Fixed-wing aircraft	5.24	7.17	9.23	+ 76
Jet	3.06	6.14	8.18	+167
Turboprop	0.87	0.83	1.01	+ 16
Piston	1.31	0.20	0.04	- 97
Helicopters	0.03	0.03	0.04	+ 33

SOURCE: *FAA Aviation Forecasts Fiscal Years 1967-77,* (Federal Aviation Administration, January 1967) table 4, p. 22.

however, will be higher in the second half of the decade. From 1968 through 1972, 3,100 workers will be needed to replace mechanics who die or retire, whereas replacement requirements will be 3,600 for the later period, 16 percent higher.

Growth in the employment of mechanics will result primarily from two factors. First, the number of aircraft operated by air carriers is expected to increase substantially during the next decade. In addition flight hours are expected to rise about 76 percent above the 1967 level. (See table 10.) The maintenance of this larger, more extensively utilized aircraft fleet will require additional mechanics. Second, aircraft are becoming larger and more complex. The increased sophistication of aircraft control, guidance, and communications systems will add to maintenance requirements.

Some technological developments, on the other hand, will tend to moderate employment growth. The continued shift toward jet-powered aircraft will reduce engine maintenance requirements. Other innovations ranging from the use of complex monitoring and testing systems to the development of improved hand tools will increase mechanic productivity and moderate the rate of employment growth over the coming decade.

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Chapter II. General Aviation[11]

General aviation is a large and rapidly expanding part of the Nation's air transportation system. In 1967, general aviation accounted for nearly 97 percent of all the aircraft operated in the civil aviation industry. Of the 106,337 aircraft inventoried by FAA, 104,000 were in general aviation. (See table 11.)

General aviation has grown substantially in recent years. As speed, safety, and comfort have increased, aircraft have gained in acceptance as a mode of transportation. Population growth, rising personal and business incomes, and increased leisure time have spurred the expansion in all types of general aviation flying. Business flying has increased as more and more companies have discovered the convenience and competitive advantages of operating their own aircraft. Air taxi service has increased in response to the need for feeder service to major air terminals and for air transportation to remote locations not serviced by air carriers. In recent years, modern agriculture and industry increasingly have required additional aircraft for activities such as pesticide spraying, pipeline patrolling, and certain construction operations. To meet these and similar needs, general aviation has become one of the most rapidly expanding sectors.

Changes in the size of the general aviation aircraft fleet and the increase in the number of hours flown in general aviation provide an indication of industry growth. According to FAA, the fleet grew by more than 38,700 aircraft between 1958 and 1967, an increase of about 60 percent. (See table 11.) Of the various types of aircraft, growth has been most rapid for the larger multiengine aircraft. In 1958, multiengine aircraft accounted for 8 percent of the general aviation fleet, but their share had grown to 12 percent by 1967.

The total hours flown in general aviation have increased even faster than the number of aircraft. Although only 12.6 million hours were flown by general aviation aircraft in 1958, flight hours had increased to an alltime high of 22.2 million by 1967, an increase of 76 percent over the decade. (See table 12.)

In terms of number of aircraft, personal use flying makes up the largest part of general aviation; this activity accounted for 54 percent of the 104,000 general aviation aircraft in 1967. (See table 13.) Among nonpersonal uses, business flying accounted for 22 percent of the general aviation fleet, followed by commercial flying, 14 percent; instructional flying, 8 percent; and other flying, 2 percent. Although representing less than one-half of the aircraft fleet, nonpersonal flying accounted for slightly over three-fourths of all the hours flown in general aviation. Personal use flying accounted for only 23 percent of hours flown in 1967, whereas business flying accounted for 30 percent. Other important sectors in terms of hours flown were commercial and instructional flying, which accounted for 18 and 28 percent, respectively, of the total. The larger proportion of hours flown relative to the number of aircraft reported for nonpersonal uses reflects the much higher rates of aircraft utilization in the nonpersonal flying sectors.

The most rapid increase in hours flown between 1958 and 1967 occurred in instructional flying. Hours flown in instructional flying increased 191 percent. Other sectors recording rapid growth in hours flown during this period were personal use flying (119 percent) and commercial flying (66 percent).

Outlook

According to FAA, the general aviation fleet will continue to expand rapidly during the coming decade, stimulated by the same factors that spurred activity during the past decade. By 1977, the number of such aircraft is forecast to increase to 180,000, or 73 percent above the 1967 level. (See table 14.)

Piston aircraft are expected to account for most of the increase in the number of general aviation aircraft. Single-engine piston aircraft are forecast to grow by 55,600, or 63 percent between 1967 and 1977. During the same time period, multi-engine piston aircraft will approximately double in number and increase from 12,500 to 23,000. Turbine powered aircraft, both turbojet and turboprop, are expected to show the sharpest rate of growth by jumping from fewer than 1,000 in 1967 to 8,000 by 1977. Most of the turbine powered aircraft will be used in business and air taxi operations, where their relatively lower maintenance costs and higher speeds make them especially attractive.

The number of hours flown by general aviation aircraft also is forecast by FAA to rise sharply between 1967 and 1977. (See table 12.) Total aircraft hours will

[11] General aviation covers the following categories as identified by the Federal Aviation Administration: (1) business flying, (2) commercial flying (air taxi, aerial applications and industrial-special use), (3) instructional flying, (4) personal-use flying, and (5) other flying. Also included in this category are the certified and noncertified repair stations that service general aviation aircraft.

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Table 11. Active general aviation aircraft, by type of aircraft, 1958-67, and forecast 1972 and 1977

Year, as of January 1	Number of active aircraft	Aircraft type				
		Piston		Turbine	Rotorcraft	Other
		Single-engine	Multiengine			
1958	65,289	59,649	5,036	(1)	344	260
1959	67,839	61,692	5,416	(1)	439	292
1960	68,727	61,844	5,957	77	525	324
1961	76,549	68,301	7,129	114	634	371
1962	80,632	71,010	8,211	186	798	427
1963	84,121	73,456	8,978	213	967	507
1964	85,088	73,626	9,458	245	1,171	588
1965	88,742	76,136	10,346	306	1,306	648
1966	95,442	81,134	11,422	574	1,503	809
1967	104,000	88,000	12,500	950	1,700	850
1972	144,000	118,300	17,800	4,100	2,650	1,150
1977	180,000	143,600	23,000	8,000	4,000	1,400

1/Not available.

SOURCE: *FAA Statistical Handbook of Aviation*, Federal Aviation Administration, 1958-67 edition. *Aviation Forecasts Fiscal Years 1967-77*, (Federal Aviation Administration, January 1967).

grow by nearly three-fifths; the increase will be from 22.2 million in 1967 to 35.0 million by 1977. By 1977, the nonpersonal uses of aircraft still will make up almost three-fourths of all the hours flown in general aviation. Business flying will continue to account for the largest share; its increase is expected to be nearly 60 percent, from 6.6 to 10.4 million hours between 1967 and 1977. A growing number of business firms, especially those that have operations in more than one geographic location, are expected to buy or lease aircraft to provide more direct travel for company executives. Business-owned aircraft also are being used more widely to transport sales staffs and customers, and to provide a responsive technical service staff for product installation and maintenance.

Flight hours also are expected to grow substantially in both commercial (3.9 to 7.2 million) and instructional (6.3 to 7.4 million) flying between 1967 and 1977. Most of the increase in commercial flying will result from the growing demand for air taxi services. From 1957 to 1967, the number of certificated air taxi operators has risen steadily. Future growth will result primarily from the expansion of air taxi service to communities too small to warrant regular air carrier service, and from the demand for air taxi service to connect major air terminals with downtown areas and suburban communities. Several major air carriers already are including air taxi fares in ticketing procedures, a practice that will be expanded further in the 1967-77 decade.

Flight hours in personal use flying are forecast to grow by nearly 90 percent during 1967-77. (See table 12.) A population with more leisure time and higher incomes, together with the public's growing awareness of the availability and convenience of flying, will stimulate this rapid expansion.

Pilot employment trends

Historical data on the number of pilots have been limited, for the most part, to a count of active pilot certificates. According to FAA, the number of persons holding commercial certificates—the rating held by most pilots employed in general aviation—more than doubled between 1957 and 1967 and increased from 71,000 to 150,000.[12] A large share of this growth occurred during the 1963-67 period, when the number of pilots holding commercial certificates rose sharply from 96,000 to 150,000. This data, however, represent the total pilot

[12] *FAA Statistical Handbook of Aviation*, 1966 Edition, (Federal Aviation Administration), p. 77. Unpublished data for 1967 were obtained from FAA.

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Table 12. Estimated hours flown in general aviation, by type of flying, 1950-67 and FY 1972 and 1977

[Thousands of hours]

Year	Total hours	Type of flying									
		Business		Commercial		Instructional		Personal use		Other	
		Hours	Per-cent	Hours	Per-cent	Hours	Per-cent	Hours	Per-cent	Hours	Per-cent
1950	9,650	2,750	28	1,500	16	3,000	31	2,300	24	100	1
1951	8,451	2,950	35	1,584	19	1,902	23	1,880	22	135	1
1952	8,186	3,124	38	1,727	21	1,503	18	1,629	20	203	3
1953	8,527	3,626	42	1,649	19	1,248	15	1,846	22	158	2
1954	8,963	3,875	43	1,829	20	1,292	15	1,920	22	47	(1/)
1955	9,500	4,300	45	1,950	21	1,275	13	1,975	21	--	--
1956	10,200	4,600	45	2,000	20	1,500	15	2,100	20	--	--
1957	10,938	4,864	45	2,013	18	1,864	17	2,109	19	88	1
1958	12,579	5,699	45	2,365	19	2,150	17	2,365	19	--	--
1959	12,903	5,699	44	2,365	18	2,043	16	2,796	22	--	--
1960	13,121	5,699	44	2,365	18	1,828	14	3,172	24	57	(1/)
1961	13,602	5,699	42	2,634	19	1,796	13	3,398	25	75	1
1962	14,500	5,431	38	3,051	21	2,385	16	3,489	24	144	1
1963	15,106	5,740	38	3,172	21	2,417	16	3,626	24	151	1
1964	15,738	5,823	37	3,305	21	2,675	17	3,777	24	158	1
1965	16,733	5,857	35	3,348	20	3,346	20	4,016	24	166	1
1966	21,023	7,057	33	3,555	17	5,674	27	4,540	22	197	1
1967	22,153	6,578	30	3,918	18	6,262	28	5,173	23	222	1
1972	27,200	8,400	31	5,700	21	5,600	21	7,300	27	200	1
1977	35,000	10,400	30	7,200	21	7,400	21	9,700	28	300	1

1/ Less than 0.05 percent.

SOURCE 1950-66: *FAA Statistical Handbook of Aviation* (Federal Aviation Administration), 1963 and 1967 Editions, table 5.2 and 5.4. 1967: Unpublished data from the FAA. 1972 and 1977: *Aviation Forecasts Fiscal Years 1967-77*, op. cit., table 8, p. 27.

population, not persons actually employed as pilots in general aviation.[13]

Based on a special tabulation prepared from FAA aeromedical records,[14] 25,000 pilots were employed by general aviation in 1967. Almost one-half of these pilots (11,900) were reportedly in executive transportation (table 15). Air taxi operations accounted for the second largest concentration of pilots (6,200), followed by instructional flying (3,300). The remaining pilots were divided among the other general aviation activities; 1,500 were reported in aerial application, 1,500 in industrial/special, and 500 in other uses.

Mechanic employment trends

Historical data on general aviation mechanic employment have been limited in the past to FAA data reporting the number of persons holding mechanic certificates. The number of certificated mechanics has grown substantially in the past decade; the increase was from 103,000 in 1957 to over 147,000 in 1967.[15] These

[13] The discussion of historical trends in the number of pilots is limited in this section to active certificated pilots. The total pilot population reflected in the FAA data includes many persons who fly solely for recreation, and others who are employed primarily in other occupations, but who fly occasionally for business reasons or as a secondary job. Although recognizing that many thousands of additional pilots may be employed on a casual part-time basis, for the purpose of this study, the Bureau's statisticians decided that meaningful future pilot training requirements would best be determined if current and projected employment estimates were limited to those persons who were employed primarily as professional pilots. Lack of historical data on professionally-employed pilots in general aviation prevented development of estimates for years prior to 1967.

[14] For a complete discussion of the source and methods followed in preparing pilot employment estimates, see p. 19.

[15] *FAA Statistical Handbook of Aviation*, 1966 Edition, op. cit., p. 77. Unpublished data for 1967 were obtained from FAA.

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data, however, include many persons not employed as mechanics in general aviation and exclude others.[16]

Based on certificated repair station inspection records and FAA regional office estimates,[17] mechanic employment in general aviation was estimated at about 50,000 in 1967. (See table 16.) Three-fifths (32,600) of these mechanics were employed at certificated repair stations. The remainder, about 18,000, were estimated to be employed by the usually smaller, noncertificated repair stations. At certificated repair stations, noncertificated mechanics were estimated to number about 24,000; certificated mechanics, 4,800; and certificated repairmen, 3,600.

Projected pilot and mechanic requirements

As in the air carrier industry, the manpower requirements presented in this section reflect both those resulting from expansion in the general aviation sector and those resulting from the need to replace persons who die or retire. The growth projections were made within the framework of general aviation flight activity and fleet forecasts developed by FAA in its 1967 report, *Aviation Forecasts Fiscal Years 1967-77.*

For a complete discussion of the methods used in developing the employment projections and estimating replacement requirements, see Part II of this bulletin.

Pilot requirements. About 36,000 new pilots will be required in general aviation from 1968 through 1977 because of occupational growth and the need to replace pilots who will retire or die. (See table 17.) Requirements resulting from employment growth will account for nearly 85 percent of all new pilot needs. Pilot employment is projected to more than double between 1967 and 1977; the increase is expected to be from an estimated 25,000 to about 56,000. (See table 18.)

More than 80 percent of the new pilot requirements will be concentrated in two flying activities—executive transportation and air taxi operations. In the executive transportation sector alone, pilot requirements will exceed 19,000 over the 1967-77 decade. (See table 17.)

[16] The discussion of historical trends in the number of mechanics is limited in this section to certificated mechanics. Mechanics employed by air carriers are included in FAA data as are persons who hold an active mechanic rating but are employed in another occupation. Excluded from the FAA data are a large number of mechanics without active certificates. Lack of historical data on mechanics employed in general aviation prevented development of estimates for the years prior to 1967.

[17] For a complete discussion of the sources and procedures followed in estimating mechanic employment, see p. 34.

Table 13. Estimated distribution of general aviation aircraft, by type of flying, 1967

Type of flying	Percent distribution
Total	100
Personal use	54
Business	22
Commercial	14
Instructional	8
Other flying	2

SOURCE: Bureau of Labor Statistics.

Employment growth will account for most of these requirements as the number of pilots engaged in executive flying is projected to increase from nearly 12,000 to about 28,000. An additional 2,700 pilots will be needed in executive flying as replacements for those who retire or die during the decade. In air taxi flying, slightly over 11,000 new pilots will be required, the sharpest rate of increase for any flying activity. By 1977, the number of pilots engaged in this activity will grow by one and a half times its 1967 level—from 6,200 to 15,800. An additional 1,500 pilots will be required by air-taxi flying as replacements.

Of the remaining pilot requirements in general aviation, nearly two-thirds (3,700) will be in instructional flying. Employment needs will nearly double in this sector, growing from 3,300 in 1967 to 6,300 in 1977. Another 700 pilots will be needed as replacements for those pilots who retire or die during this period. Smaller numbers of new pilots will be required in the other types of general aviation flying—800 in industrial/special; 900 in aerial application; and 400 in other types of flying.

Pilot growth requirements will be somewhat higher during the second half of the 1967-77 decade. Employment requirements are projected to increase by 16,600 during the second half of the decade, compared with 14,100 during the first half; and replacement needs will

Table 14. Active general aviation aircraft, by type of aircraft, estimated 1967 and forecast 1972 and 1977

Type of aircraft	Aircraft			
	Estimated 1967	Forecast		Percent increase, 1967-77
		1972	1977	
Total	104,000	144,000	180,000	73
Piston	100,500	136,100	166,600	66
Single-engine	88,000	118,300	143,600	63
Multiengine	12,500	17,800	23,000	84
Turbine	950	4,100	8,000	742
Rotorcraft	1,700	2,650	4,000	135
Other	850	1,150	1,400	65

SOURCE: *Aviation Forecasts Fiscal Years 1967-77*, op. cit., table 6, p. 25.

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Table 15. Estimated employment of pilots in general aviation, by type of flying, 1967

Type of flying	Estimated 1967 employment	Percent distribution
Total	25,000	100.0
Executive transportation	11,900	47.5
Air taxi	6,200	24.9
Aerial application	1,500	6.2
Industrial/special	1,500	6.1
Instructional	3,300	13.3
Other	500	2.0

NOTE: Individual items may not add to total due to rounding. Percents based on unrounded numbers.

SOURCE: Bureau of Labor Statistics. Estimates based on data obtained from FAA Aeromedical Records.

average about 700 a year in the 1973-77 period, compared with nearly 400 a year in the 1968-72 period.

The growth in pilot employment throughout the various sectors of general aviation will be generated by the rapid rise in the demand for general aviation services discussed earlier. Although numerous technological advances are expected in aircraft design and in operating systems, these changes are not expected to have a major impact on the manpower requirements for pilots in general aviation.

Mechanic requirements. An estimated 50,300 new mechanics will be needed in general aviation from 1967 through 1977, an average of nearly 5,000 each year. Employment needs are expected to nearly double over the 1967-77 decade; the expected increase will be from 50,400 to 92,800. (See table 18.) Six out of every seven new job openings will result from employment expansion. The remaining requirements (7,800) will result from the need to replace workers who will die or retire.

Employment of mechanics will grow to about 72,000 by 1972, an increase of nearly 22,000, compared with a projected increase of 20,700 during the second 5-year period. Replacement needs also will be greater during the second 5-year period—4,500 compared with 3,300.

A number of factors will spur the growth of mechanic employment. As indicated earlier, the general aviation fleet is expected to expand from 104,000 in 1967 to 144,000 by 1972 and 180,000 by 1977, an increase of 73 percent for the decade. Perhaps even more important in determining mechanic requirements is the sharp increase in flight hours forecast by the FAA. Not only is the general aviation fleet and its utilization increasing, but aircraft also are becoming more complex as new

Table 16. Estimated mechanics employed in general aviation, by type of repair station, 1967

Type of repair station	Estimated 1967 employment
Total mechanics	50,400
Certificated repair station	32,600
Certificated mechanics	4,800
Certificated repairmen	3,600
Noncertificated repair station	17,800

NOTE: Individual parts may not add to totals due to rounding.

SOURCE: Bureau of Labor Statistics. Estimates based on unpublished FAA records.

Table 17. Projected requirements for general aviation pilots and mechanics resulting from employment growth and from retirements and deaths, 1968-77, 1968-72, and 1973-77

Occupation	Requirements								
	1968-77			1968-72			1973-77		
	Total	Growth	Deaths and retirements	Total	Growth	Deaths and retirements	Total	Growth	Deaths and retirements
Pilots	36,200	30,700	5,500	16,400	14,100	2,200	19,900	16,600	3,300
Executive flying	19,300	16,500	2,700	8,200	7,200	1,100	11,000	9,400	1,600
Air taxi	11,100	9,600	1,500	5,200	4,600	600	6,000	5,000	900
Aerial application	900	700	300	500	400	100	400	300	100
Industrial/special	800	600	200	400	300	100	400	300	100
Instructional	3,700	3,000	700	1,900	1,600	300	1,800	1,400	400
Other	400	300	100	200	200	(1/)	200	200	(1/)
Mechanics	50,300	42,400	7,800	25,100	21,800	3,300	25,200	20,700	4,500

1/ Less than 50.

NOTE: Individual parts may not add to totals due to rounding.

SOURCE: Bureau of Labor Statistics.

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Table 18. Employment of pilots and mechanics in general aviation, estimated 1967 and projected employment requirements, 1972 and 1977

Occupation	Estimated 1967 employment	Projected requirements		Percentage increase 1967-77
		1972	1977	
Pilots	25,000	39,200	55,700	123
Executive transportation	11,900	19,100	28,400	139
Air taxi	6,200	10,800	15,800	155
Aerial application	1,500	1,900	2,200	47
Industrial/special	1,500	1,800	2,100	40
Instructional	3,300	4,900	6,300	91
Other	500	700	800	60
Mechanics	50,400	72,100	92,800	84

NOTE: Individual items may not add to totals due to rounding.

SOURCE: Bureau of Labor Statistics.

equipment and instrumentation are being developed continually, creating additional maintenance demands. However, other influences will offset the increased maintenance created by the growing complexity of general aviation aircraft. New and better maintenance equipment and procedures will increase mechanic productivity. The shift towards jet powered aircraft, which have fewer engine maintenance requirements, also will tend to moderate the growth in requirements for certain mechanic specialties. These technological developments will offset one another in the aggregate. In the last analysis, the rapid expansion expected in the size of the fleet and in hours flown will generate a substantial increase in maintenance requirements, and consequantly, mechanic employment will rise sharply during the 1967-77 decade.

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Chapter III. Government

Presented in this section is a discussion of the growth of and outlook for Federal, State, and local government flying activities, excluding all activities of the U.S. Department of Defense, civilian and military.[18]

Pilot employment trends

Nearly 2,000 pilots were estimated to be employed in nonmilitary activities by Federal, State, and local government agencies in 1967. (See table 19.) The Federal Government accounted for almost one-half (1,200) of all pilots employed by all levels of government. Most were employed by the Federal Aviation Administration and are involved in activities such as aircraft, airway, and flight procedure testing, and in pilot proficiency testing. Other Federal agencies employing significant numbers of pilots were the Departments of Agriculture, Justice, and Interior. These agencies utilize pilots for border patrolling, forest and game conservation activities, and experimental work.

State and local governments were estimated to employ 800 pilots in 1967. Many were engaged in State and local police patrolling activities; others were employed in State forestry and natural resource agencies engaged in conservation programs. A growing number are being utilized for student instruction in public universities and colleges.

In the Federal Government, pilot employment in nondefense activities has declined slightly since 1957. Although the number of FAA pilots engaged in testing airway systems has declined, the decrease was offset, in part, by an increase in the number of pilots engaged in pilot and flight checkout. Employment in the other Federal agencies grew slightly over the decade but has remained relatively stable during the past few years. No historical data on pilot employment in State and local governments are available.

[18] Excluded from the scope of this study are about 500 civilian pilots employed by the U.S. Department of Defense.

[19] Excluded from the scope of this study are 33,000 civilians employed as airplane mechanics by the U.S. Department of Defense.

[20] Estimates of the number of mechanics employed by the Federal Government from 1958-67 were based on data from the U.S. Civil Service Commission and the Federal Aviation Administration.

[21] Reductions in programs, such as the monitoring of air carrier flights, are possible during the decade. If such program reductions are made, the number of pilots employed by the Federal Government actually may decline.

Mechanic and employment trends

In 1967, an estimated 1,100 mechanics were employed by government agencies in nondefense activities.[19] (See table 19.) Nearly all were employed by the Federal Government, principally by the Federal Aviation Administration. Fewer than 100 mechanics were estimated to be employed by State and local government agencies. Because of the small aircraft fleet operated by State and local governments, most maintenance work is contracted out to privately-operated repair stations.

Mechanics working for Federal agencies are engaged largely in the maintenance of agency operated aircraft. In 1958, about 1,200 were employed by Federal nondefense agencies. Employment increased during the early 1960's to about 1,700 in 1962. By 1967, however, the number of mechanics dropped to 1,100, slightly below the 1958 level.[20]

Projected pilot and mechanic requirements

The following section discusses future pilot and mechanic manpower requirements in government. The manpower requirements presented reflect both those resulting from expansion and those resulting from the need to replace persons who die or retire.

For a complete discussion of the methods used in developing employment projections and estimating replacement requirements, see pages 33 and 39 of this report.

Pilot requirements. The number of pilots employed by government is expected to grow by nearly 1,000 between 1967 and 1977 to a total of 2,900. (See table 19.) In addition to growth requirements, 300 pilots will be needed to replace those who will die or retire. (See table 20.) The growth in employment requirements will be somewhat greater in the Federal Government (500) than in State and local government agencies (400). In Federal agencies, the increase in requirements will result from the further expansion of flight procedure testing and pilot checkout activities conducted by the FAA. The growth in flight activity, both commercial and private, will require a larger staff of these specialized personnel. The increases may be offset, in part, however, by further reductions in frequency of certain inspection programs.[21] In State and local government agencies, further expansion of patrolling activities, especially highway and other police patrolling, and the growth of flight instruction in public supported schools will account for most of the increase in pilot requirements.

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Table 19. Employment of pilots and mechanics in government, by type of government, estimated 1967 and projected employment requirements, 1972 and 1977

Occupation	Estimated 1967 employment	Projected requirements		Percentage increase 1967-77
		1972	1977	
Total pilots	1,980	2,440	2,900	46
Federal	1,180	1,440	1,700	44
Federal Aviation Administration	1,020	1,260	1,500	47
Other Federal	160	180	200	25
State and local	800	1,000	1,200	50
Total mechanics	1,100	1,100	1,100	--
Federal	1,000	1,000	1,000	--
State and local	100	100	100	--

SOURCE: Bureau of Labor Statistics. Federal employment estimates for 1967 based on data from the U.S. Civil Service Commission and the Federal Aviation Administration. State and local employment estimates for 1967 based on special tabulation of FAA aeromedical records.

Mechanic requirements. Little change is expected in the number of mechanics employed by government during the 1967-77 decade. The size of the fleet operated by FAA is expected to decline slightly, but it will consist of larger, more complex aircraft. As in the past, employment is expected to remain relatively stable, and new mechanic requirements will stem primarily from the need to replace workers who retire or die. Estimates are that only 100 new mechanics will be required for this purpose. (See table 20.) No change is expected in employment of mechanics in State and local governments, since maintenance work probably will continue to be performed by private repair stations.

Table 20. Projected requirements for pilots and mechanics in government[1/] resulting from employment growth and from retirements and deaths, 1968-77, 1968-72, and 1973-77

Occupation and type of government	Requirements								
	1968-77			1968-72			1973-77		
	Total	Growth	Deaths and retirement	Total	Growth	Deaths and retirement	Total	Growth	Deaths and retirement
Total pilots	1,250	920	330	610	460	150	640	460	180
Federal	720	520	200	350	260	90	370	260	110
State and local	530	400	130	260	200	60	270	200	70
Total mechanics	120	--	120	60	--	60	60	--	60
Federal	100	--	100	50	--	50	50	--	50
State and local	20	--	20	10	--	10	10	--	10

1/Excludes personnel employed by the U.S. Department of Defense.

SOURCE: Bureau of Labor Statistics.

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Chapter IV. Projection Methods

A number of techniques for estimating future pilot and mechanic requirements in civil aviation were tested and evaluated before those used in this study were selected. The techniques used account for the future environment of the industry as reflected by forecasts made by the Federal Aviation Administration of industry variables such as fleet size and composition, revenue passenger miles, and revenue aircraft hours flown. These variables express the expected demand for the services of civil aviation, and the technological, economic, and other factors that will influence the level of demand and manpower requirements. The BLS projections of manpower requirements, therefore, are dependent upon the realization of the FAA forecasts. The techniques finally selected are presented in a manner that facilitates revision of the manpower projections if the FAA projections are modified. Such a presentation is highly desirable, since the rapidly changing environment of civil aviation makes all projections subject to constant review.

Pilot and mechanic employment requirements

Several techniques were selected to estimate pilot requirements resulting from expected growth in civil aviation activity. For U.S. air carriers, two separate techniques were used, the results of each verifying the other. The first (method A)[22] was based on the need for pilots, as reflected in FAA's estimated fleet size and composition and the total number of hours these aircraft would be flown[23], as well as BLS estimates of the average number of crews expected per aircraft and the number of pilots expected per crew. The second (method B) involved the development of a multiple regression equation. The variables used in the equation were selected after testing and evaluating the relationship of historical data on pilot requirements. The equation reflects the impact of total hours flown, the changing technology of civil aviation (complexity, fleet composition, utilization of aircraft), and other factors.

For general aviation, only one technique for estimating pilot requirements was selected. The need for pilots was estimated by type of flying (executive flying, aerial-application, etc.) on the basis of the relationship between current pilot employment and the number and utilization of different types of aircraft. The pilot/aircraft relationships then were extended to the target years and applied to estimates of fleet size in each flying activity.[24] Projections of the relatively small number of pilots employed in government were made on the basis of an evaluation of available historical data and consultation with the various government agencies employing these workers.

Two techniques were selected to project the growth of employment requirements for mechanics in civil aviation—one for the growth of requirements in air carriers and the other for requirements in general aviation. For U.S. air carriers, a multiple regression equation was selected from among many tested, which considered the total number of hours flown, and speed, a variable which reflects the changing composition and utilization of the fleet. For general aviation, a ratio technique was used that allowed the projection of the number of mechanics on the basis of their relationship to the current (1967) and expected total number of hours flown by general aviation aircraft.[25] Because of the small numbers of mechanics employed by government, employment estimates and projections for these workers were made on the basis of an evaluation of available historical data and consultation with the various government agencies where they are employed.

U.S. air carrier pilot projection—method A

The first technique used to project employment requirements for pilots by air carriers was based on the expected size, composition, and utilization of the fleet in the projection years. Tables 21 and 22 present a step-by-step application of the technique. The historical data on pilot employment in U.S. air carriers and the projected employment requirements in 1972 and 1977 using method A are illustrated in chart 3. The data used to project pilot employment requirements by method A originate from different sources. The FAA provides projections of the fleet size, composition, and hours flown by type of aircraft in the target years. Other factors used in the technique were developed by BLS and are explained in detail below.

[22] This method is a modification of the technique used in *Forecasts of Airline Pilot Requirements* (Task 67-17, Subtask 3, Logistics Management Institute, Washington, D.C., May 1967).

[23] *Aviation Forecasts Fiscal Years 1967-77.* op. cit.

[24] Base year estimates of pilot employment in each segment of general aviation were taken from aeromedical records maintained at the Civil Aeromedical Institute, Federal Aviation Administration, Oklahoma City, Oklahoma.

[25] The base-year level of mechanic employment in general aviation was estimated from Annual Inspection Report Records of Certificated Repair Stations, and unpublished estimates of mechanic employment in noncertificated repair stations maintained by FAA regional offices.

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Table 21. U.S. air carrier pilot employment requirements projection to 1972 (method A)

Aircraft type	Number in inventory	Total revenue hours flown (millions)	Revenue hours flown by aircraft Col. 2 ÷ Col. 1	Average crews per aircraft Col. 3 ÷ 508	Pilots per crew	Pilot employment Col. 1 x 4 x 5
	(1)	(2)	(3)	(4)	(5)	(6)
2-Engine jet	1,252	3.08	2,460	4.84	2.5	15,149
3-Engine jet						
4-Engine jet	942	3.06	3,248	6.39	3.0	18,058
Supersonic jet						
1 and 2 engine turboprop	353	.74	2,096	4.13	2.0	2,916
4-Engine turboprop	49	.09	1,837	3.62	3.0	532
1 and 2 engine piston	155	.08	516	1.02	2.0	316
4-Engine piston	96	.12	1,250	2.46	3.0	708
Helicopter	28	.03	1,071	2.11	2.0	118
Total	2,875					37,797

SOURCE: Number in Inventory and Total Revenue Hours Flown—*Aviation Forecasts Fiscal Years 1967-77*, op. cit., tables 3 and 4, pp. 22 and 23.
Pilots per crew—"Specifications-U.S. Commercial Transports," *Aviation Week and Space Technology*, Vol. 88, No. 12, March 18, 1968, p. 204.

Table 22. U.S. air carrier pilot employment requirements projection to 1977 (method A)

Aircraft type	Number in inventory	Total revenue hours flown (millions)	Revenue hours flown by aircraft Col. 2 ÷ Col. 1	Average crews per aircraft Col. 3 ÷ 483	Pilots per crew	Pilot employment Col. 1 x 4 x 5
	(1)	(2)	(3)	(4)	(5)	(6)
2-Engine jet	1,746	4.41	2,526	5.23	2.5	22,829
3-Engine jet						
4-Engine jet	1,091	3.50	3,208	6.64	3.0	21,733
Supersonic jet	86	.27	3,140	6.50	3.0	1,677
1 and 2 engine turboprop	453	.97	2,141	4.43	2.0	4,014
4-Engine turboprop	35	.04	1,143	2.37	3.0	249
1 and 2 engine piston	26	.05	1,923	3.98	2.0	207
4-Engine piston	33	.04	1,212	2.51	3.0	248
Helicopter	30	.04	1,333	2.76	2.0	166
Total	3,500					51,123

SOURCE: Number in Inventory and Total Revenue Hours Flown—*Aviation Forecasts Fiscal Years 1967-77*, op. cit., tables 3 and 4, pp. 22 and 23.
Pilots per crew—"Specifications-U.S. Commercial Transports," *Aviation Week and Space Technology*, Vol. 88, No. 12, March 18, 1968, p. 204.

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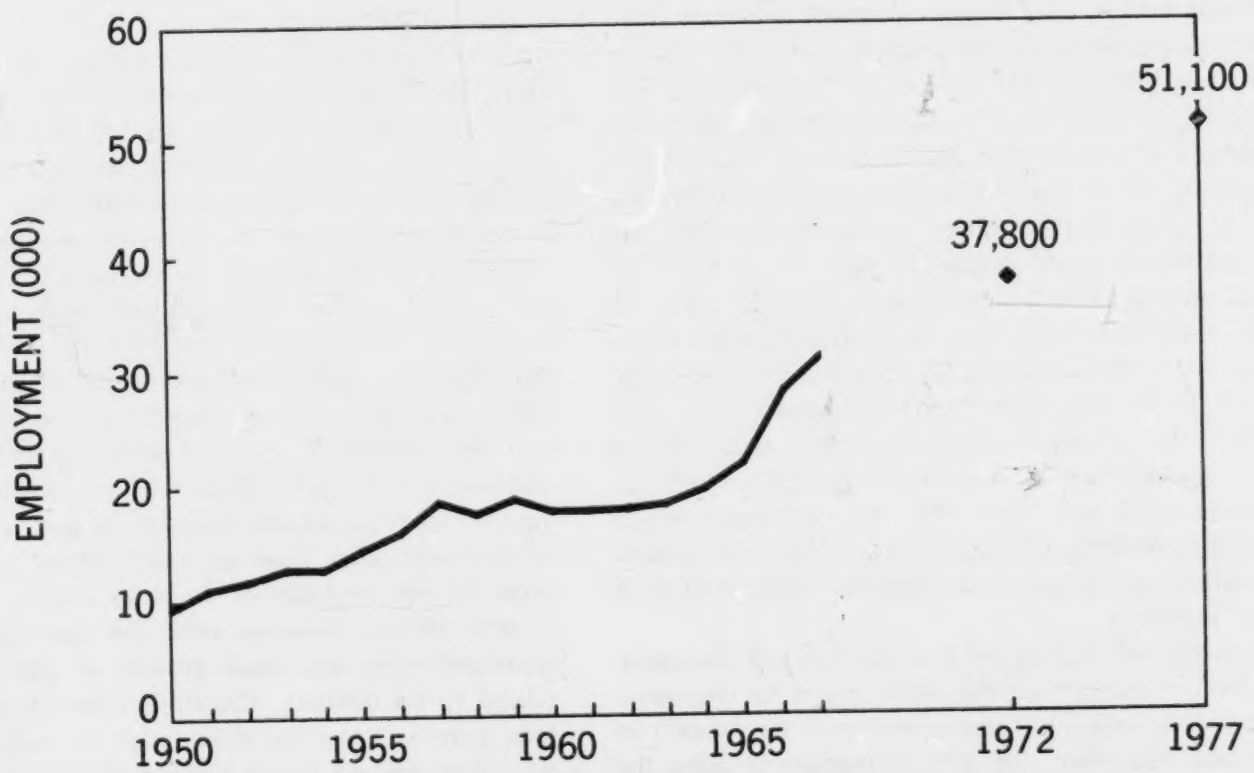
CHART 3

EMPLOYMENT OF PILOTS BY U.S. ROUTE AIR CARRIERS, 1950-66, AND PROJECTED EMPLOYMENT REQUIREMENTS, 1972 AND 1977

(METHOD A)



SOURCE: 1950-60 – EMPLOYMENT REQUIREMENTS AND CHANGING OCCUPATIONAL STRUCTURE IN CIVIL AVIATION, op. cit.

1961 – FACTS AND FIGURES 1967, (AIR TRANSPORT ASSOCIATION OF AMERICA, WASHINGTON, D.C.).

1962-67 – FACTS AND FIGURES 1968, (AIR TRANSPORT ASSOCIATION OF AMERICA, WASHINGTON, D.C.).

1972 & 1977 – BUREAU OF LABOR STATISTICS.

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Average crews per aircraft. The average number of crews per aircraft in the projected years (column 4) was derived by dividing the expected average revenue hours flown per individual aircraft (column 3) by a factor representing average annual hours flown per crew. Average annual hours flown per crew (508 for 1972 and 483 for 1977) were developed by extrapolating the experience of one large air carrier between 1957 and 1966. The validity of attributing the experience of one air carrier to all air carriers was tested in two ways: First, by discussing the reasonableness of the procedure with industry officials; and second, through testing the projection technique by recreating total air carrier pilot employment in a past year using the historical annual hours experience of pilots employed by one major air carrier, and comparing the results with published pilot employment for that year.

Chart 4 shows the average monthly pilot pay hours and actual flight hours for a major air carrier between 1957 and 1966 and BLS projections to 1972 and 1977. With the induction of jet aircraft during the 1960's, the difference between pilot pay hours and flight hours increased, but at a decreasing rate. In recent years, the rate of decline in flight hours has slowed. By 1966, the average stood at 48 compared with 68 in 1957, an annual average decline of 3.3 percent. Between 1960 and 1966, however, average flight hours dropped from about 57 to 48, or an average of 2.6 percent a year. The slow change in monthly flight hours anticipated after 1966 reflects the industry's expectation that actual flying hours per pilot will not continue to decline as rapidly as between 1960 and 1966 when the conversion to jet aircraft is complete. (Annual average flying hours used in the estimating procedure are monthly hours multiplied by 12 months.)

Industry officials agreed that the level and changes in the level of average monthly flying hours for one major carrier were reasonably representative of the industry as a whole. Moreover, the test of method A using the experience of this air carrier proved valid. Using these data, total 1961 pilot employment in the air carriers calculated by method A was only 3 percent below the published level.

Pilots per crew. The numbers of pilots per crew used in column 5 in tables 21 and 22 are consistent with current Federal regulations and, for the projected years, the opinions of industry officials for aircraft that will become operational between 1967 and 1977. Once these variables were determined, pilot projections then were computed for each target year by multiplying the number of aircraft by the average crews per aircraft and the number of pilots per crew. Following the procedure shown in tables 21 and 22, air carrier (including supplemental airlines and commercial operator air carriers) pilot employment was estimated at approximately 37,800 in 1972 and 51,100 in 1977.

U.S. air carrier pilot projection—method B

To project pilot employment requirements by U.S. route air carriers, a number of variables were selected and regressed separately and in combination against a series on historical employment. The purpose of these tests was to determine the basic causes of change in the employment series. Not only were variables finally selected on the basis of the most logical underpinning possible, but each variable was tested for statistical significance.

To understand better the presentation that follows, a number of limitations to the technique should be noted. First, the types of series available, although perhaps more numerous and of better quality than available for the analysis of almost any other occupation, are nonetheless limited. Therefore, the specification of theories in equation form made use of proxy variables that best reflect influences relevant to the aircraft industry. In some cases, variables that contribute significantly to the explanation of changes in the level of employment of pilots must be either discarded or redefined as proxies before they can be accepted on the basis of empirical evidence. The use of proxy variables is admittedly crude and risky and places the burden of proof squarely on the analysts undertaking the research. Second, a great deal of multicolinearity (high inter-correlation) exist among some of the explanatory variables tested. The rapid growth of civil aviation over the last 20 years is associated with the rapid growth of other variables related to the industry. Therefore, although the correlation between two variables may be high, (logical) qualitative analysis would indicate that the actual cause and effect relationship between them is rather low, both having been influenced by a third variable. Third, the development of an equation (theory) explaining changes in past employment could not be divorced from consideration of expected future changes in the explanatory variables. The use of an equation for projection purposes assumes that the environment of the system or model generally will continue in the future as it has in the past so that the impact of the variable will continue to be similar. For air transportation, however, current indications are that this may not be true. A new dimension in civil aviation may become important by the 1970's that

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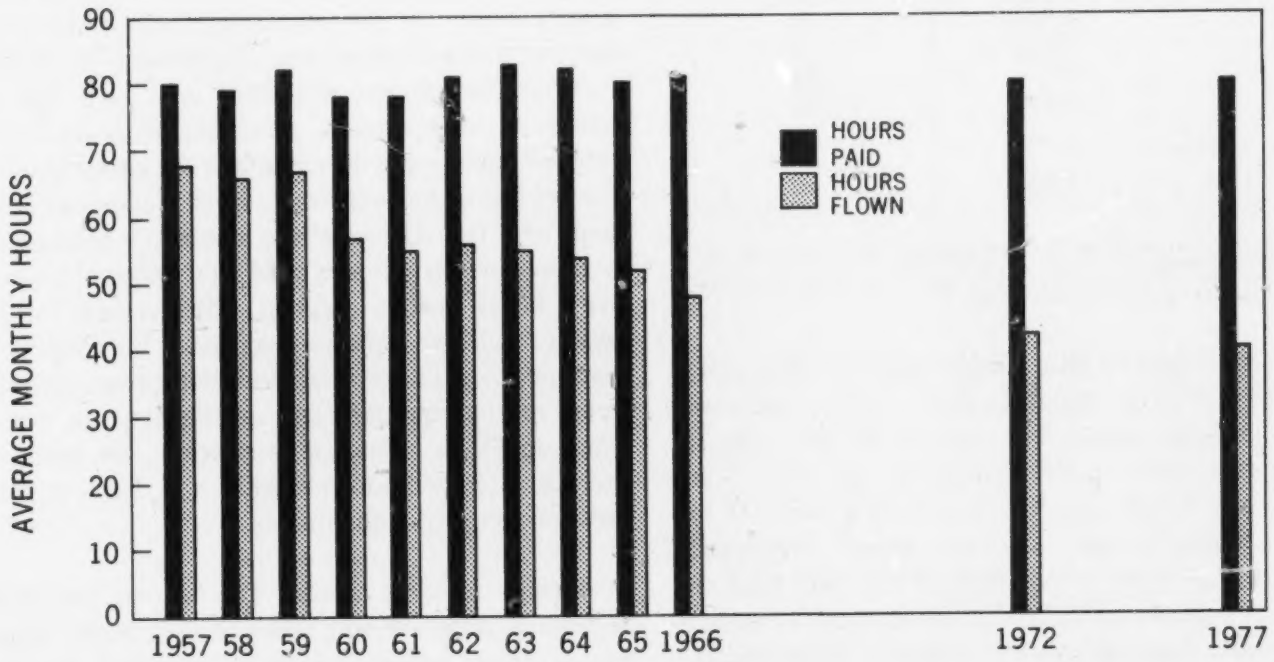
CHART 4

PILOT MONTHLY PAY HOURS AND FLIGHT HOURS, EXPERIENCE OF A MAJOR U.S. AIR CARRIER, 1957-66, AND BLS PROJECTIONS, 1972 AND 1977



SOURCE: BUREAU OF LABOR STATISTICS.

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Table 23. Data inputs for projecting requirements for U.S. route air carrier pilots (method B) and mechanics

Year	Revenue aircraft hours (In thousands)	Speed (miles flown ÷ hours flown)
1953	3,327.6	200
1954	3,365.3	209
1955	3,759.1	213
1956	4,209.7	216
1957	4,683.1	219
1958	4,571.4	224
1959	4,749.4	228
1960	4,281.6	243
1961	3,845.9	264
1962	3,736.3	287
1963	3,785.3	302
1964	3,947.0	314
1965	4,256.6	333
1966	4,781.2	335
1967	5,249.3	351
1972	7,171.9	382
1977	9,234.0	388

SOURCE: 1953-54: *Handbook of Airline Statistics,* 1963 Edition, op. cit., p. 127. 1955-64: *Handbook of Airline Statistics,* 1965 Edition, op. cit., p. 129. 1965-66: *Air Carrier Traffic Statistics,* (Civil Aeronautics Board), December 1966, p. 1. 1967-77: Bureau of Labor Statistics.

will have an impact on pilot employment not adequately accounted for in an equation that explains historical changes in employment. The number of new aircraft should grow more rapidly than in the past. The passenger and freight capacity of aircraft is expected to expand, while average airborne speed, influenced strongly by the past introduction of jets, will tend to increase at a slower rate in the future. In terms of model development, these changes may reflect a major modification in the environment. Such a limitation, of course, is inherent in all projection models but may be particularly applicable to air carrier operations.

The equation finally selected to project pilot employment by route air carriers was of the linear form $y = a + b_1 x_1 + b_2 x + b_3 x_3$, where y represents employment of pilots, x_1 revenue hours flown, x_2 speed, and x_3 time.

$$y = -22{,}509 + \underset{(.0008)}{.005006\, X_1} + \underset{(.0292)}{.09187\, X_2} - \underset{(.3600)}{.460801}$$

The basic data used in the multiple regression equation are shown in table 23, and the actual and computed levels of pilot employment and the projected employment requirements are presented in chart 5. Table 24 provides additional information on the statistical relationship between the variables selected.

The three variables in the equation "explain" 95 percent of the variation in employment of pilots over the 1953-66 period. Although the number of observations is too small for the Durbin-Watson statistic to apply, this statistic computed as a matter of routine was 1.79, which would indicate that unexplained residuals on a year-to-year basis for a larger sample could be distributed randomly about the line of regression. In other words, the Durbin-Watson statistic of 1.79 is not inconsistent with a randomly distributed series for a larger sample. Finally, the independent variable taken together—revenue aircraft hours and average airborne speed—are statistically significant at the 95 percent level. The time variable is much less significant.

Revenue aircraft hours. The impact of annual revenue aircraft hours on the requirement for pilots is quite clear. As hours flown increase, the demand for pilots will also increase (all else remaining constant). The interaction of total revenue passenger miles and average airborne speed are reflected in revenue aircraft hours. As the number of miles increase, speed remaining constant, hours rise (all else remaining constant), increasing the requirements for pilots. Similarly, if speed increases and miles flown remain constant, the demand for pilots declines (all else remaining constant; for example, the fleet mix of aircraft). Therefore, both quantitatively, in terms of the equation, and qualitatively, in terms of what could be expected empirically, an increase in revenue aircraft hours normally will have a positive influence on pilot requirements.

Average airborne speed. The second independent variable, average airborne speed, is used in the equation not as speed per se, which is accounted for in the revenue aircraft hours variable, but as a proxy for factors such as the changing composition of the fleets, the utilization rates of the various types of aircraft, and the general complexity of air carrier operations. In other words, the variable is an indicator of the type of technology and its influence on pilot requirements as it affects the nature of air carrier operations: for example, the rapid increase in average airborne speed in the late 1950's and in the 1960's (table 23) reflects the

Table 24. Selected results of regression analysis for projecting employment requirements for pilots in U.S. route air carriers (method B)

Independent variable	Projected pilot employment (1977)	Variables statistically significant (t-value) p = .05	Standard error of estimate	R^2	Durbin-Watson (based on 14 years of data)
A 1/	45,293	1/A	2,911	0.46	0.21
B 2/	26,419	2/B	2,315	.66	.84
C 3/	31,888	3/C	1,964	.75	.88
A 1/, B 2/	47,047	1/A, 2/B	1,014	.94	1.46
A 1/, C 3/	45,825	1/A, 3/C	1,326	.90	.89
A 1/, B 2/, C 3/	47,834	1/A, 2/B	986	.95	1.79

1/A = Revenue aircraft hours.
2/B = Average airborne speed.
3/C = Time.

SOURCE: Bureau of Labor Statistics.

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CHART 5

EMPLOYMENT OF PILOTS IN U.S. ROUTE AIR CARRIERS, ACTUAL 1953-66, AND ESTIMATED 1953-66, 1972, AND 1977

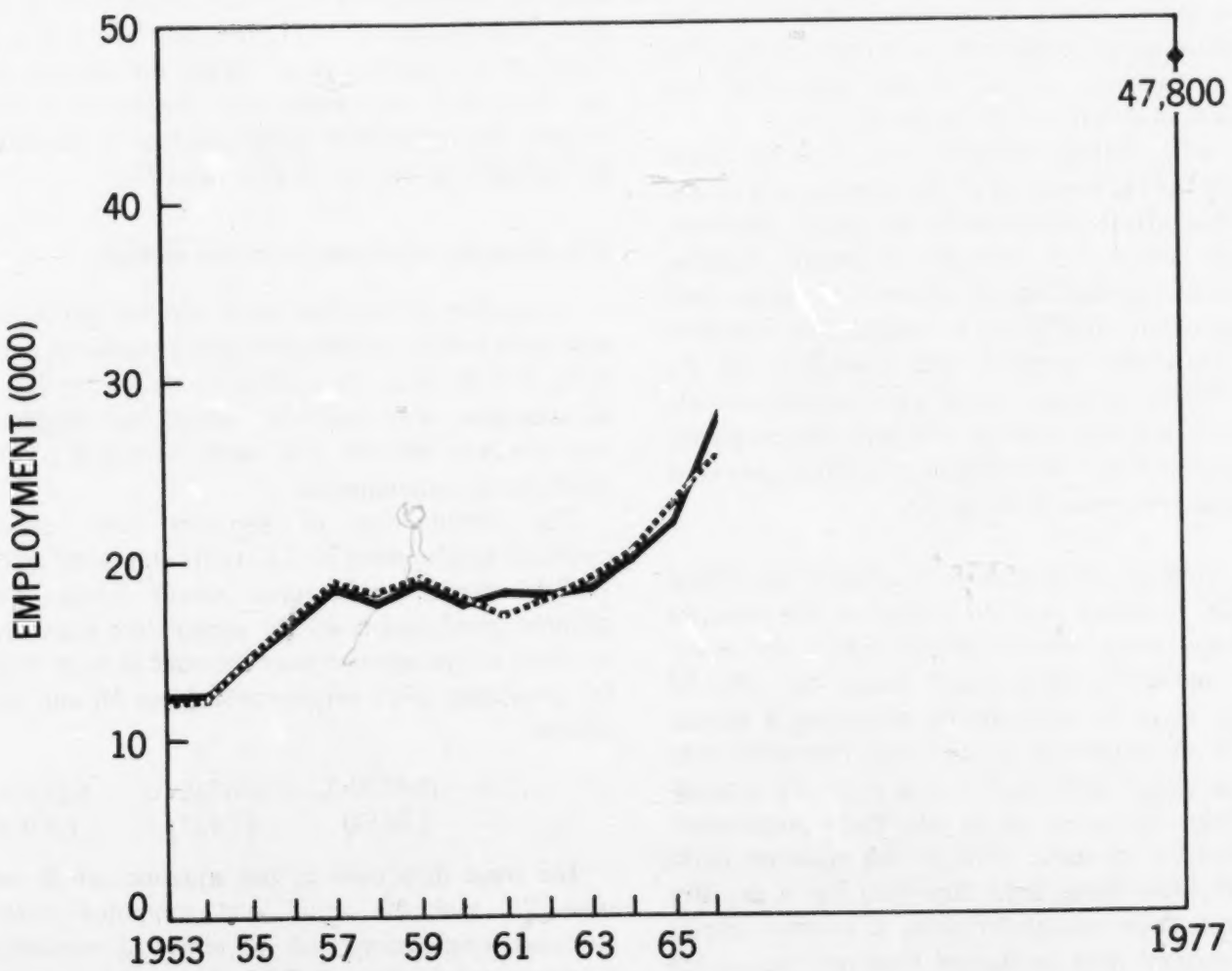
(METHOD B)

—— ACTUAL

····· CALCULATED

X_1 = REVENUE AIRCRAFT HOURS
X_2 = AVERAGE AIRBORNE SPEED
X_3 = TIME

$$y = -22{,}509 + \underset{(.0008)}{.005006\,X_1} + \underset{(.0292)}{.091857\,X_2} - \underset{(.3600)}{.460801\,X_3}$$



SOURCE: BUREAU OF LABOR STATISTICS.

continuing introduction of jet aircraft into the fleet and, theoretically, should have resulted in a reduction of pilot requirements (all else remaining constant). However, not only did jet aircraft generally require more pilots and crews per aircraft during this period (more complex technology and higher utilization), but the preparation time for pilots in relation to actual flying time also increased. (See chart 4.) This increase had a positive impact on requirements for pilots. In short, the average airborne speed in the late 1950's and 1960's serves as a proxy for the impact of the changing technology and environment of air carrier operations during this period. BLS estimates, derived from FAA forecasts, show that the average airborne speed of aircraft will increase at a much slower pace through 1977. According to FAA,[26] the substitution of jet for propeller-driven craft will be completed in the early 1970's. Thus, the impact of jet aircraft on pilot requirements will not be as important a factor through most of the 1970's as during the late 1950's and 1960's. Therefore, the effect of the expected slowdown in the growth of the speed variable on pilot requirements aptly simulates what should be expected over the projection period as the technology and environment of air carrier operations changes.

Admittedly, average airborne speed is a crude factor to measure the net impact of all the complex and diverse factors that affect requirements for pilots. However, data were limited, and attempts to develop variables more directly representing the influence of factors such as the mix of aircraft were not successful. Test equations became extremely complex and unwieldy, and the quality of the data inputs became questionable, notwithstanding the practical problem of adequately projecting these variables before an estimate of pilot employment in the target year could be developed.

Time. Time as an independent variable in the method B equation measures the net impact of the changing relationship among revenue aircraft hours, the proxy variable, and pilot employment during the 1953-66 period. It may, for example, be measuring a general increase in the efficiency of air carrier operations over the period caused by factors such as improved scheduling of flights, improved aid to pilot flight preparation, and economies of scale. Time in the equation (with other influences being held constant) has a negative influence on requirements for pilots. If revenue aircraft hours and speed were unchanged from one year to the next, about 460 fewer pilots would be needed to maintain the level of air carrier operations. The magnitude of the impact of the time variable appears reasonable.

[26] *Aviation Forecasts Fiscal Years 1967-77,* op. cit., table 3, p. 22.

Table 25. Selected results of regression analysis for projecting employment requirements for mechanics in U.S. route air carriers

Independent variable	Projected mechanic employment (1977)	Variables statistically significant (t-value) p = .05	Standard error of estimate	R^2	Durbin-Watson (based on 14 years of data)
A1/	61,948	---	4,657	0.26	0.22
B2/	46,801	2/B	2,326	.81	1.09
C3/	54,068	3/C	2,126	.85	1.03
A1/, B2/	64,779	1/A, 2/B	1,497	.93	1.72
A1/, C3/	62,811	3/C	1,993	.88	1.02
A1/, B2/, C3/	65,844	1/A, 2/B	1,474	.94	2.02

1/A = Revenue aircraft hours.
2/B = Average airborne speed.
3/C = Time.

SOURCE: Bureau of Labor Statistics.

The 1977 U.S. route air carrier pilot employment projection developed through method B is 47,800. (See chart 5.) Supplemental airline and commercial operators pilot employment in 1977, not covered by this technique, is estimated at about 3,000; this increase brings the total U.S. air carrier pilot projection to nearly 51,000. This estimate is nearly identical to the estimate derived through method A. (See table 22.)

U.S. air carrier mechanic projection method

A number of variables were selected and regressed separately and in combination against mechanic employment in U.S. route air carriers for the period 1953-66. All variables were analyzed before the explanatory equation was selected and used to project mechanic employment requirements.

The combination of variables best explaining mechanic employment in U.S. route air carriers over the 1953-66 period was revenue aircraft hours, average airborne speed, and time. The explanatory variables and the form of the equation were the same as those selected for projecting pilot employment (page 24) and are as follows:

$$y = -16{,}158 + \underset{(.0013)}{.004739\,X_1} + \underset{(.0437)}{.138728\,X_2} - \underset{(.5383)}{.623520\,X_3}$$

The basic data used in the equation are shown in table 23, and the actual and computed levels of mechanic employment and the projected requirements are presented in chart 6. Table 25 provides additional information on the statistical relationships among the variables selected. In summary, the three independent variables together explain about 94 percent of the

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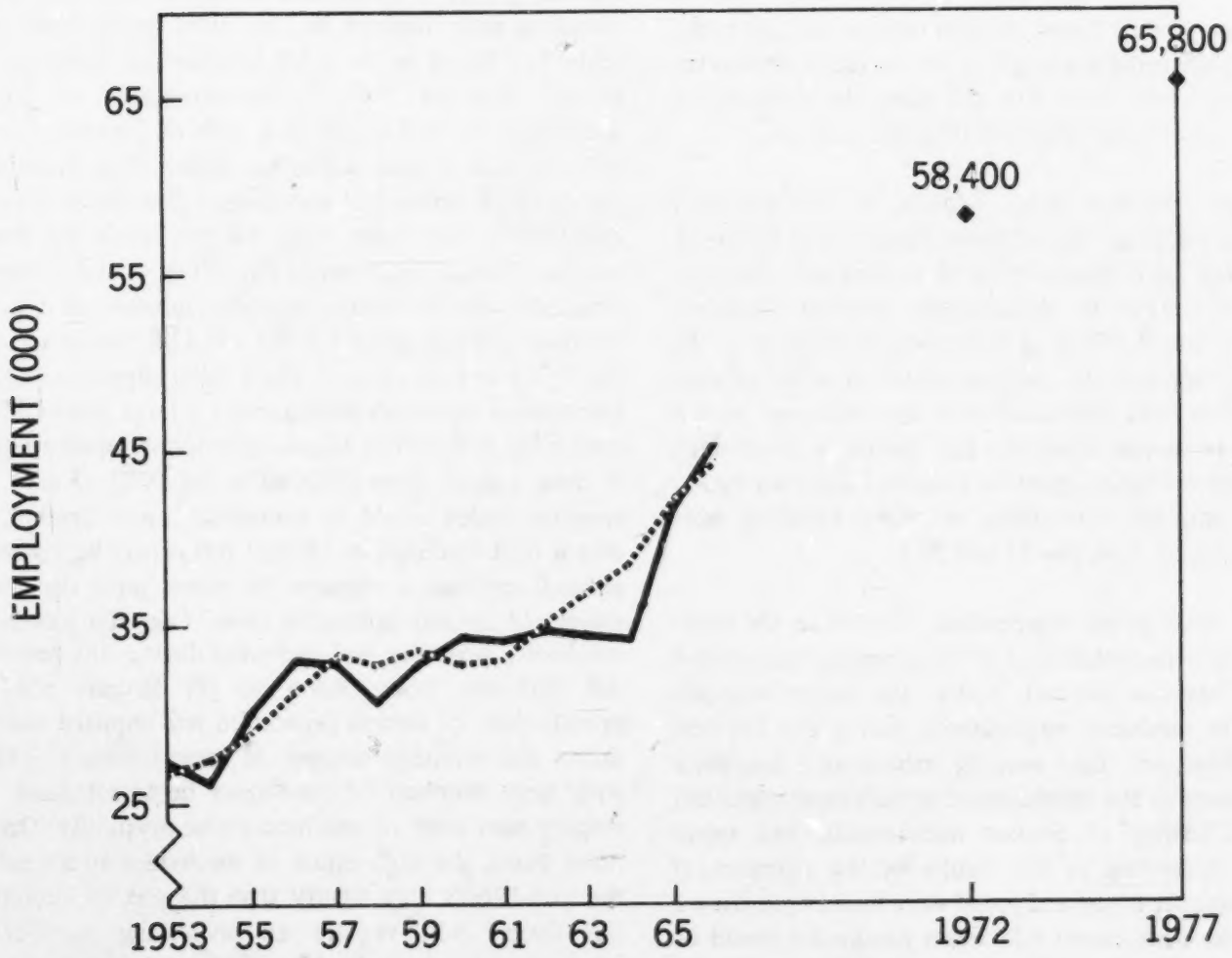
CHART 6

EMPLOYMENT OF MECHANICS IN U.S. ROUTE AIR CARRIERS, ACTUAL 1953-66, AND ESTIMATED 1953-66, 1972, AND 1977

—— ACTUAL
····· CALCULATED

X_1 = REVENUE AIRCRAFT HOURS
X_2 = AVERAGE AIRBORNE SPEED
X_3 = TIME

$$y = -16{,}158 + \underset{(.0013)}{.004739\,X_1} + \underset{(.0437)}{.138728\,X_2} - \underset{(.5383)}{.623520\,X_3}$$



SOURCE: BUREAU OF LABOR STATISTICS.

variation in mechanic employment between 1953 and 1966. The unexplained residuals are not inconsistent with being distributed randomly. Both hours and speed are statistically significant in the equation; time is much less so. Based on the information available, a final projection for mechanics of 67,000 for 1977 and 58,500 for 1972 seems reasonable. These projected requirements levels are somewhat above the computed levels but well within the possible range of error in the computed projection. (See table 25.) This upward adjustment was made to reflect the anticipated ratio of mechanics to aircraft. (See discussion, page –)

In addition to mechanics employed by certificated route air carriers, a relatively small number of mechanics are employed by supplemental and commercial operators. The number of mechanics employed by these carriers is estimated at about 2,500 in 1972 and 3,000 in 1977; the total U.S. air carrier mechanic employment projections are 61,000 for 1972 and 70,000 for 1977.

Revenue aircraft hours. Annual revenue aircraft hours is a very important determinant of the requirements for mechanics. Given fleet size and mix, the demand for mechanics rises as revenue aircraft hours increase.

Average airborne speed. Speed, in the equation explaining mechanic employment, functions in much the same manner as in the equation explaining pilot employment. It is a proxy for the changing mix and utilization of aircraft and the level of technology embodied in the aircraft. In addition, the general efficiency of the process of providing fleet maintenance is also reflected by the speed value in the equation. The problems involved in performing multiple regression analysis for the air carrier industry and the limitations of proxy variables were discussed earlier. (See pp. 22 and 24.)

Time. Time as an independent variable in the equation explains the net impact of the changing relationship between revenue aircraft hours, the proxy variable speed, and mechanic employment during the 1953-66 period. Moreover, time may be measuring a long-term improvement in the reliability of aircraft equipment and in the efficiency of aircraft maintenance and repair services. According to the results of the equation, if revenue aircraft hours and speed were unchanged from 1 year to the next, about 624 fewer mechanics would be needed to maintain the fleet in the second year. Similar to the impact of time in the equation for projecting pilot requirements, the magnitude of the impact appears reasonable in this equation.

Table 26. Ratio of mechanics to aircraft, U.S. route air carriers, 1953-67

Year	Mechanics	Aircraft	Ratio of mechanics to aircraft
1953	27,400	1,421	19.3
1954	26,100	1,446	18.0
1955	30,400	1,480	20.5
1956	32,700	1,723	19.0
1957	32,900	1,835	17.9
1958	30,800	1,896	16.3
1959	32,800	1,850	17.7
1960	34,500	1,867	18.5
1961	34,065	1,877	18.1
1962	34,925	1,831	19.1
1963	34,453	1,832	18.8
1964	39,360	1,863	21.1
1965	41,667	1,896	22.0
1966	45,327	2,027	22.4
1967	50,010	2,188	22.9

SOURCE: 1953-60: *Employment Requirements and Changing Occupational Structure in Civil Aviation*, op. cit., pp. 18 and 21. 1961-66: *FAA Statistical Handbook of Aviation*, op. cit., 1962-67 Editions. 1967: *Facts and Figures, 1968*, op. cit., pp. 38 and 40.

To verify the reasonableness of the above mechanic projections, mechanic to aircraft ratios were computed for the period 1953-66 and compared with the corresponding ratio implied by the 1977 projections. (See table 26.) Based on the FAA forecasts of 3,500 aircraft in the fleet in 1977,[27] the projection of 70,000 mechanics in 1977 results in a ratio of 20 mechanics to each aircraft—a ratio somewhat higher than in most of the 1953-66 period but somewhat below the level in the mid-1960's. The ratios appeared reasonable for several reasons. First, the number of aircraft used to develop the ratios for the projection periods represent all U.S. air carriers, whereas those for the 1953-67 period are only for U.S. route air carriers. The smaller supplemental and commercial operators contract out a large share of their maintenance activities to general aviation repair stations. If these carriers were included in the 1953-67 data, the resulting ratios would be somewhat lower. Second, the recent high mechanic-to-aircraft ratios may be viewed as unusual—perhaps a response to recent rapid rises in air travel and aircraft utilization rates. Also, the training of mechanics probably was increased during this period as the shiftover from piston to jet aircraft and the introduction of second generation jets required reorientation and refresher courses for some mechanics. Thus, with large numbers of mechanics being retrained, the employment level of mechanics rose atypically. On the other hand, the high ratios of mechanics to aircraft in the mid-1960's may signify that the mix of aircraft of the future will require an increasing number of mechanics per aircraft. The increased complexity of instrumentation, for example, may more than offset the

[27] *Aviation Forecasts Fiscal Years 1967-77*, op. cit., table 3, p. 22.

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Table 27. Preliminary and final estimates of the instructional flying aircraft fleet, by type of aircraft, 1967, 1972, and 1977

Type of aircraft	1964 fleet size	1975 original FAA forecast of fleet size	Preliminary estimates of fleet size			Final estimate of fleet size		
			Interpolated 1967	Interpolated 1972	Extrapolated 1977	1967	1972	1977
Total	6,855	14,550	9,059	12,731	15,952	8,680	12,775	16,399
Single-engine	6,545	14,000	8,666	12,200	15,357	8,315	12,267	15,734
Multiengine	120	200	142	178	215	134	175	210
Turbine	9	30	20	39	34	9	32	58
Rotorcraft	73	170	109	168	188	96	150	227
Other	108	150	122	146	158	126	151	170

SOURCE: 1964 Fleet Size—*General Aviation—A Study and Forecast of the Fleet and Its Use in 1975,* op. cit., pp. 48-52. Preliminary and final estimates for 1967, 1972, and 1977 developed by the Bureau of Labor Statistics.

easier to maintain jet engines, the greater efficiencies in aircraft maintenance, and the greater reliability of electronic equipment. The argument in favor of higher mechanic to aircraft ratios in the future was discarded, however, after discussing the matter with industry officials and evaluating the experience of other industries as to the effect of rapid changes in technology on mechanic levels. Thus, the projected employment requirements for mechanics by the air carriers of 61,000 and 70,000 for 1972 and 1977, respectively, were considered reasonable.

General aviation pilot and mechanic employment requirements

The lack of historical data on general aviation pilot and mechanic employment made more difficult the development of methods for projecting employment in this sector. The specificity needed in pilot projections (type of flying) further narrowed the potential approaches. The methods selected and described in the following paragraphs were designed to utilize the data that were already available or that could be developed from existing records. These methods, and those of the air carriers, were designed to reflect forecasts of key industry variables published by the FAA; for example, forecasts of the size and composition of the aircraft fleet and flight hours. They were structured so that future shifts in FAA forecasts may be incorporated into the procedures and their implications on manpower requirements measured. The employment projections presented in this study reflect, and are dependent upon, the realization of general aviation forecasts prepared by FAA.[28]

General aviation pilot projection method

In general, the procedure selected to project general aviation pilot employment requirements by type of flying was (1) to construct current pilot-to-aircraft ratios; (2) project these relationships to the target years; and (3) apply the projected relationship to aircraft fleet forecasts. This procedure assumes that there exists a relationship between changes in the number of aircraft operated by the various sectors of general aviation and the requirements for pilots. The three basic inputs used in this system are:

1. Current pilot employment by type of flying.
2. Fleet size for each flying activity, by type of aircraft, 1967, 1972, and 1977.
3. Pilot-to-aircraft ratios for each type of flying activity, by type of aircraft, 1967, 1972, and 1977.

Current pilot employment. In the past, studies conducted to determine future pilot needs in general aviation have been hampered by the complete lack of reliable data on the current employment of professional pilots. The availability of current employment is essential, of course, as a base upon which to build projections. To establish current pilot employment, the FAA was requested to prepare a special tabulation of pilot employment from active aeromedical records. This tabulation provided an unduplicated count of all pilots residing in the United States who had undergone the required medical examination during the 15-month

[28] *Aviation Forecasts Fiscal Years 1967-77,* op. cit.

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period ending August 1967. This tabulation identified both the occupation and industry of employment of the pilots and made possible the elimination of all nonprofessional pilots from consideration in the pilot count. For example, those reporting their primary occupation as other than pilot were deleted. Similarly, pilots employed outside of general aviation, such as airlines and government, were removed.

The following tabulation shows pilot employment levels in 1967 for each type of flying activity, derived from FAA aeromedical records:

Type of flying	*1967 Pilot employment*
Total, general aviation	25,028
Aerial application	1,543
Instructional flying	3,336
Other flying	[1]500
Total, not specified	19,649
Executive	[2]11,893
Air Taxi	[2]6,224
Industrial/special	[2]1,532

[1] Based on the small size and low utilization of the aircraft in this flying activity, pilot employment was estimated to be about 500 in 1967. It should be noted that while this is basically a judgment estimate, it seems reasonable and, even if it is in substantial error, it would have little impact on total pilot requirements during the next decade.

[2] Only a single employment control total for executive, air taxi, and industrial/special flying activities could be obtained from the FAA medical records data. To determine the 1967 employment levels for each of these flying activities, the control total was used to establish pilot/aircraft ratios. The ratios then were applied to estimates of the aircraft fleet by type of aircraft in each activity and the resulting pilot employment summed to a total for each activity.

General aviation aircraft fleet, by type of aircraft and flying activity, 1967, 1972, and 1977. Estimates of the general aviation fleet size by type of aircraft and type of flying were derived through the use of two FAA reports. The first provided 1975 fleet forecasts by type of aircraft for each activity.[29] The second provided revised forecasts at an aggregated level but did not identify the information on aircraft by type of flying (table 11). To move from the forecasts presented in these reports to the final fleet estimates required by the projection technique, three separate steps were required. First, using the 1964-75 data presented in the first FAA report, preliminary 1967, 1972, and 1977 fleet estimates were developed by type of flying and type of aircraft by extrapolating the 1964-75 estimated aircraft fleet to 1977 and interpolating to derive 1967 and 1972 estimates. These preliminary estimates then were totaled by type of aircraft and compared with the more recent FAA forecasts. Revised estimates of fleet size for each type of flying then were computed by forcing, on a simple prorata basis, the preliminary estimates to the more current FAA forecasts. (Table 27 illustrates this procedure and shows the resulting 1967, 1972, and 1977 fleet estimates for instructional flying.) Since this study concerns only professional pilots, the final step was to eliminate from the fleet estimates all aircraft used in personal flying, as well as business aircraft flown by nonprofessionals. Aircraft used for personal purposes were removed simply by subtracting from the total general aviation fleet all aircraft used in personal flying. On the other hand, the business fleet was first divided into two components—executive and other business—on the basis of the proportion reported in each activity in 1964. The aircraft in the "other business" component then were subtracted from the general aviation fleet estimates. Table 28 shows the final estimates and projections of fleet size for each flying activity by type of aircraft derived through this procedure.

General aviation pilot/aircraft ratios. Having developed estimates of pilot employment and aircraft fleet for each flying activity, an overall pilot-to-aircraft ratio then could be computed (pilot employment/number of aircraft) for each type of flying in general aviation. However, in order that final pilot employment projections reflect the forecasted shifts in aircraft fleet mix during the next decade, it was necessary to establish pilot-to-aircraft ratios for each type of aircraft in each flying activity.

Such ratios were computed separately for aerial application, instructional flying, and other flying. Only one set of ratios representing executive transportation, air taxi, and industrial/special flying combined could be developed, since pilot employment data from FAA aeromedical records were limited to a single control total covering all three of these activities. Although a distinct set of ratios for each flying activity would be preferable, the single set may be adequate since the aircraft utilization patterns reported[30] for these flying activities are quite similar.

Table 29 illustrates the procedures followed in developing pilot/aircraft ratios for executive, air taxi, and industrial/special flying combined. First, the 1964 aircraft fleet and total flight hours by type of aircraft

[29] *General Aviation—A Study and Forecast of the Fleet and Its Use in 1975* (Federal Aviation Administration, July 1966).

[30] *General Aviation, A Study and Forecast of the Fleet and Its Uses, 1975,* (Federal Aviation Administration, July 1966), tables 24-53.

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Table 28. Estimated general aviation aircraft fleet,1/ by type of flying and type of aircraft, 1967, 1972, and 1977

Type of flying	Type of aircraft					
	Total aircraft	Single-engine	Multiengine	Turbine	Rotorcraft	Other
Executive transportation:						
1967	12,610	5,974	5,601	705	330	--
1972	17,500	7,203	6,724	2,993	580	--
1977	22,817	8,103	7,978	5,814	922	--
Air-taxi:						
1967	7,029	4,091	2,300	172	456	10
1972	11,198	5,567	4,151	811	642	27
1977	15,270	6,810	5,880	1,618	919	43
Aerial application:						
1967	5,169	4,905	87	--	177	--
1972	6,240	5,859	95	--	286	--
1977	7,081	6,542	100	--	439	--
Industrial/special:						
1967	1,867	1,348	236	--	279	4
1972	2,206	1,553	276	--	371	6
1977	2,513	1,685	306	--	514	8
Instructional:						
1967	8,680	8,315	134	9	96	126
1972	12,775	12,267	175	32	150	151
1977	16,399	15,734	210	58	227	170
Other:						
1967	2,235	1,697	360	7	100	71
1972	2,814	2,157	325	22	172	138
1977	3,302	2,522	273	38	271	198

1/Excludes aircraft in personal and business flying except executive transportation.

SOURCE: Bureau of Labor Statistics.

reported by the FAA were used to obtain average annual hours flown by type of aircraft (Col. 3). The annual flight hours then were applied to the estimated 1967 aircraft fleet resulting in estimates of total hours flown by each type of aircraft for 1967. Total 1967 hours then were adjusted for the estimated crew compliment (Col. 7), and the resulting distribution (Col. 8) was used to distribute the total pilot population (19,649) (Col. 9) among the various type aircraft. Individual pilot/aircraft ratios for each type of aircraft then were computed by simply relating the number of pilots to the number of aircraft (Col. 10).

This procedure was followed for each of the other flying activities, i.e.,–aerial application, instructional flying, and other flying activities. Estimates of pilots per crew for multi-engine aircraft varied among the flying activities, depending on the proportion of aircraft over 800 h.p. to the total number of multi-engine aircraft in the various flying activities. The estimated number of pilots per crew for turbine powered aircraft was based on normal crew compliments reported by FAA.[31]

The final estimates of 1967 pilot-to-aircraft ratios developed for general aviation, by type of aircraft and type of flying, are shown in table 30.

Projections of pilot-to-aircraft ratios in general aviation to 1972 and 1977 were based on expected changes in aircraft utilization patterns (hours flown), assuming that regulated crew sizes in each type of flying activity will not change over the projection period. Table 31 shows that FAA forecasts little change in the average flight hours for most types of aircraft flown by professional pilots in general aviation, the sole exception

[31] Ibid.

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Table 29. Procedure for estimating executive, air taxi, and industrial/special flying pilot/aircraft ratios, by type of aircraft, 1967

Type of aircraft	Aircraft fleet[1/]	1964 total hours flown[2/] (In thousands)	1964 average hours flown per aircraft (Col. 2 ÷ Col. 1)	1967 estimated aircraft fleet[3/]	1967 estimated hours flown (In thousands) (Col. 3 x Col. 4)	Pilots per crew	Weight flight hours (In thousands) (Col. 5 x Col. 6)	Percent distribution of weight flight hours	1967 estimated number of pilots	1967 estimated pilot/aircraft ratios (Col. 9 ÷ Col. 4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total . . .	28,205	8,189	--	21,506	6,428	--	7,246	100.0	19,649	--
Single-engine . . .	18,333	5,091	277.7	11,413	3,169	1.00	3,169	43.7	8,587	.7524
Multiengine . . .	8,652	2,643	305.5	8,137	2,486	1.25	3,108	42.9	8,429	1.0359
Turbine	285	127	445.6	877	391	1.50	587	8.1	1,592	1.8153
Rotorcraft	932	326	349.8	1,065	373	1.00	373	5.2	1,022	.9596
Other	3	2	666.7	14	9	1.00	9	.1	20	1.4286

SOURCE: 1964 Aircraft Fleet — *General Aviation—A Study and Forecast of the Fleet and Its Use in 1975,* op. cit., appendix tables C, I, and M, pp. 109, 115, and 119. 1964 total hours flown—Ibid., appendix tables D, J, and N, pp. 110, 116, and 120. 1967 estimated aircraft fleet—Bureau of Labor Statistics. See table 28. Pilots per Crew—*General Aviation—A Study and Forecast of the Fleet and Its Use in 1975,* op. cit., tables 42 and 43. 1967 estimated number of pilots—pilots population from text tabulation, p. 93.

Table 30. Estimated ratio of pilots to aircraft in general aviation, by type of aircraft and type of flying, 1967

Type of flying	Type of aircraft				
	Single-engine	Multiengine	Turbine	Rotorcraft	Other
Executive transportation	0.75	1.04	1.82	0.96	1.43
Air-taxi	.75	1.04	1.82	.96	1.43
Aerial application	.29	.13	--	.69	--
Industrial/special	.75	1.04	1.82	.96	1.43
Instructional	.39	.43	.78	.39	.13
Other	.15	.37	1.71	.80	.31

NOTE: Ratios have been rounded for presentation.

SOURCE: Bureau of Labor Statistics.

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being a 25 percent rise in the flight hours of turbine-powered aircraft. To reflect FAA's forecast of a rise in turbine aircraft utilization in BLS projections of pilot/aircraft ratios, the 1967 turbine ratios for each type of flying activity were increased by 12.5 percent and 25 percent for 1972 and 1977, respectively. The 1972 and 1977 ratios for all other types of aircraft were held at their 1967 levels.

The last step in projecting employment requirements for pilots in general aviation was to apply the individual pilot/aircraft ratios developed for 1972 and 1977, by type of aircraft, to the corresponding estimate of fleet size in each flying activity. (See table 32 for an illustration of this procedure as applied to instructional flying.) The resulting number of pilots, by type of aircraft, then were totaled for each flying activity. (See table 18 for final projections of pilot employment requirements in general aviation.)

It should be noted again that the development of satisfactory pilot projection methods was hampered severely by the lack of relevant statistical data. Should data such as an annual series on pilot employment in general aviation become available, the method presented here should be reappraised.

General aviation mechanic projection method

The method used to project mechanic employment requirements in general aviation involved the development of 1967 ratio of mechanics to total general aviation flight hours, and the application of this ratio to FAA forecasts[32] of flight hours in 1972 and 1977. This procedure assumes that increases in mechanic productivity resulting from improved tools, testing equipment, and the centralization of repair activities will be offset by the continued trend toward larger, more complex aircraft with higher maintenance requirements. Of the available data, flight hours were selected as the best measure of future growth in mechanic employment, since a large share of aircraft maintenance results from regulations requiring aircraft inspection and overhaul based on the number of hours flown.

To determine a 1967 mechanic employment level, two sources were utilized. First, an estimate was made of mechanic employment in certificated repair stations by tabulating the number of technical personnel (mechanics and repairmen) shown on each repair station's annual inspection report (FAA form 3572).[33] Employees of certificated repair stations outside general aviation, i.e., government and air carriers, were identified and deducted from the total. Next, estimates of mechanics and repairmen employed in noncertificated repair stations were obtained from unpublished records maintained at each FAA regional office. By combining the data from these sources, mechanic employment in 1967 was estimated to be 50,400 (table 16). Using this employment estimate, the ratio of mechanic to flight hours was computed and applied to the FAA 1972 and 1977 forecast of flight hours in general aviation (table 12). Following this procedure, requirements for mechanics were projected to increase to 72,100 in 1972 and 92,800 in 1977.

Table 31. Average annual utilization of general aviation aircraft, by type of aircraft, 1964, and forecast to 1975

Type of aircraft	Average annual utilization (hours flown)		
	1964	1975	Percent change, 1964-75
Single engine piston (four-places and over)	176	172	- 2.3
Multiengine piston	278	260	- 6.5
Turbine	448	560	+25.0
Rotorcraft	342	337	- 1.5
Other	88	83	- 5.7

SOURCE: *General Aviation*—A Study and Forecast of the Fleet and Its Use in 1975, op. cit., table 2; Pt. III, p. 19.

Government pilot and mechanic employment requirements

The projections of pilot employment requirements in government are judgmental, based on an analysis of available historical data and discussions with knowledgeable government officials. The relatively small numbers of pilots and mechanics employed in this sector, coupled with limited data available, precluded the development of a projection model. Current levels of pilot and mechanic employment in nonmilitary government agencies was compiled from several sources. The U.S. Civil Service Commission provided historical information on most pilots employed by Federal agencies. Additional data were obtained directly from the principal Federal agencies employing pilots and mechanics. State and local government estimates were developed from the special tabulation of aeromedical records provided by the FAA.

To project employment, historical data relating to Federal Government employment of pilots and mechanics were analyzed. Discussions concerning probable future developments were held with officials of

[32] *Aviation Forecasts Fiscal Years 1967-77*, op. cit., table 8, p. 27.

[33] In addition to the total number of technical personnel, this report also enumerates separately the number of mechanics and repairmen who were certificated.

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Table 32. Procedure for projecting employment requirements for pilots in instructional flying, by type of aircraft, 1972 and 1977

Type of aircraft	1972			1977		
	Aircraft fleet	Pilot/aircraft ratios	Pilot employment requirements (Col. 1 x Col. 2)	Aircraft fleet	Pilot/aircraft ratios	Pilot employment requirements (Col. 4 x Col. 5)
	(1)	(2)	(3)	(4)	(5)	(6)
Total	12,775	--	4,927	16,399	--	6,344
Single-engine (four-places and over)	12,267	.3870	4,747	15,734	.3870	6,089
Multiengine	175	.4254	74	210	.4254	89
Turbine	32	.7778 1/	28	58	.7778 1/	56
Rotorcraft	150	.3854	58	227	.3854	87
Other	151	.1349	20	170	.1349	23

1/ 1967 pilot/aircraft ratios for turbine aircraft were adjusted upwards by 12.5 percent to derive the 1972 estimate and by 25 percent for the 1977 estimate; all other ratios were maintained at the 1967 level.

SOURCE: Aircraft Fleet—data from table 27. Pilot/aircraft ratios—data from table 29 (unrounded).

most of the principal Federal agencies employing these workers. Based on this information, requirements for pilots are expected to increase from an estimated 2,000 in 1967 to 2,400 by 1972 and 2,900 by 1977 (table 19). Mechanic employment, however, is expected to remain at about 1,100 throughout the projection period.

Pilot and mechanic replacement requirements

For the purpose of this study, replacement requirements relate to the number of pilots and mechanics who will be needed to replace those who leave employment due to normal, early, and disability retirement, and death.[34] Lack of data prevented the development of a single, systematic procedure for estimating pilot and mechanic replacement needs for each sector of civil aviation. In air carriers, all pilots reaching age 60 during the decade ahead were assumed to have retired. Estimates of early retirements, disability retirements, and deaths were based on recent industry experience. In general aviation and government, all pilots reaching age 65 were assumed to have retired. Losses due to death, early retirement, etc., were developed using the BLS age specific separation rates. These rates also were used to estimate mechanic losses in all three sectors of civil aviation.

U.S. air carrier pilot replacement needs. The technique used to estimate U.S. air carrier pilot losses due to retirement and death were based on the following major assumptions: (1) The mandatory retirement age for U.S. air carrier pilots will remain at age 60, and early retirement provisions will remain open to most airline pilots at age 55; (2) The number of pilots leaving employment for other than normal retirement, i.e., for early retirement, disability retirement, and death, will follow patterns similar to recent experience; and (3) the new pilots hired by air carriers will be limited to persons under 45 years of age.

During the next decade, a large proportion of replacement needs will stem from the retirement of currently employed pilots. (According to this study, retirements alone will account for 70 percent of all replacement needs.) Currently, FAA regulations require that air carrier pilots retire at 60 years of age. Most company, union, and Government officials indicate that a change in the mandatory retirement age is unlikely over the next decade.

[34] To fully appraise the overall requirements for pilots and mechanics in civil aviation over the next decade, transfers out of these occupations should be considered. However, lack of appropriate data made the development of such estimates impossible. A transfer out of an occupation occurs when a worker moves to another occupation, e.g., from airline pilot to real estate salesman or from aircraft mechanic to automobile mechanic. Hypothetically, if 5 percent of the mechanics employed in civil aviation transferred out each year over the next decade, about 65,000 job openings would be created. However, caution should be used in interpreting such estimates. An analysis of the supply of workers in the occupation, not attempted in this study, would include data on transfers to aircraft mechanic from other occupations. The magnitude of transfers-in theoretically could exceed, equal, or fall short of the number of transfers-out. Thus, the number of transfers-in can reduce the importance of transfers-out in any evaluation of occupational requirements. Equally important, the experience level of workers transferring into an occupation should be evaluated in developing estimates of training requirements.

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Since all pilots currently over 50 years of age will retire or otherwise leave the labor force during the 1967-77 decade, the first step was to obtain an age distribution of currently employed U.S. air carrier pilots. For this purpose, a special unpublished tabulation was prepared from FAA aeromedical records reporting the age distribution of all air carrier pilots. Pilot retirement losses then were derived by totaling the number of pilots reaching the mandatory retirement age during each of the projection periods–1968-72 and 1973-77. For example, all air carrier pilots currently 55-59 years of age will leave the work force by 1972. This procedure accounted for losses, due to all causes, that will be experienced by pilots currently 50 years of age or over.[35]

In addition, it was necessary to estimate the number of pilots currently under 50 years of age who will take advantage of early retirement options. Air carrier pilots, currently 45 to 50 years of age, will be eligible for early retirement some time during the 1973-77 period. Estimates of early retirements for these pilots were developed from a special survey conducted by the Air Transport Association.[36] This survey reported the number of early retirements experienced during 1966. By relating early retirements to the eligible pilot population (those 55-60 years of age) in 1966, an early retirement rate of 1.84 percent was derived. Estimates of early retirements for the 1973-77 period then were computed by applying this rate to the number of pilots eligible for early retirement each year beginning in 1973 (the year those currently 50 years of age are eligible for early retirement).

The remaining replacement requirements covered by this study, i.e., those stemming from disability retirement and death of persons under 50 years of age, were developed based on 1966 experience reported in the previously cited special ATA survey. An annual rate was developed from this survey that measured the number of pilots leaving the work force in 1966 either because of disability, retirement, or death. Estimates for the next decade then were computed by applying this rate (.35 percent) to the total pilot employment projection needs for each year from 1968 to 1977. (See table 9 for estimates of U.S. air carrier pilot replacement needs.)

General aviation and government pilot replacement needs. The estimates of retirement and death requirements for general aviation and government pilots were based on a number of assumptions. First, to facilitate estimating pilot retirements, it was assumed that general aviation and government pilots will retire by age 65. Since fewer than 150 pilots over 65 years of age were employed in general aviation in 1967, this stipulation had little impact on future pilot needs. Second, the age distribution of pilots in general aviation and government was assumed to remain constant through the decade ahead. Finally, it was assumed that "age specific separation rates," developed by BLS and based on the worklife experience of all males, are applicable to general aviation and government pilots in comparable age groups under 60 years of age.[37]

The development of estimates of general aviation and government pilot losses due to retirements and deaths involved two major procedures. First, the distribution of pilots by current age was based on the special tabulation prepared from FAA aeromedical records. All pilots reaching age 65 during either of the two projection periods (1968-72 and 1973-77) were counted as losses to employment. Next, estimates were made of the number of pilots who will not reach age 65 by 1977, but who will leave the work force due to retirement or death, by applying BLS 5-year age specific separation rates to comparable pilot age distribution intervals. To carry out this procedure, it was necessary to estimate the mid-points of employment requirements in each projection period (1968-72 and 1973-77) through interpolation.[38] The mid-point employment estimates then were distributed among the age groups using the current age distribution obtained from the FAA aeromedical records. Finally, the BLS 5-year age specific separation rates were applied to employment in each age interval. (See tables 33 and 34.) Total replacement needs then were determined by summing estimated losses for all age groups in each period, 1968-72 and 1973-77. Within general aviation, estimates of deaths and retirements were established for each flying activity by distributing losses for each projection period among the separate

[35] Early retirements are not identified separately for those pilots currently over 50 years of age. Consequently, the resulting estimates of losses may be somewhat understated for the first 5-year period and overstated for the second 5-year period. Furthermore, the estimates include a small number of pilot losses for reasons other than retirement or death, such as promotion or transfer to another industry of employment.

[36] Air Transport Association of America, unpublished survey, June 1966, dated January 1967.

[37] For a full discussion of the development and use of BLS separation rates, including their limitations, see *Tomorrow's Manpower Needs, National Manpower Projections and a Guide to Their Use as a Tool in Developing State and Area Manpower Projections* (BLS Bulletin 1606, Volume I, "Developing Area Manpower Projections") p. 47.

[38] The mid-point of each projection period was used to account for the retirement or death of entrants into the occupation during the next decade.

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Table 33. Procedure for estimating general aviation pilot retirement and death losses, 1968-72 and 1973-77

Age group	Percent distribution of pilots	Estimated distribution of employment		5-Year age specific separation rates for males	Deaths and retirements		
		Mid-point 1968-72 (Col. 2 x total of Col. 3)	Mid-point 1973-77 (Col. 2 x total of Col. 4)		Total 1968-77 (Col. 7 + Col. 8)	1968-72 (Col. 3 x Col. 5)	1973-77 (Col. 4 x Col. 5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	100.0	32,094	47,446		5,502	2,220	3,282
16-19	.18	58	85	.00762	1	0	1
20-24	3.60	1,155	1,708	.00882	25	10	15
25-29	9.27	2,975	4,398	.00903	67	27	40
30-34	14.47	4,644	6,865	.01485	171	69	102
35-44	39.54	12,690	18,760	.02917	917	370	547
45-54	27.00	8,665	12,810	.09162	1,968	794	1,174
55-59	3.71	1,191	1,760	.19614	579	234	345
60 and over . .	2.23	716	1,058	(1/)	1,774	716	1,058

1/All pilots reaching age 65 during either of the two projection periods were counted as losses to employment.

NOTE: Individual parts may not add to totals due to rounding.

SOURCE: Percent distribution of pilots—based on FAA aeromedical records. Five-year age specific separation rates for males—BLS estimates based on the work life experience of all male workers.

Table 34. Procedure for estimating government pilot retirement and death losses, 1968-77, 1968-72, and 1973-77

Age group	Percent distribution of pilots	Estimated distribution of employment		5-Year age specific separation rates for males	Deaths and retirements		
		Mid-point 1968-72 (Col. 2 x total of Col. 3)	Mid-point 1973-77 (Col. 2 x total of Col. 4)		Total 1968-77 (Col. 7 + Col. 8)	1968-72 (Col. 3 x Col. 5)	1973-77 (Col. 4 x Col. 5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	100.0	2,210	2,671		337	153	185
16-19	.18	4	5	.00762	0	0	0
20-24	3.60	80	96	.00882	1	1	1
25-29	9.27	205	248	.00903	4	2	2
30-34	14.47	320	386	.01485	11	5	6
35-44	39.54	874	1,056	.02917	56	25	31
45-54	27.00	597	721	.09162	121	55	66
55-59	3.71	82	99	.19614	35	16	19
60 and over . .	2.23	49	60	(1/)	109	49	60

1/All pilots reaching age 65 during either of the two projection periods were counted as losses to employment.

NOTE: Individual parts may not add to totals due to rounding.

SOURCE: Percent distribution of pilots—based on FAA aeromedical records. Five-year age specific separation rates for males—BLS estimates based on the work life experience of all male workers.

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Table 35. Estimated general aviation pilot retirements and deaths, by type of flying, 1968-77, 1968-72, and 1973-77

Type of flying	Estimated percent distribution of employment		Retirement and deaths		
	Mid-point 1968-72	Mid-point 1973-77	Total	1968-72	1973-77
Total	100.0	100.0	5,502	2,200	3,282
Executive transportation	48.2	50.1	2,713	1,070	1,643
Air-taxi	26.5	28.1	1,510	589	921
Aerial application	5.4	4.3	260	119	141
Industrial/special	5.2	4.1	251	116	135
Instructional	12.9	11.9	676	286	390
Other	1.8	1.6	92	40	52

SOURCE: Bureau of Labor Statistics.

Table 36. Procedure for estimating U.S. air carrier mechanic retirement and death losses, 1968-77, 1968-72, and 1973-77

Age group	Percent distribution of airplane mechanics	Estimated distribution of employment		5-Year age specific separation rates for males	Deaths and retirements		
		Mid-point 1968-72 (Col. 2 x total of Col. 3)	Mid-point 1973-77 (Col. 2 x total of Col. 4)		1968-77 (Col. 7 + Col. 8)	1968-72 (Col. 3 x Col. 5)	1973-77 (Col. 4 x Col. 5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	100.0	56,500	65,500		6,663	3,086	3,577
14-19	.75	424	491	.00762	7	3	4
20-24	7.13	4,028	4,670	.00882	77	36	41
25-29	16.55	9,351	10,840	.00903	182	84	98
30-34	15.68	8,859	10,270	.01485	285	132	153
35-44	35.29	19,939	23,115	.02917	1,256	582	674
45-54	17.21	9,724	11,273	.09162	1,924	891	1,033
55-59	4.43	2,503	2,902	.19614	1,060	491	569
60-64	2.14	1,209	1,402	.51542	1,346	623	723
65 and over	.84	475	550	.51273	526	244	282

NOTE: Individual parts may not add to totals due to rounding.

SOURCE: Percent distribution of mechanics—U.S. Census of Population: 1960. Subject reports. *Occupational Characteristics,* final report PC (2)-7A. (U.S. Bureau of the Census), table 6, p. 75. 5-Year age specific separation rates for males—BLS estimates based on the work life experience of all male workers.

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Table 37. Procedure for estimating general aviation mechanic retirement and death losses, 1968-77, 1968-72, and 1973-77

Age group	Percent distribution of airplane mechanics	Estimated distribution of employment		5-Year age specific separation rates for males	Retirements and deaths		
		Mid-point 1968-72 (Col. 2 x total of Col. 3)	Mid-point 1973-77 (Col. 2 x total of Col. 4)		1968-77 (Col. 7 + Col. 8)	1968-72 (Col. 3 x Col. 5)	1973-77 (Col. 4 x Col. 5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	100.0	61,270	82,490		7,850	3,347	4,503
14-19	.75	460	619	.00762	9	4	5
20-24	7.13	4,369	5,882	.00882	91	39	52
25-29	16.55	10,140	13,652	.00903	215	92	123
30-34	15.68	9,607	12,934	.01485	335	143	192
35-44	35.29	21,622	29,111	.02917	1,480	631	849
45-54	17.21	10,545	14,197	.09162	2,267	966	1,301
55-59	4.43	2,714	3,654	.19614	1,249	532	717
60-64	2.14	1,311	1,765	.51542	1,585	676	909
65 and over . .	.84	515	693	.51273	619	264	355

NOTE: Individual parts may not add to totals due to rounding.

SOURCE: Percent distribution of airplane mechanics—U.S. Census of Population: 1960, op. cit., table 6, p. 75. 5-Year age specific separation rates for males—Bureau of Labor Statistics estimates based on the work life experience of all male workers.

Table 38. Procedure for estimating government mechanic retirements and death losses, 1968-77, 1968-72, and 1973-77

Age group	Percent distribution of airplane mechanics	Estimated distribution of employment		5-Year age specific separation rates for males	Retirements and deaths		
		Mid-point 1968-72 (Col. 2 x total of Col. 3)	Mid-point 1973-77 (Col. 2 x total of Col. 4)		1968-77 (Col. 7 + Col. 8)	1968-72 (Col. 3 x Col. 5)	1973-77 (Col. 4 x Col. 5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total	100.0	1,100	1,100		122	61	61
14-19	.75	8	8	.00762	0	0	0
20-24	7.13	78	78	.00882	2	1	1
25-29	16.55	182	182	.00903	4	2	2
30-34	15.68	172	172	.01485	6	3	3
35-44	35.29	388	388	.02917	22	11	11
45-54	17.21	189	189	.09162	34	17	17
55-59	4.43	49	49	.19614	20	10	10
60-64	2.14	24	24	.51542	24	12	12
65 and over . .	.84	9	9	.51273	10	5	5

NOTE: Individual parts may not add to totals due to rounding.

SOURCE: Percent distribution of airplane mechanics—U.S. Census of Population: 1960, op. cit., table 6, p. 75. 5-year age specific separation rates for males—Bureau of Labor Statistics estimates based on the work life experience of all male workers.

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general aviation flying activities on the basis of projected pilot employment requirements at the mid-point in each projection period. (See table 35.)

U.S. air carrier, general aviation, and government mechanic replacement needs. A single method was followed to estimate retirement and death losses for mechanics in each sector of civil aviation—air carriers, general aviation, and government. The procedure was as follows: First, estimated employment requirements at the mid-point of each projection period (1968-1972 and 1973-1977) were made through interpolation.[39] Next, employment at each mid-point then was distributed by age group using the age distribution reported in the 1960 decennial Census of Population.[40] Finally, the BLS 5-year age specific separation ratios were applied to employment in each age interval. Total replacement needs were derived by summing estimated losses for all age groups in each projection period. Tables 36-38 show the steps followed and the resulting death and retirement estimates for each sector of civil aviation.

[39] See footnote 38, p. 35.

[40] U.S. Census of Population: 1960. Subject Reports. *Occupational Characteristics*, Final Report PC (2)-7A. (U.S. Bureau of the Census), table 6, p. 71. This procedure assumes that the age distribution of mechanics remains constant during the 1960-77 period. A comparison of the 1950 and 1960 Census data indicates that the age structure shifted upward during the 1950's. However, this trend may not continue during the 1960's and 1970's because of the large number of young workers entering the labor force during these decades.

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4205

VT 012 268
Biennial Survey 1970-72 of Major Industries and Businesses in New York City for which Occupational Training is Given at the High School Level.

New York State Advisory Council for Occupational Education, New York, N.Y.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Sep70 76p.

DESCRIPTORS - *EDUCATIONAL NEEDS; *MANPOWER NEEDS; *EMPLOYMENT OPPORTUNITIES; EMPLOYMENT PROJECTIONS; *OCCUPATIONAL SURVEYS; EDUCATIONAL PLANNING

ABSTRACT - This survey updates 1968 estimates of training needs for 12 major occupations in New York City, including: (1) aeronautics, (2) automotive trades, (3) building trades, (4) cosmetology, (5) drafting, (6) electrical trades, (7) electronics, (8) fashion, (9) food, (10) health, (11) machine and metal trades, and (12) woodworking. The new survey also includes maritime, distributive, business, and climate control occupations, for a total of 16. The survey projects increasing labor market representation by women, youth, and nonwhites over the next 10 years, with most job increases occurring in occupations requiring greater educational attainment. (BH)

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BIENNIAL SURVEY 1970-72

of

Major Industries and Businesses

in

New York City

for which Occupational Training is given at the
High School Level

Prepared for the

BOARD OF EDUCATION, CITY OF NEW YORK

By the

ADVISORY BOARD

For Vocational and Extension Education

JUNE 1970

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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4207

ADVISORY COUNCIL FOR OCCUPATIONAL EDUCATION

TO THE

BOARD OF EDUCATION

CITY OF NEW YORK

BIENNIAL SURVEY OF TRAINING NEEDS

INCLUDING

NEW EQUIPMENT IDENTIFIED

NEW JOB SKILLS RECOMMENDED

ANCILLARY TRAINING DESIRABLE

EMPLOYMENT OUTLOOK EXPLORED

IN

SIXTEEN MAJOR AREAS

AERONAUTICS
AUTOMOTIVE TRADES
BUSINESS CAREERS
CLIMATE CONTROL
COSMETOLOGY
DISTRIBUTIVE OCCUPATIONS
DRAFTING
ELECTRICAL TRADES
ELECTRONICS
FASHION CRAFTS
FOOD TRADES
HEALTH AND HOSPITAL CAREERS
MACHINE AND METAL TRADES
MARITIME TRADES
PRINTING
WOODWORKING

As Reported By

Educational Advisory Commissions in Each Area

September 1970

4208

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*This report was started and conducted in the late Spring of 1970, under the auspices of the Advisory Board for Vocational and Extension Education, which is now known as The Advisory Council for Occupational Education.

September 1970

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BIENNIAL SURVEY 1970-72

FOREWORD

The Biennial Survey 1970-72 is the first review of training needs as they pertain to occupational programs since the original Five Year Survey of Training Needs conducted in 1968 by the Advisory Board for Vocational and Extension Education at the request of the Board of Education. The survey of 1968 sought to deal with four basic questions:

1. What new equipment, machines and materials are expected to become part of your industry or trade in the next five years and should be included in courses at the high school level?

2. What new job skills and technical information must be taught in occupational courses at the high school level in the next five years?

3. What ancillary training, not considered as part of the traditional training, should be developed to increase the entry employment opportunities of high school students and to help them make progress in your trade or industry?

4. What is the employment outlook in your trade or industry in the next five years and what new jobs will develop in that time?

The Board of Education originally asked the Advisory Board to include the twelve major occupations which were proposed for the comprehensive high school. The final list included:

1. Aeronautics
2. Automotive
3. Building Trades
4. Cosmetology
5. Drafting
6. Electrical
7. Electronics
8. Fashion
9. Food
10. Health
11. Machine and Metal Trades
12. Printing
13. Woodworking

Advisory commissions in each area utilizing the information supplied by their industry, the New York State Department of Labor, the United States Department of Labor and other sources, met and prepared their reports. The final report included a summary of the findings and a list of recommendations. All participants, representing labor and management, felt that the survey was valuable and worthwhile, but almost unanimously, participants agreed that the survey should be based on a two year projection.

Approximately 350 copies of the 1968 survey were distributed among headquarters staff, Board of Education, Advisory Board and Commission Chairmen, State Department of Education officials and other agencies. A second and ultimately a third run became necessary until a total of, approximately, 1100 copies were distributed.

This report represents, therefore, the first biennial survey. It follows the pattern of the first project, but includes sixteen major occupational areas. It is hoped that the report will be found to be as useful as the 1968 survey.

HIGHLIGHTS OF BIENNIAL SURVEY OF TRAINING NEEDS 1970-72

A recent publication of the City of New York, distributed through the Economic Development Administration and produced by the Economic Development Council of New York City, was entitled,

Opportunity City, New York, N.Y.

The title and section headings of that presentation seemed most apropos to this report. One paragraph which started out with the words, Opportunities for a job", pointed out that, "in the past three years alone, New York has averaged 50,000 new jobs a year." The paragraph went on, "Here in the city of 130 of the nation's 500 largest industrial companies, six of the ten largest commercial banks, five of the 20 foremost life insurance companies, 13 of the 40 top merchandising firms, 11 of the 50 biggest utilities, 9 of the 50 largest transportation companies, 33,000 manufacturing establishments, 76,000 retail firms, 27,000 wholesaling establishments." Continuing paragraphs described the city as a center of law, medicine, engineering, research and testing, radio, television, magazine and book publishing.

Another heading started with the words, "Opportunities for education .... 609 public elementary schools, 146 public intermediate schools, 90 public high schools ...."

The major purpose of the biennial survey is to strengthen occupational education at the secondary level as it is offered in the public high schools so that the young people of our city will have available to them, training which will lead to opportunities for a job. The rich diversity of job opportunity does indeed fulfill the meaning of the statement, "it (New York) is a superb training ground for beginners."

OCCUPATIONAL EDUCATION IN THE HIGH SCHOOLS

The necessity for occupational preparation at the high school level cannot be ignored. There has been much discussion of the urgent need to develop a work ethic and an attitude toward work by many groups in recent years. Occupational training is an ideal vehicle for developing work ethics and attitudes, particularly for children in urban centers whose environment out of school does not include experiences closely related to the work complex. The experience gained through involvement in performing the mechanical and technical skills of a job, the need to read, reason and compute, the need to recognize and solve job problems are learning experiences not only in the academic sense, but in the intrinsic realization of the need for such learning.

An interesting report in the New York Times of Sunday, June 28, 1970, by Mr. M. A. Farber, was headed, "U.S. Predicts 80% of Jobs Won't Require Degree." The article went on to report that the 1970-71, "Occupational Outlook Handbook indicates that while training

requirements are rising, 8 out of 10 jobs to be filled will be open to young workers with less than a college degree. "Through the 1970's, we can expect a continuation of the rapid growth of white collar occupations, a slower than average growth of blue collar occupations, a faster than average growth among service workers and a further decline of farm workers."

Mr. Farber quotes, Herbert Bienstock, Director of the Regional Office of the United States Department of Labor's, Bureau of Labor Statistics "young people who have continued their vocational training after high school graduation will be in the best position to get jobs in the 1970's." The opportunity for continued vocational training has been greatly expanded through the recent open enrollment policy of City University.

Increased broad based programs of occupational education at the secondary school level, in addition to current offerings, assume greater importance in the light of statistics which reflect new job trends and new educational opportunities at the community college level. Although commission members participated in several meetings devoted to the Open Enrollment policy, it is too early to assess the impact of that policy on occupational education at the secondary level.

Major Recommendations

A number of recommendations made in the 1968 report were reaffirmed. Many new and interesting recommendations were made by commissions for the 1970-72 report appear in various sections. Some new recommendations are:

1. Concern for pollution control devices and instruction about them.

2. Retraining of teachers on the uses or repair and maintenance of new equipment.

3. Recruitment of more girls in occupational areas formerly restricted to boys.

4. Driver education for all youngsters preparing for service connected occupations such as climate control, automotive work, radio and TV repair.

5. Strengthened guidance and career planning programs to include the effects of early retirements and second careers.

6. Occupational education at the secondary level must be broad based to prepare youth for a broad spectrum of good jobs in business, trades and industry which have the potential for growth and advancement.

7. Courses should relate to continued training at the community college level.

8. Basic communication and computational skills should be strengthened and positive attitudes towards work and advancement should be developed.

9. Adult and pre-employment training should be expanded.

Recommendations of the 1968 Survey which still pertain:

1. Equipment needs vary by trade or industry and new equipment needs range from none or very little in Cosmetology, Furniture and Cabinet Making and Drafting, to little in the Fashion Industries and some in Machine and Metal Trades, Automotive, Printing, Electrical and Electronics. Reports on new equipment needs seemed to be, in general, resonable and realistic and in most cases called for modernization of present equipment. Almost all commissions warned against purchasing costly, sophisticated equipment which might be short lived for training purposes due to rapid industrial changes. They recommended leasing arrangements wherever possible.

2. Although in some cases, there is little recommended beyond present training in basic skills and technical information, new skills or new emphasis on certain skills were indicated in Cosmetology (wiggery) and in training in D.C. motor winding and basic electronics in Electrical, Machine and Metal Trades, Automotive and Aeronautics.

3. Many commission recommended that more emphasis be given in vocational courses to management problems such as cost factors, job records, inventory and estimating, inspection of finished product and other managerial problems such as labor-management relations.

4. In some occupational areas such as Fashion, Machine and Metal, Food and Drafting, it was suggested that students learn something about uses of computers in the trade. Industrial safety was mentioned in a number of cases. In Machine and Metal Trades there is a developing field for machinist trainees to learn programming as a result of numerical control systems.

5. All commissions asked for strengthening the basic communication and computational skills and development of a more positive attitude towards the job. Students need to know more about career opportunities in each trade or industry for which they are being prepared.

A LOOK AT THE MANPOWER FUTURE OF NEW YORK...

WOMEN will dominate the labor force growth in the next decade -- in fact, the number of males in the labor force is actually expected to decline

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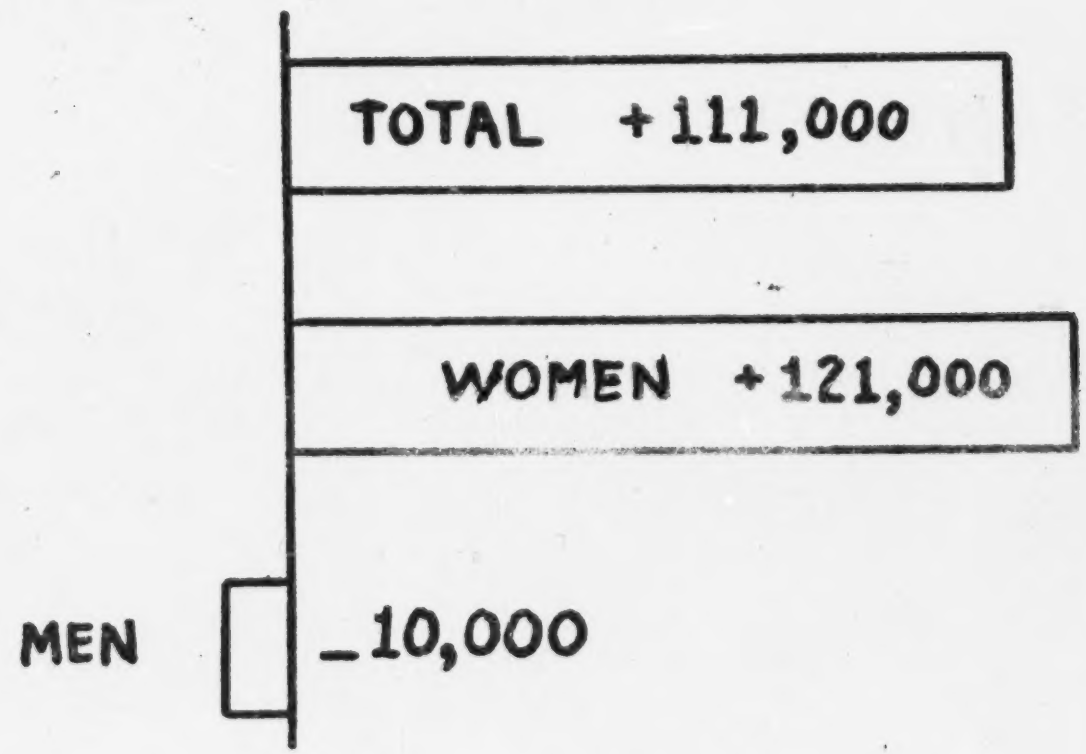
LABOR FORCE IS EXPECTED TO GROW BY 111,000 FROM 1965-1975 IN NEW YORK CITY



From, "Charting the New York City Economy", U.S. Department of Labor, Middle Atlantic Regional Office.
H. Bienstock, Director May 1969

BUT FURTHER...

GROWTH
WILL BE
CONCENTRATED
AMONG

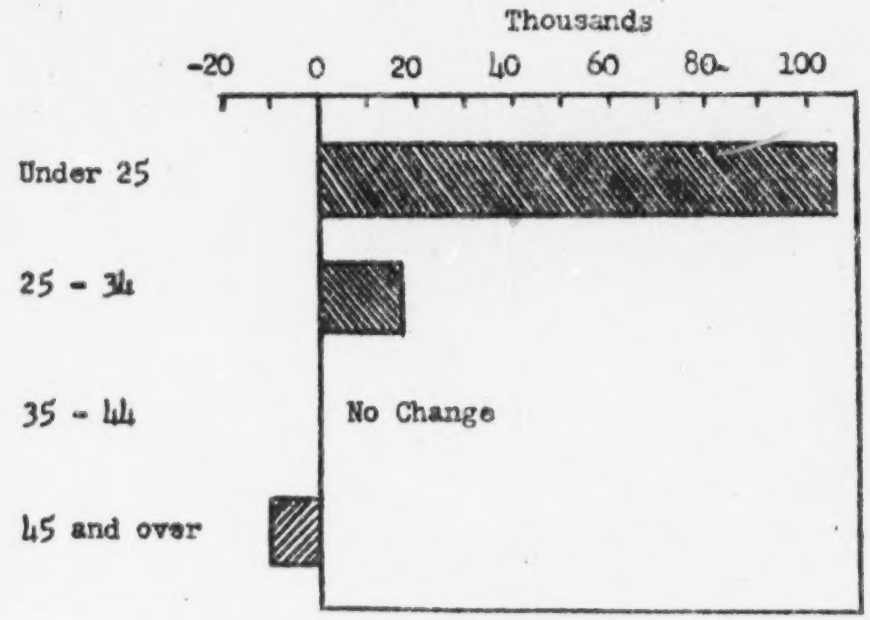
YOUNG
WORKERS

4217

THERE WILL BE NO GROWTH AT ALL AMONG WORKERS OVER 35 DURING THE DECADE 1965-1975

in fact, a decline is protected

CHANGES IN THE NUMBER OF WORKERS IN EACH AGE GROUP
IN NEW YORK CITY
1965-1975



From, "Charting the New York City Economy", U.S. Department of Labor, Middle Atlantic Regional Office. H. Bienstock, Director
May 1969

PROJECTIONS OF POPULATION AND LABOR FORCE INDICATE A SIGNIFICANT INCREASE IN THE NON-WHITE AND PUERTO RICAN COMPONENTS

4218

Ethnic distribution of New York City population, 14 and over, 1965 and 1975

Age	Total	White	Nonwhite	Puerto Rican
1965				
Total, 14 and over ...	100	76	15	8
14 - 24	100	68	18	13
25 - 54	100	74	17	9
55 and over	100	85	11	4
1975				
Total, 14 and over ...	100	69	19	11
14 - 24	100	59	24	16
25 - 54	100	67	20	13
55 and over	100	79	14	7

Distribution of New York City Labor Force by Ethnic Group 1965 - 75

Ethnic group	1975	1965
Total, age 14 and over	100	100
White 1/	69	76
Nonwhite 1/	20	16
Puerto Rican	11	8

1/ Other than Puerto Rican

New York City Labor Force by Ethnic Group, 1965-75 (in thousands)

Ethnic group	1975	1965	Change 1965-75 Number	Change 1965-75 Percent
Total, age 14 and over	3826	3715	+111	3.0
White 1/	2637	2812	-175	-6.2
Nonwhite 1/	765	603	+162	26.9
Puerto Rican	424	300	+124	41.3

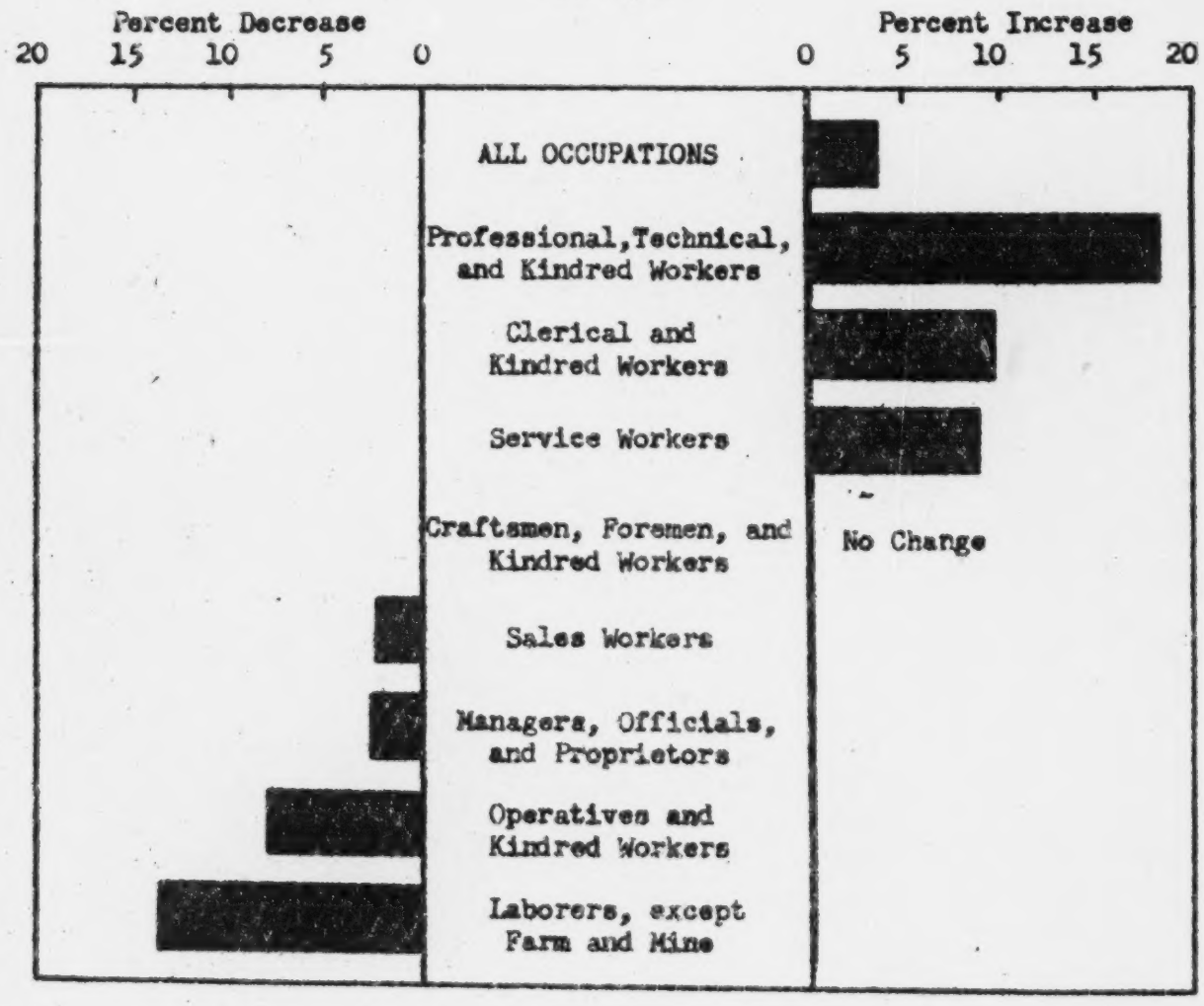
1/ Other than Puerto Rican

From, "Charting the New York City Economy", U.S. Dept. of Labor, Middle Atlantic Regional Office, H. Bienstock, Director, May 1969

JOB INCREASES IN THE NEXT DECADE WILL BE LARGELY IN OCCUPATIONS CHARACTERIZED BY HIGHER LEVELS OF EDUCATIONAL ATTAINMENT

4219

PERCENT CHANGE IN NEW YORK CITY EMPLOYMENT
1965-1975



From, "Charting the New York City Economy", U.S. Department of Labor, Middle Atlantic Regional Office, H. Bienstock, Director May 1969

But... most Job opportunities develop as a result of labor force attrition rather than from industrial growth.

Large numbers of Job openings in the next decade will result from replacement needs--many in Job categories with only modest educational requirements

4220

Occupational Distribution of Jobs To Be Filled
in New York City, 1965 - 1975
(in thousands)

Occupation	Employment 1965	Jobs to be filled 1965-1975	Jobs resulting from: Industrial change (increase or decrease)	Jobs resulting from: Deaths and retirements	Employment 1975
All occupations	3,983.1	1,250.5	144.4	1,106.1	4,127.5
White collar occupations ...	2,204.3	821.5	171.6	649.9	2,375.9
Professional, technical, and kindred workers	515.4	233.7	94.8	138.9	610.2
Managers, officials, and proprietors	407.2	119.2	-10.1	129.3	397.1
Clerical and kindred workers	957.2	378.3	94.4	283.9	1,051.6
Sales workers	324.5	90.3	- 7.5	97.8	317.0
Blue collar occupations	1,233.3	195.4	-74.6	270.0	1,158.7
Craftsmen, foremen, and kindred workers	423.0	92.0	- 0.9	92.9	422.1
Operatives and kindred workers	668.4	96.1	-54.0	150.1	614.4
Laborers, except farm and mine	141.9	7.3	-19.7	27.0	122.2
Service workers	544.5	233.1	47.3	185.8	591.8
Farmers and farm laborers ..	1.0	0.5	0.1	0.4	1.1

From, "Charting the New York City Economy", U.S. Department of Labor
Middle Atlantic Regional Office, H. Bienstock, Director, May 1969

substantial recruitment needs will be faced in the next decade

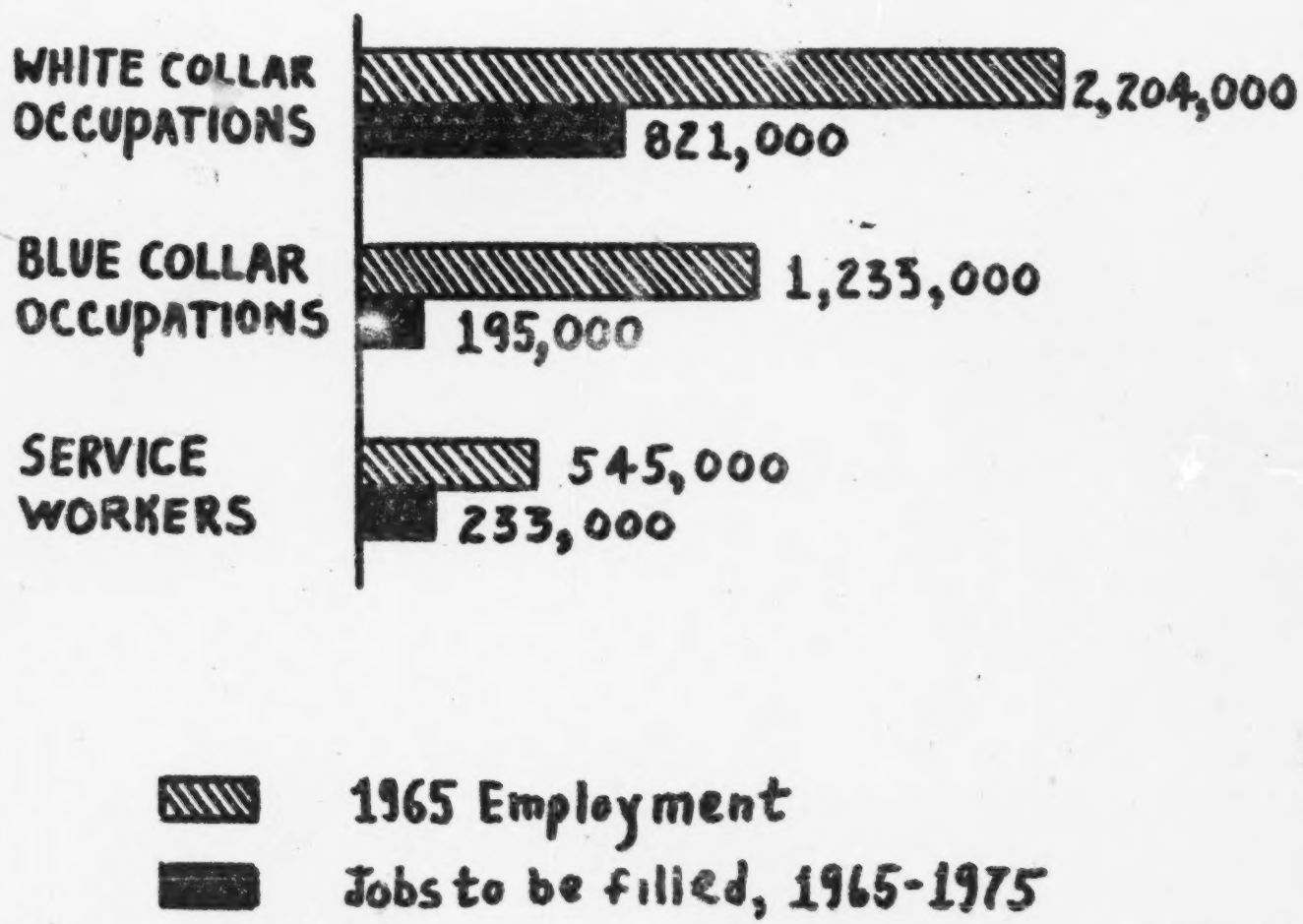
For every 100 workers on NEW YORK CITY payrolls in 1965..

employers will need to recruit 31 persons to meet expected requirements 1965-1975

4221

IN NEW YORK CITY ALMOST 1 1/4 MILLION JOBS WILL NEED TO BE FILLED DURING THE DECADE 1965-1975

144,000 due to industrial growth
1,106,000 due to deaths and retirement



From, "Charting the New York City Economy", U.S. Department of Labor, Middle Atlantic Regional Office, H. Bienstock, Director May 1969

The Employment Outlook

As each group met to compile information on the Biennial Survey, the fourth area of concern, Employment Outlook presented the greatest problem. The spring of 1970 saw the critical shortage of manpower beginning to show signs of leveling off, however, a rise is expected in the fall of 1970.

It was impossible to secure reliable data that would help make a firm prediction of employment needs for the next two years, however, it was possible to gather information to help give a general pattern of employment needs in the next several years on a state and local level.

Our Manpower Future

New York State

Weekly Labor News Memorandum, April 1, 1970, New York State Department, Division of Research and Statistics, reported the following:

At least 50,000 people will be hired in New York State during the ten years 1965-75 in the following occupations:

Typists, stenos and secretaries	Policemen, firemen, guards and watchmen
Office machine operators	Foremen
Cashiers	Repairmen and mechanics
Professional nurses	Truck and bus drivers
Hospital attendants	Waiters and waitresses
Elementary school teachers	Private household workers

Altogether -- in all occupations -- the number of openings during the decade are estimated at 3,175,000. One-third of them are being created by the long-term growth of the State's economy and the rest by the need to fill the jobs of employees who retire or die.

A quarter of the jobs to be filled during 1965-75 are in clerical work, much of which is being changed by the greater use of office machines (including computers). One-fifth of the total openings are in professional and technical work -- largely because of the growing need for health and education services, the rapid expansion of research and development activities, and the increasing complexity of industrial equipment; also because of expanding and changing governmental activity, illustrated by steps to combat air and water pollution and care for narcotics addicts.

Young Workers

Among the statistics which have meaning to the schools are those referring to the youth population. The New York State Department of Labor, in June 1970, reported that persons 25-34 years old accounted

for 21 percent of the labor force in 1960; they are expected to account for 27 percent in 1985. Another publication of the department, The Manpower Future in New York State reports that, "almost three quarters of the increase in the state's labor force between 1965 and 1975 will be young people, 14-25."

New York City

Although national and state manpower projections are important, the prime labor market for the majority of high school youth is within metropolitan New York. Included in this report are a series of charts and graphs which highlight the manpower future for the region. They offer a number of clues which when combined with the reports of each advisory commission should provide a basis for planning and the development of occupational education at the secondary level.

According to the June 1970 issue of the Area Manpower Review, New York City, New York, New York State Department of Labor, employment in major industries in New York City gained 1.3 percent over June 1969. The report gave the following figures for employment by major industries:

Major Industries In Terms of Employment: (June 1970)

Manufacturing

Fabricated metal products	36,000
Machinery (except Electrical)	28,000
Electrical Machinery	48,000
Food and kindred products	62,000
Textile mill products	35,000
Apparel and related products	226,000
Paper and allied products	25,000
Printing and publishing	124,000
Chemicals and allied products	42,000
Leather and leather products	29,000
Miscellaneous manufacturing	69,000

Nonmanufacturing

Contract construction	110,000
Public utilities and related services	339,000
Wholesale and retail trade	752,000
Wholesale trade	309,000
Retail trade	444,000
Finance, insurance, real estate	470,000
Service and miscellaneous	804,000
Government	574,000
Federal	112,000
State	40,000
Local	423,000

ADVISORY COMMISSION REPORTS

Each advisory commission attempted to deal with answers to the four basic questions which follow:

1. What new equipment, machines and materials are expected to become part of your industry or trade in the next two years and should be included in courses at the high school level?

2. What new job skills and technical information must be taught in occupational courses at the high school level in the next two years?

3. What ancillary training, not considered as part of the traditional training, should be developed to increase the entry employment opportunities of high school students and to help them make progress in your trade or industry?

4. What is the employment outlook in your trade or industry in the next two years and what new jobs will develop in that time?

Commission reports, when taken with job and employment trends, offer important clues to the problem of curriculum improvement and course development. It is the hope of the Advisory Council that the Board of Education will find the report helpful in developing its policies and that the professional staff will find the report useful in its planning and curriculum factors.

Reports are presented in alphabetical order and do not represent every occupational area for which training is offered at the secondary level. Present plans are to include more groups in the next report.

AERONAUTICS

Prepared by

Aeronautics Educational Advisory Commission
Mr. James T. Pyle, Chairman

The Aerospace Industry has been the nation's largest non-agrarian employer since 1962. Since that time, more people have earned their living designing, building, selling, servicing, using and supporting aerospace vehicles than have been active in any other industry outside of agriculture. Although the industry will enjoy the largest ten year increase in the national labor force (16 million), most experts see a potential manpower shortage of ten million. The bulk of this will be "blue collar" workers. The burden of this is likely to fall upon our vocational educational system.

In the past ten years, airline employment nationwide has increased from 168,000 to more than 325,000 and the average annual wage from $6,700 to almost $10,500. In the New York metropolitan region, air transportation is a billion-dollar business in terms of its total economic impact. There are more than 52,000 people directly employed by the region's three major airports, and their annual payroll exceeds one-half billion dollars.

Major aerospace manufacturers are retrenching and are now diversifying their efforts, placing more emphasis in non-defense areas. This transfer of aerospace technology to domestic areas is currently underway and is already making significant contributions in areas such as urban affairs, medical applications, environmental control, transportation and information systems, power generation, materials, applications and education.

A major challenge to the nation in the 1970's will be to improve the relationship of man to his environment. While aircraft noise and some controls are an obvious challenge; air, water and land pollution, urban transportation, teaching methods and job training, crime control and inadequate housing clamor for assistance. One of the more hopeful means of finding solutions to these problems is through the dynamic technology and managerial techniques which have evolved from aerospace programs.

The air transportation segment of the Aerospace Industry is well into the second decade of the jet age and, although there are many serious problems to overcome, the prognosis is optomistic. The introduction of the new wide-bodied, advanced technology jets - the Boeing 747, the Lockheed L-1011 and the McDonald Douglas DC-10 is evidence of the dynamic growth of the nations air transportation industry and its emergence as the major form of public intercity transportation.

Considerable effort on the part of the government and the industry is now being directed toward the resolution of some of our major intercity transportation problems by development of a variety of short take-off and landing, and vertical take-off aircraft. The technical problems are extensive and complex, but the cost of not resolving this

problem is larger and growing every day. While a forecast at this time is difficult, it is also difficult to believe that we are not on the threshold of a new and expanding segment of the industry.

Because of a re-orientation from space and military products to a more domestic effort, and because activity in aviation is responsive to the overall trends in our national economy; it is to be expected that there will be temporary dislocations of some personnel as they shift from one product or skill to another. But the long range trend in the industry is, by all accepted indicators, favorable in terms of personnel requirements. The retraining as well as upgrading of worker skills will be a continuing requirement of our educational institutions.

In surveying the major aerospace manufacturers across the nation for this report, the Commission received several prevailing comments regarding training requirements. Of significance was in the area of communications; the ability of an individual to communicate effectively. They pointed out the use of the computer as a basic element in the information system and recommend that some attention should be given to thinking in computer terms. For example, a computer printout has a different appearance than a more conventional report -- thus the approach to reading one is a little different. In addition, the necessity for accurate input data to computers is vital. An error can be quickly promulgated and often accepted as fact because it came from a computer.

The manufacturers also stressed two other important points with which the Commission concurs; Quality Consciousness - this, of course, is an attitude rather than a skill, but nevertheless of great importance... Group and Individual Relations on the Job - as the stresses of everyday life increase, consideration and assistance to others in day to day contact is vital. Applying these psychologies specifically to the air transportation industry, the lives of hundreds of thousands of people depend on the integrity and self discipline of the technicians who are charged with maintaining our aircraft -- 100% effort is required at all times.

NEW EQUIPMENT NEEDS

1. Automatic Flight Equipment - Present technology has made possible safer, all-weather flight through the integration of radio navigation aids, communications, flight instruments and computers so that truly automatic flight is practiced. The fundamentals required for future technicians can be provided at the high school level.

2. Specialized Aircraft Ground Handling Equipment - As the aircraft technology changes, the need for such specialized ground equipment increases. The design and maintenance of such equipment is rapidly becoming a specialized field. To conclude that curriculum surrounding the "automotive" approach would be sufficient to meet the knowledge required to maintain a $100,000 aircraft towing tug would be a mistake. Much of

today's ground equipment requires a basic and integrated education concerned with gas turbine and diesel engines, aircraft electrical power systems, air conditioning systems, hydraulics and pneumatics.

The following list identifies processes with the explicit understanding that there are scientific and technical disciplines related to the processes:

1. Machinery of Exotic Materials -
   Inconel
   Titanium
   Tougher Stainless Steels
   New Plastics (boron, graphite and glass composites)

2. Electro Chemical Machinery

3. Electric Discharge Machinery

4. High Energy Explosive Forming

5. Computer Controller (numerically controlled) processes

6. Epoxy Adhesives and Molding

7. Electro Painting

8. Electro Etching

9. Electron Beam Welding

10. Vacuum Processing, Heat Treatment, Welding

It is recognized that not all aspects of the above technologies can or should be taught at high skill level in high schools. However, contact with them could be highly motivating, and depth in one or more, particularly useful.

1. Electronic Test Equipment - Voltmeters, oscilloscopes, signal generators and basic electronic teaching boards to instruct and to give practical demonstrations.

2. Turbine Powerplant - To instruct in the construction, repair and operation of turbine power plants.

It should be emphasized, however, that instruction in piston engines should be continued because 80% of the 169,000 active aircraft, generally non-commercial and privately owned, in the U.S. are of the piston type.

1. Sheet Metal and Fiberglass Equipment - Sheet metal hand tools for instruction in riveting and forming of repairs to structures; grinding and buffing equipment to form fiberglass and honeycomb structure repairs.

2. Quality Control Equipment - Micrometers, basic drafting tools and a wide variety of precision measuring equipment to instruct in accuracy in measurement and fault detection in vital parts, as a mandatory contribution to increased reliability and longer service between overhauls.

NEW JOB SKILLS AND KNOWLEDGE

The following are important topics in providing a basic understanding of the application of job skills:

1. Meteorology - Measurements are much more precise and, in particular, optical devices are playing a much more important role.

2. Vibrations - Measurements in vibrations, vibration analysis, isolation and elimination.

3. Computer Capabilities - What they do and how they do it.

4. Non-Destructive Testing - Radiography, penetrants edycurrents and ultrasonics - as inspection devices.

5. Lasers - In both instrumentation and processing.

6. Chemistry of Cleaning - New processes require a better approach to cleaning parts.

7. Solid State Circuitry and Miniaturization- Poses different maintenance problems than more conventional circuitry.

ANCILLARY TRAINING NEEDS

Emphasis on basic education in communications, mathematics, basic electrical and electronics along with integrity, accuracy and perfection in assigned tasks. Basic use of technical manuals and blueprints, training to lead the trainee through identification of the problem, guide him to the solution, parts required, tools and test equipment needed.

Systems analysis and automatic processing technicians will be required. Such skills will be required both in the support of aircraft technology and in the administration of the business.

Basic reading and comprehensive skills have grown increasingly more important for the aircraft technician as the technology changes. At the same time, the demand for technical writers is on the increase.

EMPLOYMENT OUTLOOK

Five air carriers, one maintenance facility and the FAA are included in this report for the New York Area and concern those technical maintenance jobs forecasted for the years 1970, 1971, 1972.

The first set of figures represents a variety of job titles including Aircraft Servicemen and/or Cleaner, Mechanic's Helper, Mechanic, Line Mechanic, Radio and Electric Mechanic, Electronic Mechanic and A & P Mechanic. Depending upon the company's size, policies and union contract provisions, they can be generally viewed as entry level positions open to graduates of East New York Vocational High School and Aviation High School.

Projected Employment

1970 - 612
1971 - 960
1972 - 1020

These figures should be viewed as an ultra conservative forecast reflecting as they do responses from a small percentage of the total industry. The state of the industry could be accurately described as not enjoying the very high level of expansion seen in the last decade and this condition it would seem, has unfortunately but understandably, have a disproportionate effect on the subjective art of forecasting. It is a fact, however, that the airline segment of the industry within the New York metropolitan area more than doubled during the decade 1959-1969 and that all indications presently show that performance to be repeated during the 1970's.

The figures shown here do not consider the effect of promotion from this group vertically and laterally, but rather are primarily concerned with new hires representing an increased workload at the entry level, nor do they reflect the impending decision of a major air carrier to transfer a large proportion of its maintenance to New York - a decision which could effect the technical manpower requirements by several magnitudes.

The second set of figures (P.17) are forecasts from a different segment of the industry, the Federal Aviation Administration, and should be viewed, at least, as another indicator of growth. While it is true that items 1 and 2 require experience and are not generally open to new graduates, they are certainly part of the variegated and vertical career ladder in the industry.

On the other hand, item 3, the Air Traffic Controller may require considerably less experience while at the same time offering one of the many lateral career ladders.

	1970	1971	1972
1. Airways Facilities (Maintenance)	160	172	175
2. Air Carrier Inspector (Maintenance)	45	47	52
3. Air Traffic Controller	364	386	397

Employment Outlook

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

Aviation

Aircraft and Parts	1.8	1.9
Airplane mechanics and repairmen	9.5	10.4

AUTOMOTIVE TRADES

Prepared by

Automotive Educational Advisory Commission
Mr. Jack Plotsky, Chairman

The automotive industry encompasses a wide range of skilled and semi-skilled jobs. The rising number of automobiles, trucks and buses in the New York City area causes a great demand for all types of workers.

Automobile mechanics do preventive maintenance, diagnose breakdowns and make repairs. This includes the examination, adjustment, repair or replacement of the operating parts of a motor vehicle. Sometimes the mechanic may follow a "check list" to make sure he examines all important parts of the car. He may also use a variety of testing equipment such as motor analyzers, spark plug testers, compression gauges, and electrical test meters. In addition, he may use equipment from simple hand tools to expensive and complicated machines such as wheel alignment machines and headlight aimers. There are many specialized mechanics, such as automatic transmission specialists, tune up men, air conditioning specialists, front-end mechanics, brake mechanics, radiator mechanics and body repairmen. Salesmen, parts countermen, and car painters comprise an increasing segment of the industry. The field of body repair has expanded considerably.

The manufacture of new automobiles and parts is a major area in which employment is constant. New government legislation regarding exhaust control devices, and other safety regulations, has opened up new jobs in the industry.

The growing complexity of the automobile industry will lead to a greater need for dealer accountants and bookkeepers, electronic data processing personnel and all clerical occupations. Other areas which should be considered in the broad view of training careers in the automotive field are auto salesmen, factory warranty administrators, auto merchandisers and auto advertisers also vehicle operators and dispatches.

NEW EQUIPMENT NEEDS

1. Engine Dynamometer - To simulate road operating conditions. For unit trade school only.

2. Automatic Transmissions, Testers, Gauges - Most vehicles have automatic transmissions and special equipment should be provided.

3. Hydraulic Pressure Gauges - These and other types of new gauges and special equipment should be purchased as they become available and are put to general use.

4. Disc Brake Equipment and Attachments - Many brake systems are changing to disc brakes.

5. Special tools and equipment for automotive air conditioning servicing - The mechanic must do some servicing of air conditioning equipment and special tools and techniques are required.

6. Expansion of electronic test equipment such as exhaust emission analyzer, oscilloscopes and other diagnostic and analyzing equipment. Also auto engine performance analyzers.

NEW JOB SKILLS AND INFORMATION

1. Principles of transistorized equipment - Knowledge of parts and functions.

2. Automotive air conditioning - Knowledge of parts, fittings, mountings, and functions. The auto mechanic may not repair the air conditioner, but will remove, install, and make in-car repairs.

3. Service bulletins and general information on modifications of basic vehicles supplied by the auto manufacturers for student use.

4. Information on air pollution caused by the internal combustion engine with training on anti-pollution devices as they become available.

5. Information on state and federal rules, regulations and laws pertaining to vehicular maintenance and safety procedures.

6. A 25% increase is expected in the sales and maintenance of mobile homes. It is suggested that this field be further explored.

7. More production of gas turbine vehicles is predicted for the next two years and should be watched for inclusion in automotive mechanics courses.

EMPLOYMENT OUTLOOK

There is no breakdown of expected vacancies by job title, but a New York City Planning Commission report projects approximately 530 annual job openings as auto service attendants, 800 openings for motor vehicle mechanics. Approximately 25,000 jobs are projected for 1975; an increase of 4,300 over 1965 or a percentage rise of 19.9. Although firmer figures are not available, the total job picture in the public and private sector is in general good and according to industry spokesmen, the need is still great for well trained automotive mechanics and craftsmen.

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

AUTOMOTIVE	1970	1975
Automotive dealers and service stations	22.0	22.0
Motor vehicles and equipment	10.6	10.3
Automobile repair services and garages	23.9	25.9
Other motor vehicle and accessory dealers	9.3	8.1

BUSINESS CAREERS

Prepared by

Business Education Advisory Commission
Mr. Donald K. Lister, Chairman

Almost none of the various categories of manpower requirements is as critical a shortage predicted as in the so called, white collar occupations. Every agency including the U.S. and New York Departments of Labor predict continued growth in this important employment field.

The Association of Stock Exchange Firms reports that the expansion of building in downtown Manhattan will add 28 million square feet of space by 1972 to the present 64 million square feet to total 92 million square feet of space. Land fill projects in the lower Hudson River will increase land area by 33 per cent. To that area will be added 20 million square feet of office space. Based on those projections alone, the Association predicts an increase of 150,000 new jobs or one new opening for every three present jobholders.

The New York City Planning Commission reports annual growth figures which are likewise large and reflect the critical needs in office occupations.

Clerical workers represent a wide variety of skills and experience. Included for example are accountants and executive secretaries in business offices, as well as workers in occupations which can be entered with very little specialized training.

More than half of all girls who enter employment after graduation find jobs in clerical and related occupations. Seven out of ten clerical workers are women. On the other hand, there are opportunities for young men in the clerical categories and entry level jobs in the business field that can be the beginning of a career development for both boys and girls.

By far the largest single group of clerical workers, one out of five, work as secretaries or stenographers. Bookkeepers and accounting personnel make up about one-tenth of the total.

Practically all beginning clerical workers receive some on-the-job training. This is to acquaint them with a general knowledge of the company policies and procedures.

The number of clerical and related jobs is expected to increase mainly because the volume of paper work will undoubtedly expand as business organizations grow in size and complexity.

Electronic computers, bookkeeping and calculating machines and other mechanical devices are used in offices mainly to process routine and repetitive work. As work of this kind is transferred

from clerks to machines, a limited number of new positions for various kinds of office machine operators will be created.

Business machine servicemen repair and maintain the increasing number and types of office machines including typewriters, calculating machines, cash registers, electronic computers and other data-processing devices.

JOB SKILLS AND INFORMATION

Basic skills are still essential such as mathematics and reading. Most of the manual skills such as typing, etc., are still applicable to typing and other similar skills, key punch, etc.

Companies look for basic occupational skills upon which they can further train new employees in the methods and systems according to their requirements. In the same vein, each company may have new advanced office equipment, but they are specialized and not numerous enough to include in high school training sequences.

EMPLOYMENT OUTLOOK

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

BUSINESS EDUCATION

	1970	1975
Clerical and kindred workers	1,013.5	1,051.6

New York City Planning Commission Reports:

Annual Job Openings for Clerical Workers in New York City

All Clerical	38,000
Stenographer, typist, secretary	10,000
Office machine operator	3,300
Accounting clerk	1,000
Bookkeeper	800
Book teller	800
Cashier	1,500
Telephone operator	1,000
Other clerical	19,600

From Manpower Review, New York State Department of Labor, August 1970, New York City

"Employment in banking by July 1970 reached 137,000." "Along with increased financial activities due to the growing demands of the business community, many new individual customer services were added by banks, accelerating the demand for labor. Such new services include bank credit cards, a wider variety of savings

plans, and expanded use of branch banks for customer convenience. The need for additional workers caused by this internal growth far outstripped the jobs saved by the introduction of automatic data processing systems. Further growth is seen for this burgeoning industry.

"Current trends indicate continued growth in the finance-insurance-real estate industry in New York City. As one of the world's major centers of financial activity, this sector will continue to play an important role in the City's economy. If the growth rate over the past decade, particularly in the stock market, is resumed shortly, the banking and securities industries will account for an ever-increasing proportion of the City's employment and will offer many job opportunities both for newcomers to the world of work and for people returning to the labor market."

Mr. Herbert Bienstock, Regional Director, U.S. Department of Labor, Bureau of Labor Statistics, New York City, reports in "A Profile of the Office Worker of the 1970's."

"Industrial patterns projected for the 1970's continue to indicate a growth in the office-worker sectors. Service-producing industries are expected to dominate employment growth in the 1970s and, typically, these industries have a higher office-worker component than the goods-producing industries."

"The impact and influence of technology on manpower requirements in the clerical field are, of course, a matter of growing concern. One of the most rapidly rising occupational categories in this field reflects the opportunities created by technological change, namely electronic computer personnel. During the period 1965-1975, this category of office workers is expected to grow by 140 percent, from a level of 100,000 jobs in 1965 to a level of 240,000 by the mid-seventies.

Office-machine operators, another category substantially impacted by new technological development, is expected to be the second fastest rising occupational component, with an increase slightly over 100 percent projected for the decade 1965-1975."

CLIMATE CONTROL

Prepared by

Air Conditioning Educational Advisory Commission
*Mr. Andrew J. Caridi, Chairman

Petroleum Automatic Heating Commission
Mr. Harold Layman, Chairman

Air Conditioning, Heating and Refrigeration - These three large areas are sometimes known as all year Climate Control. This involves the heating, cooling, humidifying, cleaning and movement of air.

The major occupations in this field are air conditioning and refrigeration mechanics, furnace installers, oil burner mechanics, and gas burners mechanics.

Air conditioning, refrigeration and heating mechanics work on the cooling and heating equipment used in homes, offices, schools and other buildings and work on equipment ranging in size from small window air conditioners to large central-plant type systems. In installing new equipment, the mechanic puts the motors, compressors or absorption equipment, evaporators and other components in place, following blue prints and design specifications. He connects duct work, refrigerant lines and other piping, and then connects the equipment to the electrical power source.

Oil burner mechanics keep oil-fueled heating systems in good working order. They make adjustments to burner units, test and replace various units such as thermostats and other controls. Mechanics in this broad field need a knowledge of electricity and circuitry plus the ability to work with the public. Customer relations is particularly important therefore.

Information for the Climate Control section of the Biennial Survey of 1970 was prepared by members of the two Educational Commissions listed above. Many of the basic electrical components, controls and other equipment is common to both of these industries.

NEW EQUIPMENT NEEDS

1. Electronic leak detector - Checks leak of water, gas or oil.

2. New plexiglass - Used for heating rooms. Only body of individuals are heat source.

3. Electric heat pumps - For heating and cooling.

*Mr. Caridi participated in this survey, and we are sorry to report that he passed away on August 5, 1970.

4. Electronic controls - Solid state, speed control of motors.

5. Pressurized systems

6. Low temperature refrigeration equipment

7. Low ambient controls

8. Humidification equipment

9. Expansion valves

10. Computer environmental type units

11. Air washing type of equipment

NEW JOB SKILLS AND INFORMATION

1. Control Circuits: Pneumatic, electrical and electronic. The new trend in central circuits, especially in overload protectors and fan speed control is solid state control circuits. The student of Refrigeration and Air Conditioning will find that about 80% of their service problems are electrical. There should be emphasis on tracing and reading of schematics, blue prints, electrical and mechanical. The student should also have an overall idea of architectural drawing, because he will be installing units. He must be able to know the exact location of his piping, switches, etc.

2. Electronics or Electrostatic Air: This is new and has been growing by leaps and bounds. It has increased 27% in the past year. It is only second to Automatic Air Conditioning which has increased 28% in 1969 over 1968.

3. Automotive Air Conditioning: Included should be mobile air conditioning, which includes trailers, ships, etc. There is a definite increase in units sold for mobile air conditioning. These units will need installation and servicing.

4. Residential Air Conditioning: Has become a necessity instead of a luxury. To meet the demand for trained technicians, if the growth keeps up at the present rate, there will not be enough technicians. It has grown by 22% in the past year.

5. Air Pollution Control: This will definitely have to be tied in with air conditioning because it has to do with air. The student will have to be prepared to service and control the exhaust of different equipment that adds to pollution.

6. Roof Top Units: Combination of cooling and heating unit installed on roof. Has risen 35% in the past year.

7. Welding of Aluminum: Air conditioning equipment manufacturers are using more and more all aluminum coils. (Current coils are copper tube and tin or copper tube aluminum tin.) Training in shop and field welding of aluminum tube is important.

8. Instrumentation for diagnosis: Especially in the field of air pollution control.

ANCILLARY TRAINING NEEDS

There should be a definite emphasis in bringing women into the electrical field, not as journeyman, but on jobs putting together delicate electronic or electrical parts. Women need to learn the knowledge of basic electricity and welding (Electronic).

Strong electrical background needed.
Knowledge of air pollution rules and regulations.
Knowledge of other trades, ie: Sheet metal, fiberglass ducts, plumbing, and construction principles.

EMPLOYMENT OUTLOOK

Firm figures are not readily available, however, the representatives of this industry agree that there is and will continue to be a sharp rate of growth in employment in this field. The New York State Department of Labor report, Manpower Directions, predicts an annual need for approximately 3200 new mechanics and repairmen in the area of electrically powered equipment. A large number of those jobs will be in the field of climate control. Still other jobs in climate control are included in other categories such as sheet metal workers, pipefitters and heating mechanics. The evidence shows continuing employment opportunities.

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
Air Conditioning, Heating and Refrigeration Mechanics	9.28*	10.7*

*The figures for New York City were not listed in "Manpower Projections" reports, but we were advised to use these figures which are 80% of the State totals.

COSMETOLOGY

Prepared by

Cosmetology Educational Advisory Commission
Mr. Jack C. Jaffry, Chairman

Cosmetologists provide a variety of beauty services, most of which are related to the hair. They give permanent waves and shampoo, cut, set, style, straighten, bleach and tint the hair. They also give manicures, scalp and facial treatments, provide makeup analysis, shape eyebrows, and clean and style wigs, chignons, and other hair goods. Some operators may specialize in different phases of the work. If so, they usually are known by the job title such as manicurist, tint specialist or hair stylist, for example. Many of the men are hair stylists.

Besides the regular shops, salons, hotels and department stores, many cosmetologists are employed in motion picture and television studios, in hospitals and on ocean liners. Almost half of all beauticians are owner-operators of their shops.

All states require that beauty operators be licensed. Courses offered in the vocational high schools in New York City prepare students for licensing examinations. Students take the state boards in late spring and are usually licensed at the same time that they receive their diplomas. It should be pointed out that state licensing requirements mandate certain features of the curriculum such as skills taught, and minimum numbers of hours devoted to various phases of instruction.

NEW EQUIPMENT NEEDS

1. It is not expected that many new types of equipment will be developed in this industry in the foreseeable future. Improved versions of present equipment can be expected, but basic principles will remain unchanged. For example, modernized hair cutting lamps and new varieties of electric curling irons are expected to become more widespread.

2. The Commission recommends that annual or periodic surveys should be conducted to help the staff keep abreast of new developments caused by new techniques or trends in fashion.

NEW JOB SKILLS AND INFORMATION

1. Skills in servicing wigs and other hair products.

2. Knowledge of characteristics of wigs and those techniques of servicing wigs and other hair products which are different from hair on the human head.

3. More theory in the principles of heat in chemical reactions, as in hair dyeing.

4. It is important that the three year sequence of training in cosmetology be retained to provide sufficient training in basic skills and theory not only to pass state examinations for licensing, but to make students more employable.

EMPLOYMENT OUTLOOK

1. Entry Jobs - The only entry jobs in the industry are those for which training is given at the high school level, cosmetologist.

2. Employment Needs - There are approximately 7,000 beauty salons in the greater New York City area and they employ a total of between 22,000 to 25,000 operators. It is expected that there will be a 5% to 10% increase in the total number by about 1973.

There are no figures available on the wig industry. Estimates run from $300 million to $600 million per year. Wigs are not sold exclusively through the cosmetology shop, but are for the most part, serviced there.

There is a 30 to 40% turnover rate in this employment field.

Manpower Directions, New York State Department of Labor, Volume 2 Occupation Distribution of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
Hairdressers and Cosmetologists	37.8*	41.3*

*The figures for New York City were not listed in "Manpower Projections," but we were advised to use these figures which are 80% of the State totals.

DISTRIBUTIVE OCCUPATIONS

Prepared by

Distributive Education Advisory Commission
Mr. Sam Kovenetsky, Chairman

Workers in this occupational group sell for manufacturers, service organizations and other producers of goods and services; for wholesalers who stock large quantities of goods so that smaller lots may be purchased and resold by retail stores; and for drug stores, dress shops, and other retailers, large and small, who deal directly with the public.

In the United States, almost five million workers are employed in sales occupations. About one-fourth are part time employees. Two out of every five are women, employed mainly in retail stores.

Successful salespeople must have the ability to understand the needs and the viewpoints of their customers, and a readiness to be of assistance to them. Saleswork also requires people with poise who are at ease in dealing with strangers. Other important attributes are energy, self-confidence, imagination, the ability to communicate well and self-discipline.

Salespeople in wholesale trade play an important part in the movement of goods from the factory to the customer.

Wholesaling and retailing are the final stages in the process of transferring goods from producers to consumers.

NEW EQUIPMENT NEEDS

There is little new equipment other than improved versions of equipment already in use. The real work environment should be duplicated as much as possible in training.

NEW JOB SKILLS AND INFORMATION

1. Personal characteristics, sales training - much of this will be on the job training or cooperative education plans. Little or no new equipment.

2. Knowledge of products, rules and regulations.

3. Distribution and delivery. Transportation of merchandise.

4. Constant communication with changing present equipment and its proper operation and use.

5. Maintenance and repair of equipment used in the distributive field such as supermarkets, scales, conveyers, wrapping machines, etc.

EMPLOYMENT OUTLOOK

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
Wholesale Trade	859.3	857.3
Retail Trade	515.4	516.4

DRAFTING

Prepared by

Drafting Educational Advisory Commission
Mr. George J. Christ, Chairman

Draftsmen are in a sense the link between the engineer, architect, or designer, and the production or construction technician or craftsman. They take rough sketches, notes and specifications and make detailed sketches, drawings, and working plans, which are then translated into actual products, machines and structures.

The largest concentration of draftsmen is found in engineering and architectural service firms. Other concentrations are in the manufacture of electrical and non-electrical machinery and equipment, in the manufacture of fabricated metal products, in transportation, communication and public utilities. They are also employed in business and management consulting services and in government.

Draftsmen may also specialize in a particular field of work, such as mechanical, electrical, electronic, aeronautical, structural and architectural drafting.

About four percent of draftsmen are women. More are encouraged to enter this important field.

Some of the instruments used to prepare drawings are compasses, dividers, protractors, and triangles as well as machines that combine the functions of several of these devices. Draftsmen are sometimes classified according to the type of work they do or the level of responsibility such as senior draftsmen, detailers, checkers or tracers.

Employment of draftsmen is expected to rise rapidly as a result of the increasingly complex design problems of modern products and processes. Drafting in many cases may lead to higher fields of technology. Many firms have programs to encourage draftsmen to seek additional training.

In addition, as growth of engineering and scientific occupations continues, more draftsmen will be needed as supporting personnel.

NEW EQUIPMENT NEEDS

According to some projections, there will be no new equipment needed in the two years. The Board of Education currently utilizes sufficient primary drafting equipment to meet future needs. As equipment concepts appear in the field of drafting, their uses will be too specialized to qualify for broad purpose training, and knowledge of this equipment is not a requirement for employment at the high school graduate level. However, there should be an annual

review to include new equipment which may become widespread. Examples of new equipment to be considered in the future are:

1. Microfilm and all types of present and future developed reproduction equipment.

2. Xerox 1824 and 1860 machines.

3. Digital plotting tables and associated equipment.

4. Open-end carriage typewriters for typing dimensions and notes, etc., on drawings.

5. Information, storage and retrieval equipment for computerization of these areas.

This equipment is too sophisticated at this time, but it may become simple and commonplace in the near future. There may be a shift from graphic to functional drafting in some industrial shops.

NEW JOB SKILLS AND INFORMATION

There are very few new job skills visible on the horizon of the drafting industry at the entrance level, but there will be a need for much new information to be disseminated to the drafting pupil. The information required will be a verbal knowledge of advances in drafting technology as well as highly up-graded reading skills. As specialized technology increases, the reading skill foundation requirement will also increase. It is recommended that plane geometry be kept in the basic course.

Students should learn the basic fundamentals of drafting exposure to specialized areas that will occur on the job.

Courses should include drafting for microfilm reproduction.

Students should be oriented to computer aided design.

Electrical wiring diagrams - familiarity with preparation and applying so called "wireless" diagrams to equipment connections.

Electrical physical drawings - preparation of cable routing drawings and cable and conduit schedules based on computer programmed methods.

EMPLOYMENT OUTLOOK

1. The employment outlook is excellent for boys and girls with high school training in drafting. Not only does drafting offer employment and career opportunities, but training in drafting is an entry to a great number of jobs which are too specific and specialized to be taught at the high school level.

2. Entry Job

Junior Draftsman

It should be noted that the field offers excellent opportunities for women and more girls should be encouraged to consider drafting courses while in high school.

Manpower Directions, New York State Department of Labor, Volume 2 Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
DRAFTING		
Engineering and architectural services	35.1	37.8
Draftsmen	13.7	15.4

ELECTRICAL TRADES

Prepared by

Electrical Educational Advisory Commission
Mr. Herbert Tipperman, Chairman

Construction electricians lay out, assemble, install and test electrical fixtures, apparatus, and wiring used in electrical systems. These systems provide heat, light, power, air conditioning and refrigeration in residences, office buildings, factories, hospitals, schools and other structures. They also connect electrical machinery, controls, signals and communication systems.

Maintenance electricians maintain and repair many different types of electrical equipment. In addition, they sometimes modify and install electrical equipment such as motors, transformers, generators, controls, instruments, and lighting systems.

Most electricians work for electrical contractors. A substantial number are self-employed.

The increase in employment of electricians is expected mainly because of the anticipated large expansion in construction activity. Other recent developments are expected to expand the demand for construction electricians include an increase in the number of "all-electric" homes.

NEW EQUIPMENT NEEDS

The number of D.C. motors used for subway car motive power will double as new type cars are added to the present fleet. D.C. is also a basis for electronics.

1. D.C. Armature Winding - (Specialty Training)

2. D.C. Theory

3. Static Control Equipment, Inverters-Converters

4. Solid State Controls and other electronic equipment

5. Basic and industrial electronics

6. Knowledge of electrical heating

7. Control circuitry for air conditioning and automatic heating installations

8. Exposure to modern power tools such as:

   a. Mechanical Conduit Benders
   b. Hydraulic Conduit Benders
   c. Power Conduit Threaders (portable, semi-portable, stationary)

d. Power Vises
e. Power Cable Pullers
f. Vacuum Snake Systems
g. Electric Hammers (all types; drill, rotary, straight)

9. Emergency generator systems

10. Emergency battery systems

11. Hung ceilings construction and fixture wiring

12. Automatic switching in telephony

NEW JOB SKILLS AND INFORMATION

Students must know the proper uses of new equipment and should learn the theories, principles and applications of industrial electronics. D.C. Theory is basic to the understanding of electronics. Knowledge of motor construction should be sufficient. Telephone equipment is rapidly becoming more dependent on solid state systems.

ANCILLARY TRAINING

1. Industrial Safety

2. Cost Accounting - Job records, estimating, material costs, etc.

3. Report writing and job records

4. Drawing and Blueprint Reading

5. Requirements for meeting the Compliance Laws

6. Trouble shooting

7. Strong basic education including physics

EMPLOYMENT OUTLOOK

1. Entry Jobs

a. Maintainer Trainee for New York City Transit Authority

b. Maintainer Apprentice Trainee "A" for New York City Transit Authority

c. Electrician Apprentice

d. Lineman Apprentice

2. Employment Needs

Transit Authority reports the following which may become higher due to earlier retirements. New employees needed at entry level:

1970 - 147
1971 - 152
1972 - 146
TOTAL - 445

(Car Maintenance Department Requirements only.)

The New York Telephone Company has been operating with chronic shortages for several years and sees no relief in the next five years. In fact, there will be greatly increased needs in the next five years and the company reports a need for new employees as follows:

1970 - 8,000
1971 - 6,000
1972 - 5,000

Consolidated Edison expects an annual increase in needs of upwards of 150 and this figure is expected to grow. Building trades expect an annual intake of 250 to 450 electrical workers over present needs.

Early retirements will create many new openings.

Of great importance is the fact that electrical training is basic and acts as an entry qualification to hundreds of jobs in various categories.

Manpower Directions, New York State Department of Labor, Volume 2 Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
ELECTRICAL		
Electrical equipment and supplies	44.7	39.2
Electric, gas and sanitary services	47.2	45.4
Electricians	14.8	14.8
ELECTRO MECHANICAL		
Electro and mechanical engineering technicians	14.6	15.6
Other mechanics and repairmen	85.5	92.3

ELECTRONICS

Prepared by

Electronics Educational Advisory Commission
Mr. John J. Clair, Chairman

The heart of every electronic product is an electronic circuit or system that includes electron tubes, semiconducters, and other devices which discharge, control or direct the flow of small active parts of negative electricity (electrons) through the circuit. Electronic devices are finding many applications.

The industry is usually grouped into four major categories:

1. Military and space equipment
2. Industrial and commercial products
3. Consumer products
4. Components

Military and space products include electronic guidance and telemetering systems for missiles and spacecraft; radar and other detection devices; automatic communications and computing systems, etc. Some important commercial and industrial products are: computers, commercial radio and television broadcasting equipment, industrial testing, measuring, and production control equipment. Consumer products include television sets, radios, phonographs, tape recorders, and hearing aids. Electronic components fall into three broad classifications: tubes, semiconductors and "other components". Tubes include receiving tubes, power tubes, television picture tubes, etc. Semiconductor devices and transistors, diodes, rectifiers and micro-electronic components.

A rapid increase in production of electronic equipment is anticipated in the decade ahead. More businesses are gradually installing electronic equipment in many areas. This will cause a marked increase in the employment opportunities in the electronics industry. The field of high fidelity and tape recording is also on the increase.

The electronics industry spills over to almost every other industry and as new applications are developed, new skills and new equipment follow. Constant re-training of staff is absolutely essential and provisions must be made for such re-training.

NEW EQUIPMENT NEEDS

1. Digital Readout Meters
2. Ship to Shore Radio Equipment - 2 Way Communication Receivers
3. Transistor Materials
4. Calibration Equipment
5. Micro-wave Equipment
6. Digiac Demonstration Equipment
7. Computers with Fortran and other capabilities

8. IBM 360 or other 3rd generation equipment computers
9. Various data processing equipment such as punch card, key punch, verifiers as vehicles for learning
10. Digital Electronic Training Equipment

NEW JOB SKILLS AND INFORMATION

1. Maintenance and Repair - Electro-mechanical background including experience with equipment; i.e., key punch, tele-writers, etc.

2. Specialized Electronics Training - Mainly on transistors, semiconductors, and 20% on vacuum tubes

3. TV-Radio Servicing - Technique of servicing transistor equipment

4. Process Control Systems

   a. Application of Computers to Process Control
   b. Manufacture and Installation
   c. Maintenance
   d. Repair

5. Telemetering

   a. Application to Process Control Systems
   b. Manufacture and Installation
   c. Maintenance
   d. Repair

6. Assembling

   a. Wire Wrap
   b. Thermocompression Bonding
   c. Ultrasonic Wire Bonding
   d. Laser Welding
   e. Infra-red Soldering

7. Electrical Maintenance

   a. Techniques of repairing electronic circuits which use microelectronic elements

8. Environmental Control Systems

   a. Maintenance and servicing of electronic systems which will control pollution

9. Model Cities

   a. Maintenance and control of systems used to enhance living in modern cities, such as traffic control systems, etc.

ANCILLARY TRAINING

1. Marketing - Cost, inventory, counter supplies, part identification and purchasing, etc.

2. Music Appreciation - For broadcast technicians

3. Light and Color - For broadcast technicians and television cameramen

4. Photography - For broadcast technicians and television cameramen

5. Personal Relations and Communications -

   a. Personal characteristics
   b. Ability to deal with people (tact and discretion, etc.)
   c. Appearance

6. Programming - Basic experience in the area of computer programming for future potential of customers engineers in understanding computer operations

7. Driver Education - Necessary for electronics course and all other courses which are service in nature

8. The Commission strongly recommends the effective use of English language

EMPLOYMENT OUTLOOK

1. Entry Jobs

   a. Electro-Mechanical Technicians - Basic understanding of electric circuits, and mechanical devices associated therewith.
   b. Assembler - Hybrid Microcircuits
   c. Operator - Numerical Control Machine
   d. Electronics Draftsman - Drawing of IS and LSI templates
   e. Broadcast Technician - Solid state technology supplement
   f. Television Cameraman - Color Television
   g. Customer Engineer - Qualified to maintain IBM Key Puncher and Verifiers
   h. Radio Serviceman Helper
   i. Television Serviceman Helper
   j. Electronic Technician Trainee
   k. Chassis Assembler Trainee.
   l. Assembler Trainee
   m. Frameman

The demand for skilled maintenance personnel, particularly instrument repairmen, is expected to rise at a rapid rate because of the need to maintain and repair the increasing amount of complex machinery.

Fields which promise the greatest growth are those dealing with the application of computers.

Because courses in Basic Electronics lead to further education and the knowledge gained can be applied to many job areas with some further training, the employment outlook includes some of those allied occupational areas.

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
Electronics		
Radio and television broadcasting	16.0	17.3
Communication	76.0	74.9
Telephone and telegraph	60.0	57.6
Radio and TV mechanics	5.0	5.5
Computer Data Processing		
Data Processing systems analysis and programming specialists	5.7	6.5
Office and computing machines	4.5	3.8
Data Equipment Servicing		
Office machine mechanics	2.1	2.3
Other mechanics and repairmen	85.5	92.3

FASHION CRAFTS

Prepared by

Fashion Crafts Educational Advisory Commission
*Mr. Nicholas Parker, Chairman

Well over a million workers are employed in the making of clothing for the nation's population. They produce about $90 worth of clothing annually for every man, woman and child.

Four out of five garment workers are women, making it the largest employer of women in manufacturing.

No. of Employees	Production Area
425,000	Women's Garments
80,000	Girls' and Children's Apparel
120,000	Men's and Boys' Tailored Clothing
360,000	Men's Shirts, Slacks, Furnishings
30,000	Hats, Caps, Millinery
125,000	Undergarments for Women and Children
75,000	Fur Coats, Gloves, Dressing Gowns
170,000	Curtains and Draperies

FROM: United States Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, 1968-1969 Edition.

* * * * * *

New York City is the nation's fashion center.

It must be pointed out that there are many occupational specialities within the fashion industry ranging from furs to shoe construction. The major portion of the industry, however, is in ladies and men's garment trades. This report centers mainly around these two major areas.

NEW EQUIPMENT NEEDS

There are many new processes on the drawing board which may require new equipment, but they will not be ready for use in the next two years. Some new equipment is not used universally in the trade. Present equipment should and will be surveyed by the Commission for it is quite likely that modernization and upgrading is indicated.

*Mr. Parker participated in this survey and we are sorry to report that he passed away on June 6, 1970.

The Commission will also discuss the feasibility of recommending equipment such as:

Knitting Machines
Looping Machines
Electronic Sealing Machines for Plastic Materials
Cutting Room Equipment
Other Specialized Machinery

An annual inspection and evaluation of equipment is also recommended. The Commission may also consider an experimental center at the High School of Fashion Industries for specialized and new machines, tools, equipment and materials.

In the men's garment area, the following equipment is suggested:

1. Machinery to make linings, pockets and pants
2. Machinery to sew buttons, coats and overcoats
3. Machinery to baste canvas
4. Machinery to open seams under pressing machines
5. Master pressing machinery
6. Die cutting machinery to shape lapel fronts and bottoms of coats

And any other machinery as the needs arise

NEW JOB SKILLS AND INFORMATION

There will be a few new jobs skills and little new information in the next five years. The three areas which should be watched are:

1. Plastic joining processes
2. Synthetic materials and fabrics
3. Other new materials

ANCILLARY TRAINING

1. Uses and controls of new attachments and machines
2. Cost factors in business
3. Knowledge of systems of production
4. Training in supervisory skills
5. Education in management-labor relations

EMPLOYMENT OUTLOOK

1. Entry Jobs

a. Automatic Machine Operator Trainee
b. Brancher Trainee
c. Pinner
d. Turner
e. Footpress Operator
f. Heat Sealer

g. Hand Finisher Trainee
h. Hand Sewer Trainee
i. Knitter's Helper
j. Baster
k. Sample Maker
l. Duplicate Maker
m. Draper
n. Cutter and Cutter's Helper
o. Finisher

The major operations in making apparel are designing the garment, cutting the cloth, sewing the pieces together and pressing the assembled garment. Generally, high grade clothing and style-oriented garments are more carefully designed and involve more handwork than the cheaper, more standardized garments. For this reason, continued emphasis on basic hand skills in the trade are necessary.

A few of the occupations in the industry are:

a. Designing room
b. Cutting room
c. Sewing room
d. Fur shop
e. Administration, sales and maintenance

2. Employment Needs

The Fashion Industry has the largest number of persons employed in any industry in New York City.

For the past year, there has been a decline in the number of workers, but there are still many opportunities for employment.

A large number of women leave each year to marry or to raise families. A steady loss of about 5,000 in women's wear alone takes place annually due to deaths and retirements, etc.

The growing population and the continuing changes in styles should stimulate business. The increasing number of women working in many industries helps the employment situation in the fashion industry due to the fact that women have to "dress up" for the job. Men are also buying more clothes because they are rapidly becoming more fashion-conscious.

FOOD TRADES

Prepared by

Food Trades Educational Advisory Commission
Mr. Peter H. Petersen, Chairman

Millions of people eat in restaurants, cafeterias, snack bars, and other eating places daily. Many other establishments serve meals in connection with some other activity, for example drug and department stores, hotels, schools, and factories. Hospitals have added to the expansion of the food industry. Modern transportation has caused a great increase in the use of food by travelers. The expansion of air travel has caused the greatest increase in the need for in-flight food preparation and services.

More people will "eat out" as the number of housewives taking outside employment rises and more people travel. Vending machines which dispense prepared foods will share in the increased business. New techniques have also been developed such as portion control.

Centralized purchasing of food supplies, self-service, pre-cut meats and modern mechanical equipment, and increased efficiency of operations may temporarily delay the need for additional workers. After this brief delay, however, the need for food workers is likely to increase very rapidly as the volume of business continues to expand to meet the population's need for food services. This will be particularly true in New York City, a transportation, convention and tourist city.

Food trades as taught in the New York City high schools, is divided into three general areas. They are: (1) Baking, (2) Cafeteria and Catering, and (3) Meat Merchandising.

A new school housing the Food Trades will be constructed shortly. Every area of the Food Industry will be taught with latest machinery and up-to-date methods of food preparation. Provisions will be made not only for high school students, but for those now working in the trade who desire to advance to more skilled areas.

NEW EQUIPMENT NEEDS

Note: Much of the equipment in food trades is necessary for understanding processes and methods rather than the actual operation of the equipment.

BAKING

1. Air Conditioning and Temperature Controls - Production and control of yeast-raised products. Production of specialty cakes and decorations.

2. Refrigeration Equipment - Control of perishables. Retard yeast-raised products. Display and storage of perishable products.

3. Freezing Equipment, Defrosting Equipment, Flash Freezers, Quick Freeze (cryovac system - nitrogen gas freezing) - Storage of manufactured products, baked and unbaked. Storage of raw materials. Rapid defrosting of frozen products.

4. Ovens - Travel, Rotary, Stationary - To teach use of all types.

5. High Speed and Automatic Mixing Equipment - Mixing of doughs and cake batters for rapid production.

6. Continuous Mixing Equipment, Small Scale Proofing Equipment Bread and cake production. Production of yeast raised products.

7. New Steam, Electric and Gas Cooking Equipment - Multiple use in production of specialty products.

8. Automatic Frying Equipment with Conveyer Attachments and Timers - Fried products, doughnuts, etc.

9. Storage Handling Equipment (Mono-rail system), Hoists - Cost control, Inventory control.

10. Sanitation Equipment - To maintain sanitation standards.

11. Special Automated Equipment (Grinders, Choppers, Cookie Cutters, Dough Rollers, Dividers) - Chop nuts, roll dough, divide doughs.

12. Automatic Bread and Roll Shaping Equipment - To bake specialty products.

13. Pan Cleaning Equipment - Sanitation in production.

14. Packaging and Wrapping Equipment - Preservation and merchandising of baked products.

15. Work Tables and Special Movable Equipment Production requirements and sanitation.

16. Pie Making Machinery - Shells, tarts, spray equipment, baking, filling and finishing pies, tarts, specialty pie-related products.

17. Doughnut Making and Frying Equipment - Automated and similar to equipment used in franchise establishments as well as retail and wholesale bakeshops.

NEW EQUIPMENT NEEDS

CAFETERIA AND CATERING

1. Walk-in Freezers - For food storage and handling.
2. Radar Ranges - For fast heating of convenience foods.
3. Steam Cookers - For large quantity cooking.
4. Convection Ovens - For faster food preparation.
5. Tray Ovens - For quantity cooking.
6. Low Temperature Warming Ovens - For food holding.
7. Automatic Dish Dispensers - To facilitate serving.
8. Traveling Dish Washers - To handle large loads.
9. Infra-red Heating Lamps - To keep foods hot.
10. Portable Steam Jennys - For sanitation.
11. Walk-in Refrigerators - For food storage.
12. Flash Freezers - For efficient food handling.
13. Ice Cube Makers - For food preparation and beverages.
14. Glass Doored Refrigerator Showcase - Display of food.
15. Portable Heating Carriers (steam tables) - For catering and food services.
16. Portable Refrigerator Carriers (chill plates) - For cold food service and catering.
17. Reproduction (Printing) Equipment - Dissemination of menu and recipe information.
18. Portion Control Slicers and Scales - Food Control.
19. Pressure Fryers.
20. Quartz Type Boilers.

NEW EQUIPMENT NEEDS

Meat Merchandising

1. Blast Freezer - Portion Control.
2. Portable Freezer - Transported from one area to another area.

3. Cry-o-vac Machine - Preserve meats (fast freeze process).
4. Sani-Servi-Sani-Broil - Searing steaks - portion control.
5. Bloom Box - Prevent discoloration of meats.
6. Electronic Weighing Scale - Portion control.
7. Holy-matic Machine - Portion control - patty maker.
8. Automatic Tyer - Tie boneless items.
9. Jet-net Machine - Prepare roasts minus twine.
10. Stewing Machine - Prepare control portion stew.
11. Sausage Stuffer and Linker - Place mix meats into casings and linked.
12. Grinder and Mixer - Prepares meats and spices for sausage.
13. Wrapper - Wrap tray containers automatically.
14. Air Door - Keep cooling room cold.
15. Insect Control Windows - Keep insects out.
16. Prepackaging Conveyors, Refrigerated - Keep bloom in meats.
17. Weighing Machine (floor) - Weighing heavy drums.
18. Conveyor Systems - Transport meat from truck to cooler to bench.
19. Germicidal Lamps of Safety Type Approved - Cut down on the bacteria of meats.

NEW JOB SKILLS AND INFORMATION

BAKING

1. Construction, use and control of new automated equipment.
2. Production and portion control. Estimating production needs, yield, volume, storage of products.
3. Use of retarders, freezers, defrosters. Principles of freezing, packaging, storage, defrosting.
4. Understanding of the composition, use, and values of new raw materials and the processes of their use.
5. Use of convenience products that reduce production time; e.g., emulsifiers, extenders, prepared sours, fermentation reduction, toppings.

6. The recent growth of franchised establishments in the baking industry will require short, intensive training courses to meet specialized job requirements.
7. Doughnut franchise establishments require a special knowledge in the use of prepared mixes, automatic and semi-automatic frying equipment, doughnut making equipment, and finishing equipment. Special training to meet production needs will be necessary.
8. Pie baking franchises will require special courses in the skill and knowledge of making pies, preparing fillings, and operating ovens and other equipment used in the production of pies.
9. The development of "continuous flow" methods of producing bread and rolls, sweet yeast goods, and related bakery products, will require special equipment and training. This may be done at the school with small models of major equipment used in this form of production.
10. A close liaison and cooperative arrangement with labor and management within the baking industry has been established. Short, special courses for new recruits and those being retrained for upgrading should be further developed and instituted to meet new techniques, processes, equipment, and special needs.

NEW JOB SKILLS AND INFORMATION

CAFETERIA AND CATERING

1. Training in efficient use of new equipment; freezers, convection ovens, tray ovens, power equipment not now in common usage.
2. Training in food sanitation: Board of Health regulations will expand.
3. Training in human relations must be included.
4. Training in better knowledge of cost and labor factors.
5. Training in greater use of standardized food preparation procedures.
6. Training in greater use and preparation of convenience foods.
7. Training of more specialists will be required.
8. Training in giving demonstrations of new food products and equipment.

NEW JOB SKILLS AND INFORMATION

MEAT MERCHANDISING

1. Training in block type cutting for the removal of waste.
2. Preparing meats for institutions - institutional cutting.
3. Training in various methods of cutting meats; e.g., hotels and restaurants.
4. Government specifications on handling of meats prior to freezing.

5. Training in portion and control cutting.
6. Principles of quantity cooking; control systems; weighing and marking.
7. Effects of freezing on meats.
8. Cost control.

NOTE:

In all cases, basic English and mathematics are absolutely necessary.

ANCILLARY TRAINING

BAKING

1. Functional knowledge of fast freezing of pre-baked and baked products. Defrosting and baking frozen products.
2. Methods of production. Employing new products and techniques of their use.
3. Portion or unit control of baked products.
4. Packaging and distribution of products.
5. Computer use in production.

CAFETERIA AND CATERING

1. Retraining programs to teach new skills.
2. Seminars to add to present skills and knowledge.
3. Short training courses to fill gaps at the lower trade levels.
4. Intensive courses to create new specialists.
5. Apprenticeship training programs with the Advisory Council, management and unions all lending a hand.
6. Training courses for "Manpower" program.
7. Union up-grading programs.
8. Programs to help the school dropout who can benefit from such courses.
9. Training programs for the various city agencies - Department of Hospitals, penal institutions, school lunch rooms, etc.
10. Specialized programs for management needs in their own particular area.

MEAT MERCHANDISING

In the retail field in meat merchandising, high school training should include Business Law, Accounting and Merchandising Methods and Control, Inventory, Fast Freezing techniques.

In the wholesale field, training in cutting to government specifications and introduction to principles of refrigeration. For those desirous of entering the United States Department of Agriculture, training in sanitation, insect control, technical meat grading, government trade terms and specifications should be given.

EMPLOYMENT OUTLOOK

General Food Areas

Opportunities to train for store managers or supervisors of commercial food preparation.

Retraining to meet new job trends and specialization will provide advancement for those already engaged in the industry. For example: Administrative Trainee, Bacteriologist, Dairy and Poultry Trainee, Food Technologist, Purchasing Agent, Sales Promotion or Merchandising.

BAKING

1. Entry Jobs

   a. Bakers Apprentices and Pre-Apprentices - All areas of baking.
   b. Bakers Helpers - Specialized areas - bread, rolls, cakes, etc.
   c. Benchmen - Various areas of production of specialized areas.
   d. Ovenmen - All types of baked products.
   e. Finishers - Cakes, pastries, special products.
   f. Dough Mixers - Various yeast raised doughs for larger volume production.
   g. Sales Inventory - Packaging, distribution, storage, scales, materials control.

2. Employment Needs

   The degree of advancement and skill development will depend upon the individual. The general, basic skills developed in school have been successfully transferred to the job with ensuing advancement. The industry is growing in the areas of mass production, franchising, specialization and in the production of frozen food and convenience foods (bakery products). Apprentices, helpers, benchhands, cake decorators, cookie makers, pie bakers, doughnut bakers, are specific areas.

CAFETERIA AND CATERING

Training and retraining of most of the present available manpower to cope with new technological advances; judicious and efficient use of radar ranges; fast freezing operation; more preparation of convenience foods; growth of ready to use foods. Specialists in these areas will be needed.

High paying jobs at the top; a much wider base of employment in the lower echelons.

1. 30% of present chefs will be replace because of retirement.

2. 40% of present manpower, cooks, will be replaced for a number of reasons.

3. 30% of younger people will need replacing.

EMPLOYMENT OUTLOOK

MEAT MERCHANDISING

1. Entry Jobs

a. Boner
b. Cutter
c. Inspector

Meat boner can develop into a specialist in hotel and institutional type cutting, portion control and government specification cutting. Additional training will be needed to include understanding of trade terms used and the methods of trimming and measuring the finished product. Training should be given to those desiring to enter the Federal Inspection System, the emphasis being placed on sanitation, insect control, government requirements, and government fabrication requirements.

Automation is having an effect on this industry.

Manpower Directions, New York State Department of Labor, Volume 2, Occupational Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
FOOD		
Food and kindred products	57.7	49.4
Meat products	4.9	4.0
Dairy products	8.8	7.6
Canning, cured and frozen foods	2.2	1.5
Grain mill products	1.7	1.5
Bakery products	15.7	13.3
Beverages	13.6	13.0
Food Stores	74.8	77.0
Eating and drinking places	44.7	45.5

HEALTH AND HOSPITAL CAREERS

Prepared by

Health and Hospital Educational Advisory Commission
Dr. John V. Connorton, Chairman

Health career workers include technicians of various types, such as medical technologists, x-ray technicians, dental hygienists. A large number of others work as practical nurses, auxiliary nurses which include orderlies, nursing aids, hospital attendants, and psychiatric assistants.

Workers in the health field are employed in hospitals, clinics, laboratories, pharmacies, nursing homes, industrial plants, public health agencies, mental health centers, private offices and patients' homes.

Nursing, the largest of the major health service occupations, is second only to teaching as a field of professional employment for women. Most of the dentists, physicians, optometrists, etc. are men.

Although employment growth is expected to continue in the hospital industry during the 1970's, labor shortages are projected because of the large future manpower requirements. By 1975, according to projections of the New York State Department of Labor, employment in New York City's hospital industry is projected to increase by 40,000 or 28 percent, from the estimated 143,000 workers employed in all hospitals in New York City in 1965. The projected 10-year increase in hospital employment is expected to be at least triple that of total employment, according to State projections. Based on BLS national projections, the largest occupational needs are expected for aids, orderlies, and attendants, partly as a result of the shortage of registered nurses, which is accelerating a reallocation of the nonprofessional functions of registered nurses to nonprofessional assistants of all kinds. There will also be a growth in demand for professional nurses due to such developments as intensive care units.

EMPLOYMENT NEEDS

It is suggested that the equipment purchased by the high schools for student experience be kept simple and basic. The sophisticated new equipment which may become obsolete in a short period of time would not be regarded as a necessary investment. We would assume that this type of equipment would be available at the hospital where students would be observing and possibly having experience before graduation. Therefore, the present equipment is sufficient in most areas.

1. Computer Data Processing - Simple use and understanding of computers.

2. Cooperative use of hospital equipment.

3. Electronic Cooking Devices - Reconstitution of frozen foods.

4. Self-Operating Urns - To relieve stand-by labor.

5. Mobile Hot and Cold Storage Units - For ready-to-serve foods.

6. Disposable Equipment - Disposables of all sorts are coming into the food service field for retailing, service and storage.

(PLEASE NOTE - All areas of food are covered in more detail under Food Trades Section of this report.)

Students should be exposed to the following equipment, either in school or the cooperating hospital:

1. Electronic Equipment - For charting, medications, ordering supplies, and order keeping.

2. Kidney Dialysis Machines - To be used in care of patients.

3. Cardioscopes - For the assessment of patient's condition.

NEW JOB SKILLS AND INFORMATION

Ability to read, write and speak English with facility of prime importance. Knowledge of basic mathematics and science is essential. Accuracy and attention to details is an essential quality.

1. Monitoring Devices Work with Technical Equipment Diagnostic Facilities.

2. Health Teaching (Home, Health or Clinical Aide) - Cleanliness in dress and appearance. Basic interviewing skills.

3. Preparing Diet - Basic knowledge of dietary essentials and food preparation.

4. Nursing Aides (Operating Room, Nursery and Central Supply Technicians) - Knowledge of aseptic technique. Importance of interpersonal relationships.

5. Housekeeping - Knowledge of personal and environment cleanliness and sanitation.

6. Data Processing - To prepare for new openings in the Health field.

7. Almost all other trade skills taught can be utilized in the health field.

8. Broader affiliation with, and expansion of, cooperative education.

9. Community Health Care will grow.

10. Health Orientation and the community concept.

11. Team Nursing - Concepts and Practices.

12. Rehabilitation - Concepts and Practices.

13. Principles underlying nursing practices should be included in varying depths in all curricula.

ANCILLARY TRAINING

1. Include boys in the programs. Stress opportunities for men as registered nurses, licensed practical nurses and the related supportive health occupations.

2. Counseling program to encourage students to undertake the highest level of training. Minimum training results in low level positions with low wages, less opportunity for advancement and limited service in the health field. Those boys and girls able to prepare for admission to R.N. schools should not be side-tracked into the L.P.N. program or auxiliary unlicensed careers.

3. In regard to the work situation as it really is, students need to have it made very clear to them that health care is in most employment situations a 24 hour job, 7 days a week, including holidays. Health workers are obligated to work various shifts.

4. Special emphasis on emotional needs of patients.

5. Regardless of new equipment, gadgets, treatments to be developed in the next 5 years (or 50 years), the basic necessary attributes of health workers will remain unchanged:

   a. Understanding of self and of others.
   b. Communication skills - listening, observation, reporting observations, written and spoken language.
   c. Appreciation of principles of cleanliness, sanitation, and their application to self, to patients.
   d. Personal integrity, dependability, loyalty, etc.

EMPLOYMENT OUTLOOK

There are many openings in the following areas, some of which are not entry jobs in the health field, but have been submitted to exemplify the need for all kinds of help in the field of health services:

Nurses Aide	Accounting Clerk	Cook
Community Nurse	Payroll Clerk	Cook's Helper
Baby Nurse	Cashier	Salad Aide
Orderly	Posting Clerk	Baker
Ward Attendant	Insurance Clerk	Kosher Cook
Physician's Assistant	Admitting Interviewer	Short Order Cook
Male Nurse	Bookkeeper	Dietary Supervisor
Health Technician	Accounts Receivable Clerk	Storekeeper
Oxygen Technician	Credit Interviewer	Carpenter
Oxygen Aide	Auditing Clerk	Carpenter's Helper
Dental Supplies Assistant	Receiving Clerk	Painter
Dental Aide	Addressograph Operator	Painter's Helper
EKG & EEG Technician	Medical Secretary	Labor & Delivery Room Technician
OR Technician	Typist	Stenographer
Dark Room Technician	Switchboard Operator	X-Ray Librarian
Printer's Helper	Radiology Aide	Seamstress

Employment Needs

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

HEALTH	1970	1975
Hospitals	166.6	182.4
Other medical and health services	68.4	76.2

MACHINE AND METAL TRADES

Prepared by

Machine and Metal Trades Educational Advisory Commission
Mr. William Lewi, Chairman

The machinist is a skilled worker in an occupational area basic to many firms in modern industry. Although the machinist works mainly with metal, the spectrum of metals is increasing as are non-ferrous and non-metal materials. Each material has characteristics which demand knowledge and skill on the part of the worker. Many new techniques have been introduced in recent years, some of which shape metal by using chemicals, electricity, magnetism, sound, light and liquids under controlled conditions. Numerically controlled machines may simplify some machine and metal workers' jobs and increase their efficiency.

Included in this industry are machinists, tool and die makers, instrument makers, machine tool operators, setup men and layout men. The principal job of most machine workers is to operate machine tools. These are lathes, grinding machines, drilling and boring machines, milling machines, shapers, broachers and planers. Workers in this industry follow directions generally given in the form of a drawing or blueprint upon which the exact dimensions of the finished part are specified. Micrometers and other precision measuring instruments are used to check the accuracy of their work. It is important, therefore, that training include the development of positive attitudes toward the work such as pride of craftsmanship and dependability. Proper course placement of students is important. Future machine and metal workers must have a desire and aptitude for the trade and must have a high degree of manual dexterity.

The recommendations made by the Commission include a recognition of the need for proper adult training which makes use of day school facilities as well as training at the secondary level.

Implicit in this report is the need for adequate maintenance of the machinery and equipment used in training for employment in the machine trades or in jobs utilizing similar skills. It is also necessary that sufficient quantities of standard and diverse materials be supplied for adequate training.

The Commission realizes that some school shops may have some of the equipment being recommended and may already be giving instruction in some of the new jobs skills and information. The Commission recommends, however, that all machine and metal trades shops and courses should implement the suggestions made in this report and urges the Board of Education to support the recommendations of the Commission according to individual school needs as determined by the professional staff.

There are opportunities for supervisory positions for persons who can converse and discuss projects and who can write reports and deductions from these projects.

NEW EQUIPMENT NEEDS

1. EDM - Electrical Discharge Machinery - used for tools and dies. Required for working on hardened tool steels, carbides and jet engine parts.

2. Numerical Control Equipment - A system of programming machining processes which utilizes a perforated tape fed into a control unit. Can be used with lathes, milling machines, drill presses, and other machine tools.

3. Hydraulically Controlled Tracers - Controlled tracers for milling machine operation and other line tracing equipment.

4. Hand Screw Machines and Small Chuckers - Needed to learn set-up work and operation of automatic machines.

5. Small universal cylindrical grinders.

6. Turret Lathes.

7. Cutter grinders for carbide tools.

8. Internal and external grinders - for precision finishing.

9. Vertical milling machines.

10. Pantograph Milling equipment - for profiling.

11. Carbide Type cutting tools.

12. Band Saws.

13. New measuring instruments - as they are developed, such as electronic and air gauges.

14. New metals - used in industry should be provided for use by students.

15. Machining centers (new type equipment).

16. Pneumatic tooling is increasing.

17. ECM - Electro chemical machining - is gaining popularity.

NEW JOB SKILLS AND INFORMATION

1. All students should have a strong basic education in the communication and mathematical skills.

2. Students should learn to use tape equipment. They should develop the ability to analyze a job, break it down into its component operations, and program the complete job on perforated tapes according to proper sequence and methodology.

3. Students must learn the theory as well as the operation of Electrical Discharge Machinery as to its proper use and capabilities. This should include the manufacture of electrodes and the materials used for electrodes.

4. Principles of hydraulics should be taught.

5. Instruction should be given in inspection and quality control and high quality work such as burr free machining.

6. Principles of electrical and electronic circuitry should be included.

7. Geometry of carbide tools.

8. Characteristics and uses of new metals, ferrous and non-ferrous, including powder metallurgy.

9. Students should be given an understanding of industrial and manufacturing practices and methods such as estimating time and operational analysis, and cost factors. Appreciation of the value of equipment, machinery and materials.

10. Students should be made aware of applications of machine skills in other fields.

11. Electro-chemical milling and grinding.

EMPLOYMENT OUTLOOK

1. Entry Jobs

   a. Machine programmer
   b. Machine operator
   c. Machinist trainee
   d. Assistant to setup man
   e. Inspection and quality control man
   f. Diemaker's helper

2. Employment Needs

   Projections of labor requirements in the machine and metal trades, a basic industry, show that there will be a continued need for trained help in that field. Commission members report an expected growth of 3 to 5 percent. Official reports from the U.S. Department of Labor on unfilled job openings are significant for they show a

chronic shortage of workers many with the kind of training given at the high school level.

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

METAL WORKING	1970	1975
Primary metal industries	13.1	12.3
Fabricated metal products	35.4	32.2
Metalworking craftsmen	35.9	32.7
Skilled machining workers (including machinists)	19.6	17.3
Blacksmiths, forgemen, hammermen	0.4	0.4
Boilermakers	0.8	0.8
Heat treaters, annealers, tempers	0.1	0.1
Millwrights	1.2	1.2
Molders, metal (excluding coremakers)	0.6	0.5
Patternmakers, metal and wood	1.1	1.1
Rollers and roll hands	0.2	0.2
Sheet metal workers	4.7	4.6
Toolmakers, diemakers, setters	3.9	3.4
Electroplaters	0.3	0.3
Assemblers, metalwork, Class A	3.0	2.8

MARITIME TRADES

Prepared by

Maritime Trades Educational Advisory Commission
Capt. C.D. Davies, Chairman

The ocean, which covers more than two-thirds of the earth's surface, provides valuable foods and minerals, influences the weather, serves as a "highway" for transportation, and offers many varieties of recreation or a career in the Maritime Industry.

Courses in the Maritime Trades are conducted by the Board of Education on the School Ship John W. Brown, a 10,000 ton, fully equipped cargo ship. Students at the school can:

1. Earn a high school diploma.

2. Learn the deck, engine or steward branches of the Maritime Trades.

3. Qualify for admission to Fort Schuyler or Kings Point Maritime Academies.

In the near future, a modern vessel is expected to replace the present S.S. John W. Brown. The new ship, together with shore facilities, appropriate academic and related subjects, will provide an ideal touch for students in the world of work in the Maritime Trades. The expanding fields of Oceanography will open up many new opportunities and has proposed new courses.

NEW EQUIPMENT NEEDS

1. Diesel and gas turbines - Ship's propulsion.

2. Bridge and engine room consoles - Engine and bridge control.

3. All modern bridge instruments - Ship operation, i.e., Loran, Radar, R.D.F., Fathometers, etc.

4. Container, roll on roll off, Stuelcken - Cargo operations - Heavy lift gear. Models of Containers should be available.

5. Modern fire detecting and extinguishing system - To combat fires.

6. Process computers - To monitor and operate, and optimize, all plan conditions.

7. Modern lifeboat and liferaft equipment.

8. Modern basic meteorological equipment - Weather analysis.

9. Hydraulic and pneumatic equipment - Control of hatches, sideports, valves, etc.

10. Automatic data processing equipment - For recording data and monitoring auxiliaries.

11. Oceanographic instruments - To train technicians and seamen for research projects.

12. Main electrical switchboard - To parallel A.C. and D.C. generators, and circuitry control.

NEW JOB SKILLS AND INFORMATION

1. Skills in electrical and electronic technology

2. Engineering hydraulics

3. Deisel engineering and gas turbines

4. Oceanographic technician

5. Scuba divers and technicians

6. More extensive skill in operation of bridge instruments, i.e., R.D.F., Radar, Loran, Gyro Compass, Bridge Console, etc.

7. Handling of synthetic lines and new paint coverings

8. Handling of modern fire fighting equipment

9. Handling of new electrical and hydraulic hatch openings

10. New cargo handling methods and mooring equipment

11. Burning and welding

12. Computer technology

13. Lifeboat and lifeboat operations

14. Handling and preparation of frozen foods

15. Air conditioning should be part of the curriculum. This should be a maritime oriented course as many ships are air-conditioned. Cargo containers each have individual air conditioning and there are usually about 70 containers on each ship used for this purpose.

16. Yachting should be introduced. With great emphasis on leisure time, pleasure and business, exposure to areas of small and medium sized craft should be made part of the curriculum.

ANCILLARY TRAINING NEEDS

1. Training to combat air and water pollution.

2. Need for student to understand his role as an individual in the work process; his relationships to his supervisor and to his co-workers. There needs to be an awareness of the importance of aspirations, satisfaction of needs, motivation and leadership patterns.

3. Marine biology

4. Marine chemistry

5. Basic meteorology

6. Principles of electricity and electronics

7. Marine sales

8. Marine drafting

EMPLOYMENT OUTLOOK

1. Entry Jobs

   a. Unlicensed Engineers (DEMAC)
   b. Marine equipment salesmen
   c. Marine draftsmen
   d. Marine equipment technicians
   e. All shipyard skills
   f. Oceanographic technicians
   g. Small boat operators
   h. Tugboatmen
   i. Marina technicians
   j. Steamship companies (Office staff)

These jobs are all related to the Marine Industry and with proper equipment and curriculum, they could be filled by qualified graduates.

It is difficult to project employment needs and the approximate number to be hired at entry levels. Since our needs are determined by budgetary considerations which are subject to change throughout the year, no estimate can be given at this point.

There will be continuing attention given to the employment needs of minority groups and the status of women in particular in achieving a role in the industrial complex commensurate with their abilities and from the point of view of industry's need to keep pace with rising social expectations.

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City (In Thousands)

	1970	1975
MARITIME		
Sailors and deck hands	4.7	3.4

PRINTING TRADES

Prepared by

Printing Industries Educational Advisory Commission
Mr. Louis Van Hanswyk, Chairman

The printing process is basically a means of transferring ink impressions of words, photographs or other illustrations to paper, metal or other materials. The most common methods used are letter press and offset lithography. Included in the printing industry are the printing of books, magazines, newspapers, business forms, greeting cards, advertising, catalogs, and many other items. Because of the increasingly complex and highly mechanized printing equipment in use today, there is a growing need for technically trained people in all areas of production and management.

A knowledge of the basic principles of chemistry, electronics, and physics is becoming increasingly important because of the growing use of photomechanical and electronic processes used in printing. There will be many opportunities for young men and women to enter the skilled printing trades for the next several years. These will occur primarily as a result of the need to replace workers who retire, die or transfer to other fields of work. Many openings will occur because of technological changes in production methods. Electronic devices such as computers, electronic etching and color-separating equipment and electronic controls for highly mechanized bindery equipment may tend to temporarily hold back the large increase in employment in the composing room and in the bindery. All areas of offset lithography are expected to show the greatest increase in the over-all expansion of the printing industry.

NEW EQUIPMENT NEEDS

1. Composing Areas

   a. Light table and ruling table to be used to prepare copy for cold typesetting.

   b. Paste makeup facilities including artists' tables for preparing flats and for stripping.

   c. Film composition systems for body and display setting. Varityper and IBM equipment, etc., since these are used in the modern printing plant.

   d. Variety of tape perforating machines to acquaint students with requirements.

   e. Modern reproduction proofing equipment. We should also retain the traditional proofing from hot type.

f. Typewriters to be used for keyboard proficiency - not for office or secretarial skills. Typewriter keyboards are basic in many modern processes used in the composing room.

2. Preparatory Section (Camera to Plates)

a. Equipment for making plates without negatives such as ITEK, Robinson, etc.

b. Polaroid camera equipment for direct screening of plates.

c. Film exposure and drying equipment.

d. Pin register systems (copy to camera to press).

e. Additional flip-top plate makers.

f. Relief platemaking (Non-metallic, direct and indirect).

g. Roll film cameras.

h. Vertical and horizontal cameras.

3. Pressroom

a. Small offset presses, up to 38" single color, multicolor, and perfector.

b. Web offset presses, single and multicolor.

4. Bindery

a. Small folding machines.

b. Medium-sized hitch-hiker continuous-feed folding machine, and a small-sized friction-feed machine.

c. Tape-recording automatic clamp self-programming guillotine-type power paper cutter.

d. Small semi-automatic perfect binder.

e. Rotary-type automatic-feed perforator-scorer.

Special Note

There should be a continuous conversion to modern letterpress and offset equipment. This will mean that some letterpress areas are gradually becoming obsolete and the equipment must be replaced. Provision must be made for removal of obsolete machinery.

As new equipment is procured, the curriculum must be brought up to date to meet the changing needs of the industry.

Another very important factor must be kept in mind; that is, funds must be allocated for expendable supplies such as paper, ink, plates, film and other necessities. Provision for upkeep and for repair of machinery is of vital importance in an ongoing program.

A course in printing machine maintenance and repair should be explored. Small size machinery and equipment where possible, if the learning value is the same.

NEW JOB SKILLS AND INFORMATION

1. The use of the typewriter keyboard has become a necessity for the modern printing plant. Touch typing should be a required course for every student. As the students develop proficiency in typing, this skill can be put to use in all film composition systems and tape perforation courses.

2. Automated typesetting will require new machine skills and techniques. Paste makeup and all areas of cold typesetting require art work, layout and design, ruling and the use of the T-square.

3. A course in the fundamentals of photography.

4. Stripping requires a knowledge of imposition and of press preparation. (Sequence of pages, margins, grippers and guides.)

5. Platemaking will require understanding the science of chemistry and color.

6. Offset presswork will require a knowledge of paper, ink and the chemistry of offset printing.

7. Orientation to production and printing management and labor history.

8. Orientation to graphic design and layout.

9. A knowledge of printing supplies (ink, paper, plates, etc.)

10. More women should be encouraged to enter the trade.

11. Proper use of all tools related to stripping, ruling and opaquing.

Special Note

It is of the utmost importance that students be well-trained in all areas of general education and more specifically in aspects of arithmetic and English, such as speech, reading and spelling.

ANCILLARY TRAINING NEEDS

1. Knowledge of printing supplies (ink, paper, plates, etc.).
2. Production and printing management.
3. Graphic design and layout.
4. Business management.
5. Machines to improve reading skills.

EMPLOYMENT OUTLOOK

1. Entry Jobs

   a. Apprentice jobs in printing plants in areas of the composing room for men and women.
   b. Production department workers.
   c. Preparation and presswork areas of expanding printing field.
   d. Binding and finishing opportunities will expand.

General Description

Students well-versed in latest methods of visual communication arts and in improved printing techniques will be needed.

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected 1970 and 1975, New York City, (In Thousands)

Printing	1970	1975
Printing and publishing	124.9	123.4

"A survey estimates 11 percent gain in printing volume in 1970." Manpower Review, March 1970, New York City, State Department of Labor.

WOODWORKING

Prepared by

Furniture Educational Advisory Commission
Mr. N.I. Bienenstock, Chairman

Woodworking is divided into two major areas: carpentry (building trades), and cabinet making. Students who go into cabinet making find employment in shops which build store cabinets, display units and kitchen and lavatory cabinetry or in the field of furniture repair and construction. The firms engaged in furniture are comparatively small in number and depend on high school courses for training of youngsters for the industry.

Representatives from cabinet making and carpentry worked together in designing woodworking shops which would offer the broadest possible training for a number of entry jobs in that career field.

NEW EQUIPMENT NEEDS

As this is mainly a hand craft with occasional lathework used, the present equipment is adequate for the training of young people to enter the industry. The industry cannot foresee any major changes that would require new equipment in the next two years.

NEW JOB SKILLS AND INFORMATION

Although furniture making is a relatively small industry in New York City, the need for new job skills will not be great in the next two years. However, we must always keep in mind that the recognition of individuality and creative styles of furniture is always of assistance to the growth of the industry and there will be a continuing need for employees in fine furniture repair and refinishing.

Basic skill training in carpentry is comparatively unchanged. The skills taught at the high school level are utilized in entry jobs in carpentry and as a basis for further training on the job as with city agencies or union apprenticeship programs.

EMPLOYMENT OUTLOOK

The production of fine furniture has been hampered by the shortage of skilled workers. The industry depends on the graduates of vocational high school courses in furniture for their manpower supply. These youngsters enter the occupation as trainees and gradually become skilled workers. Up until a few years ago, skilled workers in this field came from European countries where they had learned the skill. This source of supply has gradually dwindled so that firms must look to the schools for their workers.

This industry expects to expand in the next two years. At the present time, there are approximately 17,600 workers in the general field of furniture and cabinet making in New York City. New York City is a national center for the purchase of truly fine furniture.

Carpentry in the construction and maintenance fields is not expected to grow much beyond the present needs.

Manpower Directions, New York State Department of Labor, Volume 2, Occupation Distributions of Jobs Projected in 1970 and 1975, New York City (In Thousands)

	1970	1975
Woodworking		
Furniture and Fixtures	17.6	17.4
Building Trades		
Carpenters	18.9	17.4

VT 012 309
Employment in Perspective. An Examination of Recent Developments in the Labor Force, Employment, and Unemployment.

Bureau of Labor Statistics (DOL), Washington, D.C.
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Report No. 380
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DESCRIPTORS - *EMPLOYMENT STATISTICS; *DEMOGRAPHY; *BUSINESS CYCLES; *EMPLOYMENT TRENDS; *EMPLOYMENT LEVEL; LABOR FORCE; NEGRO EMPLOYMENT; EMPLOYMENT PATTERNS

ABSTRACT - The recent slowdown in the economy has had very uneven employment effects. The durable goods sector, particularly the aerospace industry, has been hardest hit. The major impact has occurred in the relatively high-skilled blue-collar and white-collar jobs. This report provides employment statistics by industry, occupation, sex, age, color, and geographic region from April 1969 through May 1970. (BH)

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Monday, June 15, 1970

BLS REPORT EXAMINES EMPLOYMENT IN PERSPECTIVE

The recent slowdown in growth of the number of jobs and the sharp rise in unemployment have fallen very unevenly on industrial sectors, labor force groups, and geographic areas, according to a report published today by the Labor Department's Bureau of Labor Statistics.

Hardest hit was the durable goods sector, particularly the aerospace and defense-related segment. The workers most affected initially have been those employed in relatively high-skilled jobs rather than those at the bottom of the occupational ladder. The jobless rate for Negroes, who have never been employed in large numbers in some of the hardest hit industries, has risen at a less rapid pace than the jobless rate for whites. Because of the regional concentration of the affected industries, the Pacific Coast and the Midwest have experienced the sharpest increases in unemployment.

(The full Bureau of Labor Statistics report entitled Employment in Perspective: An Examination of Recent Developments in the Labor Force, Employment, and Unemployment, is attached.)

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EMPLOYMENT IN PERSPECTIVE.

An examination of recent developments in the labor force, employment, and unemployment

June 1970
U.S. Department of Labor
Bureau of Labor Statistics
Report 380

The slowdown in economic activity has had a strong impact on employment and unemployment in the first 5 months of 1970. Employment showed hardly any growth from December to April, and declined substantially in May. Unemployment, on the other hand, has risen steadily since December, with the number of jobless persons rising from 2.8 to 4.1 million (seasonally adjusted) and the jobless rate climbing from 3.5 to 5.0 percent.

The slowdown in employment and sharp rise in joblessness have fallen very unevenly on major industrial sectors, labor force groups, and geographic areas. The durable goods sector, particularly the aerospace and defense-related segment, has been the hardest hit. The workers most affected, particularly during the early stages, were those employed in relatively high-skill jobs, rather than those at the bottom of the occupational ladder. The jobless rate for Negroes, who have never been employed in large numbers in some of the hardest hit industries, has risen at a less rapid pace than the white rate. Because of the regional concentration of these industries, the areas most affected are the Pacific Coast and the Mid-west.

Industry trends. Manufacturing employment, which had continued to expand in the early part of 1969, leveled off in midyear and has declined rapidly since last fall. Between July 1969 and May 1970, factory employment declined nearly 700,000 with the drop initially confined to the durable goods industries but now beginning to affect the nondurable sector as well. In the other goods-producing sectors of the economy, mining, construction, and agriculture, employment has remained at a virtual standstill since last fall.

In the service-producing sector of the economy, employment continued to grow throughout all of 1969 and did not begin to taper off until the first few months of 1970. Since February, however, there has been little or no employment growth in this sector.

As table 1 indicates, the sharpest declines in factory jobs have occurred in the ordnance and aircraft industries. Employment in both of these industries has been tapering off since late 1968 and has declined at a particularly rapid pace since mid-1969. Between July 1969 and May 1970, ordnance employment (seasonally adjusted) dropped by 70,000 or one-fifth, while aircraft employment declined about 110,000 or 13 percent. Together, these two industries, which make up only about 1/20 of total manufacturing employment, have accounted for about one-fourth of the recent decline in factory jobs. This suggests that cutbacks in the defense and aerospace fields, the impacts

of which are also being felt in many other industries, have been primary factors in halting the growth of factory employment since mid-1969.

Other major factors which have had a negative impact on employment in durable goods manufacturing are: (1) the weakness in automobile sales, which induced motor vehicles manufacturers to trim back employment by about 30,000 workers (even after having repeatedly reduced productiion through a shorter workweek and temporary plant closedowns); (2) the slowdown in construction activity, especially in new housing starts, which has led to some curtailment of jobs in the building material industries (lumber, stone and clay, and so on); and (3) a general shortage of capital funds, which combined with the factors already cited, has curtailed the growth of employment in several other industries (such as fabricated metal products, machinery, and electrical equipment).

In nondurable goods manufacturing, employment has thus far remained relatively stable. However, the small job gains posted in this sector at the close of 1969 have been wiped out by the decline that took place in subsequent months. Originally concentrated in the textile and apparel industries, this decline is now spreading gradually to other soft-goods industries.

Employment in service-producing industries (transportation and utilities, trade, finance, services, and government) continued to grow during the July 1969-May 1970 period, rising by about 1.2 million. Even in this sector, however, the employment gains posted since December have become progressively more moderate in size and appear to be largely of a part-time nature. Since February, the only substantial gains in employment in the entire service-producing sector have occurred in government, where over 150,000 workers have been hired on a temporary basis to assist with the 1970 Census. Were it not for the addition of these workers, employment in the service-producing sector would have been at a virtual standstill during the February-May period.

Labor force groups hardest hit. Since the bulk of the recent employment cutbacks have occurred in the durable goods sector, largely a male bastion, it is not too surprising that the sharpest increases in unemployment during this period have also occurred among adult men. Of the 1.3 million increase in the number of unemployed between December and May, about 600,000 have been men 20 years of age and over. Data on the reasons for unemployment indicate clearly that a great proportion of these men lost their jobs. Relatively few had either quit their last job, reentered the labor force, or were looking for their first job.

Joblessness among women and teenagers, who are not employed in large numbers in durable goods manufacturing, has so far increased somewhat less rapidly. During the December 1969-May 1970 period, unemployment among adult women increased by 400,000 and teenage unemployment rose by 200,000. (See table 2.)

The adult male unemployment rate climbed from 2.2 to 3.5 percent between December and May; the adult female rate rose from 3.5 to 5.1 percent; and the teenage rate moved from 11.8 to 14.3 percent. The rate for married men, generally a family's main breadwinner, rose from 1.7 to 2.6

percent during this period.

The sharp increase in unemployment occurring in the last 5 months has not yet been translated into a significant increase in long-term unemployment. Although the number of persons unemployed 15 weeks or more has increased since December, it still accounts for only 15 percent of total unemployment. The average (mean) duration of unemployment remained fairly constant through April, and registered its first significant increase--to 9.0 weeks--in May. At this level, it still compares favorably with the average duration levels (about 12 weeks) of early 1965, when the jobless rate, then in a steady decline, crossed the present 5.0 percent mark.

Unemployment by occupation. One of the surprising facts about the recent rise in unemployment has been the extent to which it has affected workers in high-skill jobs. Particularly during the early stages of the employment slowdown (from mid-1969 until about March 1970), it was workers in high-skill occupations rather than those at the bottom of the occupational ladder that were hit hardest.

As shown in table 3, the unemployment rate for white-collar workers, which is usually somewhat more impervious to a general rise in joblessness, has risen nearly a full percentage point since December (from 2.1 to 2.8 percent), with the rise now affecting most white-collar occupations. Earlier, it was concentrated mostly among professional and technical workers, whose jobless rate has about doubled since early 1969.

At slightly over 2 percent in March, April, and May, the jobless rate for the professional and technical group has now returned to a level last attained--and then for only a very brief period--in 1963. The sharp rise in joblessness among these workers appears to be primarily a reflection of spending cutbacks in the defense and aerospace fields, where a large proportion of the work force consists of high-skill personnel. Another factor is the general slowdown in government-financed research activities.

For blue-collar workers, the jobless rate has climbed from 4.3 in December to 6.2 percent in May. Even among these workers, however, the sharpest rise in joblessness has occurred among the most skilled (craftsmen and operatives) rather than among the less skilled (nonfarm laborers). This is another indication that the major impact of the recent slowdown has fallen on those "sophisticated" industries which make little use of low-skill labor, such as the aerospace industry and defense industries in general.

Area trends. Although unemployment has been rising across the Nation, some areas have been hit much harder than others. Since industries bearing the brunt of the slowdown are concentrated in the Midwest (especially in the East North Central area) and the Pacific Coast, it is these areas which have experienced the sharpest rise in unemployment. This is particularly evident from State data on insured unemployment.

As shown on table 4, the Pacific Coast area, which contains only one-eighth of the Nation's labor force, has accounted for about one-fifth of the national increase in State-insured unemployment during the April 1969-

April 1970 period. The principal factor accounting for the sharp rise in joblessness in this area is the reduction in aerospace and defense-related production. A secondary factor is the decline in lumber production resulting from the protracted nationwide slump in housing activities.

The unemployment rise in the Midwest is attributable primarily to cutbacks in automobile production and to a general weakness in durable goods production, which is heavily concentrated in this area.

Other regions of the country have fared better in terms of unemployment. These are generally the areas where manufacturing employment in general and defense-aerospace jobs in particular account for a relatively small proportion of local employment.

Labor force growth. Although employment growth had nearly come to a halt by the close of 1969, the labor force continued to grow at a very brisk pace for several months. Between December 1969 and April 1970, total employment rose by only 200,000, while the civilian labor force expanded by 1.3 million, producing a sharp rise in both the level and rate of unemployment. In May, with total employment dropping nearly half a million, the labor force declined by 300,000 but was still one million above the December 1969 level.

In contrast to the trends for recent years, when most of the labor force increases were accounted for by women and teenagers, more than one-half of the rise since December has been accounted for by adult men. The labor force increase has been particularly sharp for men 20 to 24 years of age, reflecting in part a reduction in our armed forces as well as the natural growth of this group's population.

Certain other explanations can also be offered for this rapid growth of the labor force. During the initial stages of the slowdown, unemployment rose at a relatively slow pace among those groups of workers who are likely to be discouraged from entering the labor force--or to abandon the search for work--when job opportunities for their group become scarcer: women, teenagers, and low-skilled marginal workers. It is thus not too surprising that they continued to enter the labor force in large numbers. By contrast, persons who have experienced the sharpest rise in unemployment--adult male, highly-skilled, full-time workers--are not likely to drop out of the labor force after the loss of a job, but will continue looking for similar or alternate sources of employment for some time.

The situation, however, appears to be changing. Since about March, with the employment slowdown spreading gradually to the service-producing sector, job opportunities have become scarcer even for women and teenagers. This development has been accompanied by a more moderate labor force increase (100,000) in April and by a substantial decline (300,000) in May. Although this may signal a temporary halt in labor force expansion, it should be noted that such expansion has never proceeded along a smooth trend line. It has, instead, been rather erratic on a monthly basis, and thus one should interpret the April and May data with caution.

There are, however, other factors upon which one could base expectations for labor force growth to halt temporarily or to become much more moderate. For example, an examination of behavior of the labor force during previous slowdowns of the economy indicates that growth was generally halted or at least moderated within a few months after the economy halted its expansion. After the "peak" turning points of 1957 and 1967, for example, the labor force fluctuated around the reference level for several months before resuming its upswing. Following the 1960 downward turn of the economy, the labor force grew at a moderate but irregular pace for about 6 months, although employment had already begun to decline.

More significant, perhaps, is the fact that in the first quarter of 1970 there was a sharp decline in the number of persons outside of the labor force who intended to look for work during the following 12 months. Compared with the first quarter of 1969, the number of such persons was down by half a million, from 9.9 to 9.4 million. 1/

In the first quarter of 1970, there were also some indications that a small number of persons were already leaving the labor force after losing their jobs. The percentage of persons dropping out of the labor force because of "slack work" had increased perceptibly, compared with previous periods. At 4.4 percent (as a proportion of those leaving the labor force during the previous 12 months), this indicator had moved up significantly from 2.9 percent in the first quarter of 1969, and was at its highest quarterly level since these data have become available. 2/

On the other hand, there has not yet been any increase in the number of "discouraged workers"--persons outside the labor force who want a job but think they could not find one. Despite the sharp jump in unemployment, the number of "discouraged workers," which has shown a downward trend for the past three years, was virtually the same (600,000) in the first quarter of 1970 as in the first quarter of 1969. This may be explainable in terms of a lag effect. It may take quite some time before the persons who want jobs become sufficiently discouraged to abandon the job search. This may be particularly the case when higher unemployment falls mostly on primary workers who are often the family's main breadwinners.

The Negro employment situation. The slowdown of employment growth has had serious repercussions both for white and Negro workers. The Negro unemployment rate, however, has risen more moderately than the white rate. Between July 1969 and May 1970, the white unemployment rate rose from 3.2 to 4.6 percent, while the Negro rate rose at a proportionately slower pace--from 6.5 to 8.0 percent. This led to a significant narrowing of the ratio between the two rates, which, with the exception of a few brief periods, had remained fairly constant (at slightly more than 2 to 1) for 15 years. (See table 5.)

1/ These data are now published quarterly. See Employment and Earnings, April 1970, p. 137, table 10.
2/ See Employment and Earnings, April 1970, p. 135, table 7.

The relatively slower upturn of the Negro jobless rate since mid-1969 has given rise to some hopes of a permanent narrowing of the Negro-white unemployment differential. These hopes have been based largely on the following factors: (1) the gradual shift of Negroes into occupations with relatively low unemployment; (2) the impact of Government manpower programs, in which Negroes have made up a relatively large proportion of the participants; and (3) some possible lessening of discriminatory practices by employers in the hiring and retention of Negro workers.

Although these factors may have contributed to the recent narrowing of the Negro-white unemployment rate ratio, it should be noted that during previous cyclical swings of the economy there was also a short-lived narrowing of the ratio in the initial stages of the slowdown. During the recovery period, however, the ratio reverted to its old pattern.

A detailed examination of the employment and unemployment data for the recent period indicates that the principal reason for the narrowing of the differential between the Negro and the white jobless rate since mid-1969 is the heavy concentration of Negroes in service-producing industries not heavily affected in the early stages of the economic slowdown. Stated inversely, the relatively rapid rise of the white jobless rate is largely a reflection of the sharp reductions in employment in some manufacturing industries where the work force is disproportionately white.

For example, as shown on table 1, Negroes account for only 6.5 percent of the work force in the aircraft industry, where employment has been declining rapidly since mid-1969. In contrast, they account for 12 and 14 percent, respectively, of the work force in services and government, where employment has continued to post some small gains. In ordnance and in defense-generated employment in general, where the number of jobs has also been declining rapidly, the Negro proportion of the work force is not easily ascertainable. However, the geographic location of these industries and the occupational distributionof their work force would indicate that comparatively few Negroes are employed in these fields. 3/

There has also been a belief that because of discriminatory practices Negroes are usually the last to be hired and the first to be fired by employers. On the basis of this theory, it was feared that Negro employment would be particularly hard hit by a slowdown in economic activity.

Although Negro employment has declined moderately (from 8.6 to 8.5 million) since the close of 1969, a detailed examination of recent data indicates that in those industries where employment has continued to grow, Negroes are doing relatively well. Their employment has generally grown at a faster rate than the total of the individual industries. In industries where employment has been declining, however, the situation has been comparatively less favorable for Negroes. Their employment in all goods-producing industries, for example, has been reduced at a somewhat higher rate than white

3/ See Max A. Rutzick, "Skills and Location of Defense-Related Workers," Monthly Labor Review, February 1969, pp. 11-16.

employment. This goes against the notion that employers have refrained from laying Negroes off proportionately to their share of the work force. This reality becomes particularly evident when one looks at the data for those industries in which Negroes have been employed in very large numbers--agriculture, construction, primary metals, and transportation equipment. It appears, however, that some of the Negroes displaced from these industries have thus far been able to find work in other fields, primarily in the service-producing sector. Of course, should the employment slowdown become more pervasive throughout the economy, it will become gradually more difficult to find a job, even in the services sector.

Table 1. Changes in nonagricultural payroll employment by industry, seasonally adjusted

(In thousands)

Industry division and group	Employment levels		Change		Negroes as percent of employment in industry 2/
	July 1969	May 1970 1/	Number	Percent	
Total	70,400	70,855	455	.6	10.4
Mining	618	620	2	.3	(3)
Contract construction	3,439	3,345	-94	-2.7	10.7
Manufacturing	20,247	19,562	-685	-3.4	10.1
Durable goods	11,955	11,394	-561	-4.7	10.0
Ordnance and accessories	322	254	-68	-21.1	(3)
Lumber and wood products	608	585	-23	-3.8	22.8
Furniture and fixtures	484	457	-27	-5.6	11.6
Stone, clay, and glass products	655	633	-22	-3.4	11.0
Primary metal industries	1,358	1,298	-60	-4.4	15.3
Fabricated metal products	1,446	1,392	-54	-3.7	8.7
Machinery, except electrical	2,032	2,014	-18	-.9	5.5
Electrical equipment	2,045	1,956	-89	-4.4	8.1
Transportation equipment	2,086	1,913	-173	-8.3	11.2
Motor vehicles and equipment	906	874	-32	-3.5	14.4
Aircraft and parts	819	711	-108	-13.2	6.5
Other	361	328	-33	-9.1	15.7
Instruments and related products	478	467	-11	-2.3	4.5
Miscellaneous manufacturing	441	425	-16	-3.6	11.0
Nondurable goods	8,292	8,168	-124	-1.5	10.3
Food and kindred products	1,795	1,791	-4	-.2	12.9
Tobacco manufactures	81	81	--	--	28.8
Textile mill products	999	969	-30	-3.0	11.8
Apparel and other textile products	1,416	1,377	-39	-2.8	12.3
Paper and allied products	712	711	-1	-.1	8.2
Printing and publishing	1,093	1,111	18	1.6	5.9
Chemicals and allied products	1,064	1,057	-7	-.7	8.9
Petroleum and coal products	189	191	2	1.1	7.8
Rubber and plastics products	597	551	-46	-7.7	8.0
Leather and leather products	346	329	-17	-4.8	(3)
Transportation and public utilities	4,454	4,473	19	.4	8.1
Wholesale and retail trade	14,672	14,958	286	1.9	8.0
Finance insurance, and real estate	3,567	3,683	116	3.3	6.2
Services	11,206	11,561	355	3.2	12.1
Government	12,197	12,653	456	3.7	14.1

1/ Preliminary data.
2/ These data are 1969 annual averages derived from the Current Population Survey and thus may not reflect the true percentages in terms of payroll employment.
3/ Not available.

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Table 2. Civilian labor force, employment, and unemployment by sex and age, seasonally adjusted

(In thousands)

Employment status, sex, and age	May 1970	April 1970	March 1970	February 1970	January 1970	December 1969
Total						
Civilian labor force	82,555	82,872	82,769	82,249	82,213	81,583
Employed	78,449	78,924	79,112	78,822	79,041	78,737
Unemployed	4,106	3,948	3,657	3,427	3,172	2,846
Unemployment rate	5.0	4.8	4.4	4.2	3.9	3.5
Men, 20 years and over						
Civilian labor force	47,226	47,199	47,060	46,836	46,826	46,578
Employed	45,593	45,667	45,709	45,534	45,674	45,553
Unemployed	1,633	1,532	1,351	1,302	1,152	1,025
Unemployment rate	3.5	3.2	2.9	2.8	2.5	2.2
Women, 20 years and over						
Civilian labor force	27,885	28,274	28,295	28,066	28,073	27,875
Employed	26,476	27,022	27,016	26,925	27,060	26,897
Unemployed	1,409	1,252	1,279	1,141	1,013	978
Unemployment rate	5.1	4.4	4.5	4.1	3.6	3.5
Both sexes, 16-19 years						
Civilian labor force	7,444	7,399	7,414	7,347	7,314	7,130
Employed	6,380	6,235	6,387	8,363	6,307	6,287
Unemployed	1,064	1,164	1,027	984	1,007	843
Unemployment rate	14.3	15.7	13.9	13.4	13.8	11.8

Table 3. Unemployment rates by occupation, seasonally adjusted

Occupation	May 1970	April 1970	March 1970	February 1970	January 1970	December 1969	May 1969
White-collar workers	2.8	2.9	2.7	2.3	2.1	2.1	2.0
Professional and technical	2.1	2.1	2.3	1.7	1.5	1.8	1.3
Managers, officials, and proprietors	1.1	1.2	1.2	1.0	.9	1.0	.9
Clerical workers	3.9	4.0	3.6	3.2	3.1	2.8	2.9
Sales workers	4.4	4.1	3.5	3.4	2.8	2.6	2.9
Blue-collar workers	6.2	5.7	5.2	5.0	4.6	4.3	3.8
Craftsmen and foremen	4.2	3.5	3.1	2.5	2.3	2.3	2.3
Operatives	6.7	6.3	6.2	6.0	5.1	5.0	4.1
Nonfarm laborers	9.1	8.8	7.4	7.7	8.5	7.4	6.5
Service workers	4.9	5.0	4.0	4.8	4.5	3.6	4.2
Farm workers	3.5	2.1	2.3	1.9	2.1	2.1	1.8

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Table 4. Changes in insured unemployment levels by region and division, April 1969 compared with April 1970

(Numbers in thousands)

Region and division	Insured unemployment				Area's share of Nation's labor force 1/
	Levels		Change		
	April 1969	April 1970	Number	Percent distribution	
Total United States	1,120	1,737	617	100.0	100.0
Northeast	372	506	134	21.7	24.6
New England	98	135	37	6.1	6.3
Middle Atlantic	274	371	97	15.7	18.3
North Central	246	478	232	37.5	28.8
East North Central	176	354	179	29.0	20.8
West North Central	71	124	53	8.5	8.0
South	224	341	117	19.0	29.7
South Atlantic	95	149	54	8.7	15.0
East South Central	60	94	34	5.5	5.9
West South Central	69	98	30	4.8	8.9
West	277	411	134	21.8	16.8
Mountain	36	51	15	2.4	3.7
Pacific	241	360	120	19.4	13.1

1/ Based on 1969 annual averages from the Current Population Survey.

Table 5. Employment and unemployment by color, seasonally adjusted

(In thousands)

Month	White			Negro and other races			Ratio of Negro-to-white unemployment rates
	Employment	Unemployment		Employment	Unemployment		
		Number	Rate		Number	Rate	
1969: May	69,103	2,229	3.1	8,270	564	6.4	2.1:1
June	69,361	2,152	3.0	8,287	601	6.8	2.3:1
July	69,447	2,286	3.2	8,339	581	6.5	2.0:1
August	69,548	2,287	3.2	8,479	582	6.4	2.0:1
September	69,733	2,582	3.5	8,366	596	6.7	1.9:1
October	69,930	2,517	3.5	8,419	592	6.6	1.9:1
November	70,093	2,299	3.2	8,484	598	6.2	1.9:1
December	70,266	2,323	3.2	8,598	517	5.7	1.8:1
1970: January	70,558	2,601	3.6	8,675	584	6.3	1.8:1
February	70,406	2,763	3.8	8,520	640	7.0	1.8:1
March	70,617	3,004	4.1	8,598	655	7.1	1.7:1
April	70,499	3,163	4.3	8,414	799	8.7	2.0:1
May	69,998	3,360	4.6	8,500	735	8.0	1.7:1

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ABSTRACT - This report evaluates the Tennessee State Plan for Vocational Education for fiscal year 1971. The plan is analyzed in terms of goals, manpower development, consideration of Federal laws, orientation toward the people and their needs, and the relationship between educational services and employment opportunities. Recommendations are included. (Not recommended for hard copy reproduction due to marginal legibility of original.) (BH)

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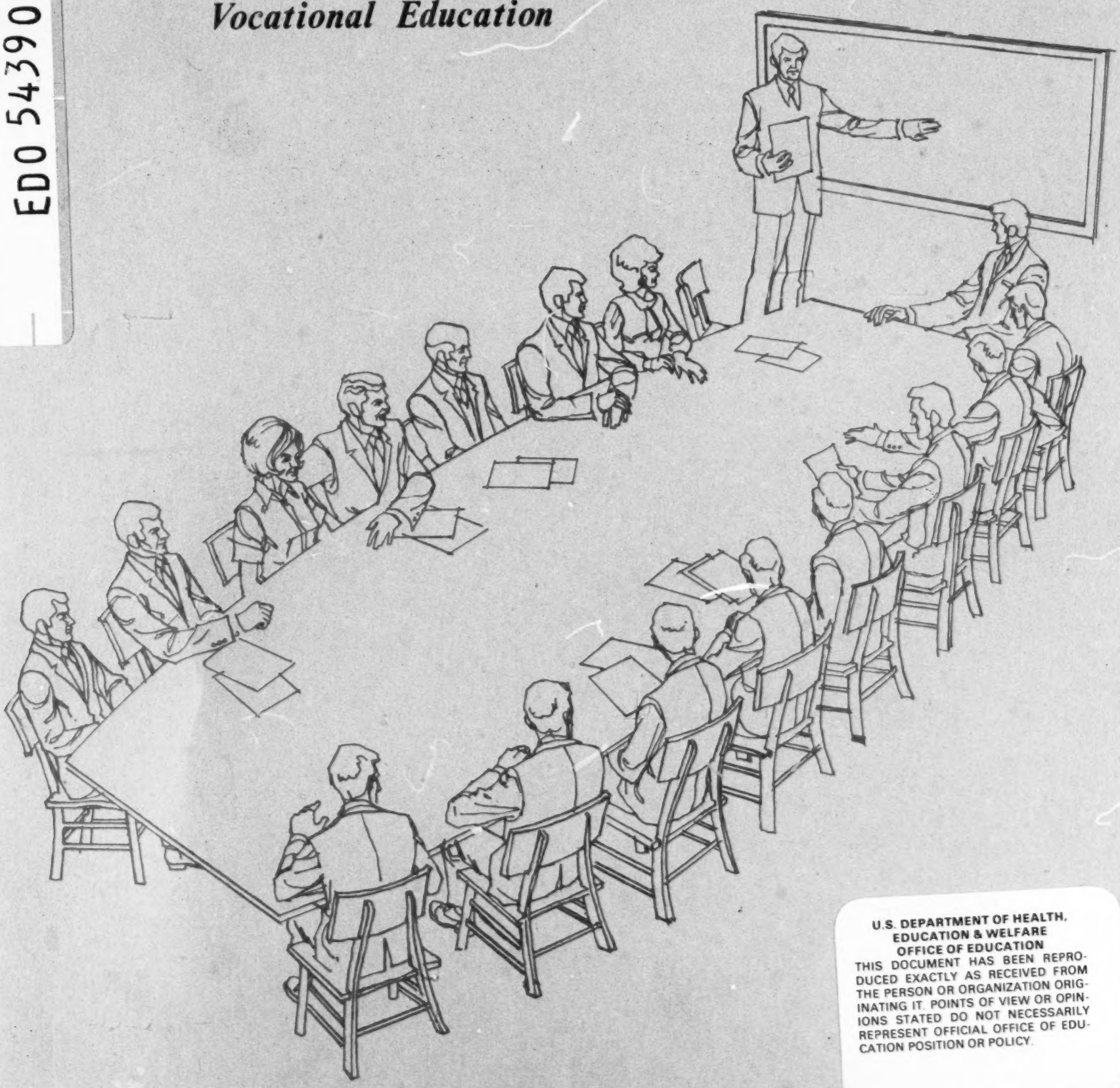
1970 ANNUAL EVALUATION REPORT

Tennessee State Advisory Council

Vocational Education



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Pursuant to

Vocational Education Ammendments of 1968, Public Law 90-576

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1970 ANNUAL EVALUATION REPORT
of the
TENNESSEE STATE ADVISORY COUNCIL
on
VOCATIONAL EDUCATION

To the
United States Commissioner of Education
and the
National Advisory Council
on
Vocational Education

Pursuant to
Vocational Education Amendments of 1968, Public Law 90-576

STATE OF TENNESSEE

Advisory Council On Vocational-Technical Education

205 Cordell Hull Building
Nashville, Tennessee 37219

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W. M. Harrison
Executive Director

Commissioner J. H. Warf
Executive Officer
State Board for Vocational-Technical
Education
Nashville, Tennessee 37219

Dear Commissioner Warf:

The Tennessee State Advisory Council was created by the U. S. Congress through the Vocational Education Amendments of 1968. It is composed of seventeen (17) persons, appointed by the Governor of Tennessee, from diverse backgrounds in labor, management, and education.

The Tennessee State Advisory Council as a working body is clearly charged with the responsibilities to advise the State Board for Vocational Education on long-range and annual program plans for vocational education and to evaluate the present vocational education programs, services and activities of the State. An evaluation report with recommendations is transmitted annually to the U. S. Commissioner of Education through the State Board for Vocational Education with whom the responsibility for implementation rests.

With this letter, we transmit our first annual evaluation report. It is being submitted well in advance of the October 1st deadline to allow the State Board to attach their comments and reactions.

Respectfully submitted,

Fred Thornton, Chairman

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METHOD OF EVALUATION

The Council realizes that the art and methodology for evaluating the efficiency of education generally and vocational education particularly is in a primitive state. We also realize that nationally accepted models for conducting such an evaluation are nonexistent. An effort has been made to preserve the required degree of autonomy of state advisory councils and, at the same time to prevent duplication of effort and expense in conducting a statewide evaluation which as heretofore been considered the sole responsibility of state departments of education and the state boards for vocational education.

The Tennessee State Advisory Council believes that the intent of the 1968 Amendments is that all aspects of expertise, knowledge, background, experience in occupational training, and all facets of the academic, vocational, and industrial community should be brought to the assistance of the State Board in strengthening Vocational Education in Tennessee.

The Council has used its own resources to take a broad look at vocational education in Tennessee in this first year; and although we intend to contract for more in-depth studies during the next fiscal year, we will still rely on the expertise of individual council members and the council as a whole to make recommendations to the State Board for Vocational Education. The plan for this fiscal year's evaluation is as follows:

At the third meeting of the Tennessee State Advisory Council held on February 25 and 26, 1970, Chairman Thornton appointed a five member State Plan Committee. This committee met with the members of the State Board staff on April 16 and 17 for the purpose of reviewing the State Plan and making recommendations for changes and input into the new State Plan. A number of recommendations were made by the committee and presented to the State Board for their consideration in revising the State Plan.

At this same meeting on February 25 and 26, the Chairman appointed two committees; one on secondary education and one on postsecondary education, to study the present status of this program and make recommendations for improvement. Recommendations of these two committees resulted in the *First Report of the State Advisory Council for Vocational Education* which is attached as an appendices.

At the fourth meeting of the Advisory Council, held on April 16 and 17 the Chairman appointed a five member Evaluation Committee to develop plans for the annual evaluation and the annual report which is due in the National office on October 1, 1970.

The Evaluation Committee met in Knoxville on May 21, 1970, and agreed that the members of the Evaluation Committee should serve as chairmen of a subcommittee to study each of the five goals as set forth in the guidelines and make their report at a general meeting on July 15. Thus, all members of the Council were involved to some degree in the evaluation. These five subcommittees used various means and methods of collecting data and information concerning the goals that they were studying. These reports were given at a general meeting of the State Advisory Council on July 15 and were consolidated into the Council's first annual evaluation report.

SUMMARY STATEMENT

The Tennessee State Advisory Council commends the State Board and its staff for its initial efforts in carrying out the purpose of the 1968 Amendments. Emphasis has been shifted from programs to needs of people to be served; priority has been given to persons who are disadvantaged and/or handicapped; target population and target areas to be served have been identified and designated.

The reorganization of the Division of Vocational Education by functions rather than subject areas is a very progressive move which provides for more effective types of assistance to local education agencies. We support this approach, and we believe that it is likely to encourage the public schools to become more "people" oriented. We also believe that this approach will help to put vocational education in the main stream of educational endeavor where it rightly belongs.

The new State Plan calls for change. The new State Plan calls for the redirection of some existing programs as well as for implementation of new programs which more nearly meet student needs. As these programs develop and expand, evaluation will be a primary component of the total process.

The Tennessee Advisory Council on Vocational Education also commends Commissioner J. H. Warf, Executive Officer of the State Board for Vocational Education; Assistant Commissioner Charlie M. Dunn, and members of his staff for their cooperation and assistance provided in organizing, housing, and furnishing other necessary services to the Council during the formative months.

Avenues of communication and coordinated efforts have been established that will enable all parties to work more efficiently and more effectively toward providing the opportunity for Tennessee citizens to acquire, develop, and improve employability skills.

Members of the Council and its staff stand ready at all times to assist the State Board and its staff in accomplishing these and other objectives.

The Council has, also, been made aware of some of the basic problems facing vocational education in Tennessee as well as some of the weaknesses and inadequacies which exist. An attempt has been made to enumerate these areas of concern in the findings and recommendations of the Council.

In addition to the recommendations to the State Board for Vocational Education, we have included a position statement concerning funding that we feel is pertinent to the future of Vocational Education in Tennessee and in the nation.

POSITION STATEMENT
CONGRESSIONAL FUNDING CYCLE

Any evaluation in order to be valid must of necessity be based upon the objectives as set forth in the State Plan for Vocational Education. Unfortunately, the anticipated federal funds upon which the objectives of the State Plan are based fell far short of expectation; thus, the evaluation of necessity reflects this frustration.

The Advisory Council has found that most problems encountered in reaching the objectives of the State Plan for FY 1970 can be traced to the current Congressional funding cycle: a cycle that has made a mockery of the State Plan.

The current Congressional practice of funding programs months after the beginning of the fiscal year is the most pervasive source of ineffectiveness in the present administration of vocational education programs and must be changed to permit reasonable time for program operation. The significant consideration should be *how* money is spent and not *when*.

In fiscal year 1970 appropriations were not made until nine months after the fiscal year began. Until then all programs were forced to operate on the basis of a continuing resolution which allowed them to spend at the level of the preceding fiscal year. The results of these delays are the new programs are held in abeyance, the future of on going programs is kept in doubt, and plans for expansion are postponed.

Congress, which may be able to justify the slowness of the appropriation process, does not have to explain to local groups the reasons why a much needed program is delayed. Nor do the members of Congress have to witness their well conceived plans for new programs wither away because of delay in funding. This problem of funding is foremost in the minds of superintendents, principals, directors of vocational education, employers, teachers, and the general public. It has made them angry and often bitter. No other problem was mentioned more often by the people with whom the Council had contact.

The Council is well aware that Congress has recognized the nature of these problems. But we feel that in this, our first report to the State Board for Vocational Education and to the U.S. Commissioner of Education, we should make it known that the present one year Congressional funding cycle is the number one problem facing vocational education in Tennessee.

RECOMMENDATIONS

1. The Council recommends that the State Board make an effort to broaden the base of program offerings available to students. Possible redirection of some existing programs is needed to more clearly meet the needs of students in light of actual or anticipated job opportunities.

2. The Council recommends an increase of funds for vocational-technical education to meet the needs of the greater number of students at the high school level including the large number of students who enter the labor market without any postsecondary training.

3. Program expansion is needed to bring the annual supply of trained manpower more nearly in line with the present and future needs of Tennessee. Deficiencies are noted in the Tennessee State Plan by the number of high schools offering only one program in vocational education.

4. Additional funds must be allocated and more leadership must be provided at the local level to determine comprehensive manpower needs. An analysis and description of the economic and projected trends of the Tennessee Economy are needed. This study should reflect: (a) existing Vocational Education Programs; (b) existing social economic conditions and trends; (c) supply and demand for trained persons; (d) available funds and resources.

5. There should be a concerted effort on the part of the State Administration to further involve local vocational education personnel in cooperative planning with other agencies at the local level.

6. The State Division of Vocational-Technical Education should initiate a plan to establish a role definition for each of the agencies involved in manpower training in order to insure adequate articulation of program offerings.

7. Special efforts should be made to involve other agencies concerned with manpower training to a greater extent in the development of the State Plan for Vocational-Technical Education. Regularly scheduled meetings of representatives of these groups should be held to facilitate such planning.

8. More effective use of the mass media should be considered for use as a vehicle for improving the image of vocational-technical education. It is suggested that documentary films and television programs be developed and that more and better informational pamphlets and bulletins be used to accomplish this.

9. Additional programs designed specifically for the disadvantaged should be developed rather than designating existing programs, without major changes and revisions, as those serving the disadvantaged.

10. Additional studies and/or pilot projects should be initiated to:

    a) determine the most appropriate time-blocks for effective instruction in secondary vocational programs

    b) encourage local systems to design programs that will acquaint students in elementary and junior high schools with the world of work, and

c) employ teacher aides or assistants to aid the shop instructor and the remedial instructor in providing individual instruction for those persons who cannot function successfully in regular classes.

11. Efforts should be made to provide the necessary in-service training for members of the state staff in order to up date their knowledges and to provide the necessary skills and abilities needed to effectively carry out their new functions due to reorganization.

12. The times for submitting the Council's Annual Evaluation Report and the Division's Annual Descriptive and Statistical Report should be changed so that the data from the Division would be available to the Council prior to preparing their Report.

13. Some procedures should be established whereby programs in vocational-technical education may be evaluated on the basis of quality as well as quantity. Some procedures should also be established so that data may be obtained for year-end evaluation.

14. The problem of extensive dropouts in some of the programs in postsecondary education should be studied to determine the cause of the high dropout rate and the extent to which early leavers are finding employment.

15. There should be a concerted effort to develop an organized plan for the collection and dissemination of valid and reliable data pertinent to the program planning evaluation process.

16. Studies should be undertaken to develop ways and means of accurately identifying potential dropouts.

17. The Council recommends the development of a plan for comprehensive evaluation of vocational-technical education programs in the State. This evaluation should consider the process as well as the product of instructional efforts.

18. The Council recommends that efforts to identify current and projected manpower requirements and job opportunities be continued and refined to provide more valid and reliable data.

19. Additional programs should be established to train personnel for occupations which have a current and critical need for skilled workers.

20. A more concerted effort to identify new and emerging occupations is needed. Programs should be designed to train persons for these occupations.

21. The potentialities of such programs as cluster-training within a broad occupational area should be further explored and expanded.

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EVALUATION AREAS

Goal I. Evaluation should focus on the State goals and priorities set forth in the State Plan.

A. Items evaluated

How effective are the State's Federally assisted programs, services, and activities in meeting program goals?

B. Findings and/or Conclusions

1. The Tennessee State Plan for Vocational Education attempts to provide objectives and set priorities that would enable the schools to begin and continue programs that would give youth and adults an opportunity to develop and up-grade skills that can provide meaningful work experiences. The Plan follows the intent of the Vocational Education Amendments of 1968, recognizing the need for programs to serve groups that are still in the main stream of education and those who are outside, persons already in the labor market who need training or retraining for employment, and disadvantaged or handicapped persons.

2. Emphasis has been shifted from programs to needs of people to be served; priority has been given to persons who are disadvantaged and/or handicapped; target population and target areas to be served have been identified and designated.

3. The Council feels that efforts were made to fulfill the State Program objectives in spite of the lateness of Federal funding for vocational programs.

C. Recommendations

1. The Council recommends that the State Board make an effort to broaden the base of program offerings available to students. Possible redirection of some existing programs is needed to more clearly meet the needs of students in light of actual or anticipated job opportunities.

2. The Council recommends an increase of funds for vocational-technical education to meet the needs of the greater number of students at the high school level including the large number of students who enter the labor market without any postsecondary training.

3. Program expansion is needed to bring the annual supply of trained manpower more nearly in line with the present and future needs of Tennessee. Deficiencies are noted in the Tennessee State Plan by the number of high schools offering only one program in vocational education.

4. Additional funds must be allocated and more leadership must be provided at the local level to determine comprehensive manpower needs. An analysis and description of the economic and projected trends of the Tennessee economy are needed. This study should reflect: (a) existing Vocational Education Programs; (b) existing social economic conditions and trends; (c) supply and demand for trained persons; (d) available funds and resources.

Goal II. Evaluation should look into all parts of the human resources development programs of the State.

A. Items evaluated

How have various State and regional, public and private programs functioned and how has vocational education fit into the total program--as to duplication, coordination, cooperation, and/or competition?

B. Findings and/or Conclusions

1. Vocational Education is fully committed to comprehensive planning and is represented on the CAMPS Committee by the Assistant Commissioner for Vocational Education, Mr. Charlie M. Dunn. Mr. Henry R. Burkitt, Vice-Chairman of the State CAMPS Committee and Employment Service Director, serves on the State Advisory Council as do representatives of Vocational Rehabilitation and Special Education. This has resulted in a positive improvement in the exchange of information concerning related programs and linkage to other programs which contribute to the vocational development of students. Information concerning the number and characteristics of disadvantaged and handicapped people are being taken into consideration in the development of Vocational Education programs. While these relationships are comparatively new, they are serving a worthwhile purpose and should be continued and strengthened during the next year. In addition to the CAMPS relationship, Vocational Education has executed formal agreements of cooperation which are included in the State Plan.

2. Public and private vocational education institutions and agencies have been involved where timing was a factor or the particular type of training was not available in the regular system. This included individual referral of trainees under MDTA to privately operated schools and a project in Training and Technology at the Oak Ridge Associated Universities. These arrangements have been satisfactory except for the higher cost compared with training in the Vocational Education system. These measures presently appear to be adequate and these activities should be continued into next year if funds are available and the need is apparent.

3. The main activities with non-educational social institutions and agencies have been with the Work Incentive (WIN) and Concentrated Employment Programs (CEP). WIN is a program to deal with the employment problems of AFDC recipients and is sponsored by Public Welfare and Employment Security. CEP is designed to deal with the employment problems of the hard core, disadvantaged person and is sponsored by Community Action Agencies (or local government) and Employment Security. Vocational Education delivers occupational training to students referred under these programs in the same manner as for other trainees under MDTA. The interagency cooperation and experience gained in training this type of student will be valuable in the development of curriculum for disadvantaged persons in other vocational education programs.

4. In addition to the State Advisory Council, local advisory committees including employers and organized labor are involved in the planning, operation, and evaluation of Vocational

Education programs. Plans submitted to the State Board are required to contain a notation to this effect and the names of the individuals so involved. Also, a considerable effort is being made to maintain beneficial relationships with employers through the Co-op Program. It is believed that a greater degree of acceptability on the part of employers can be achieved by close cooperation with employers and organized labor.

5. A public hearing was held in connection with the preparation of the annual plan. Periodically, releases are made through the public media on the special activities of Vocational Education. This approach has a beneficial effect particularly on those who are already interested in Vocational Education.

6. It is understood that studies are being made within the Department of Education to define the role of each institution and activity involved in the vocational program effort.

C. Recommendations

1. There should be a concerted effort on the part of the State Administration to further involve local vocational education personnel in cooperative planning with other agencies at the local level.

2. The State Division of Vocational-Technical Education should initiate a plan to establish a role definition for each of the agencies involved in manpower training in order to insure adequate articulation of program offerings.

3. Special efforts should be made to involve other agencies concerned with manpower training to a greater extent in the development of the State Plan for Vocational-Technical Education. Regularly scheduled meetings of representatives of these groups should be held to facilitate such planning.

4. More effective use of the mass media should be considered for use as a vehicle for improving the image of vocational-technical education. It is suggested that documentary films and television programs be developed and that more and better informational pamphlets and bulletins be used to accomplish this.

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Goal III. Evaluation should focus upon the effects the Vocational Education Amendments of 1968 had upon the State in the year under review.

A. Items evaluated

What impact have the priorities as set forth in the legislation had upon the State policies and their administration in carrying out the mandates of the Act?

B. Findings and/or Conclusions

The Advisory Council has no evidence of the termination of any programs, services or activities as a result of the 1968 amendments. It is possible that some programs, services and activities have been terminated as a result of school consolidation and the completion of some manpower development training activities. One hundred-thirty-six new programs were initiated in area vocational schools serving approximately 2,700 students. In addition 43 regular day-school programs were initiated at the secondary level. Seventy-two programs were redirected to serve 4,766 disadvantaged students. Fifteen hundred eighty-two students were enrolled in 31 new Vocational Improvement Programs. Programs for the handicapped were established at ten locations throughout the State serving 1,620 persons.

There is evidence that the administration of programs is being shifted from the State level to the local level.

C. Recommendations

1. Additional programs designed specifically for the disadvantaged should be developed rather than designating existing programs, without major changes and revision, as those serving the disadvantaged.

2. Additional studies and/or pilot projects should be initiated to:

   a) determine the most appropriate time-blocks for effective instruction in secondary vocational programs

   b) encourage local systems to design programs that will acquaint students in elementary and junior high schools with the world of work, and

   c) employ teacher aides or assistants to aid the shop instructor and the remedial instructor in providing individual instruction for those persons who cannot function successfully in regular classes.

3. Efforts should be made to provide the necessary in-service training for members of the state staff in order to up date their knowledges and to provide the necessary skills and abilities needed to effectively carry out their new functions due to reorganization.

Goal IV. Evaluation should focus upon the effectiveness with which the people and their needs are served.

A. Items evaluated

What people are in need of vocational programs, services, and activities; what people were actually served and how well; what people were not served because vocational programs, services and activities were not available or were not acceptable; what is the intensity, quality and efficiency of the services provided?

B. Findings and/or Conclusions

1. The State Board of Vocational Education gets an annual Year-End Report from all areas of vocational education. This is compiled and submitted to the appropriate Federal agency in the Fall of each year. The person or persons directing the various programs are responsible for submitting this Year-End Report to the State Department annually. The Council has no knowledge of any action taken by the State Board in an effort to check on the validity or reliability of the data submitted in the Year-End Report. The responsibility for checking the validity of the reporting from the high schools, area schools, technical institutes, and the community colleges should rest with the regional or State supervisor or director of that particular phase of vocational education.

2. Data pertaining to vocational education needs of all youth and adults in the State are rather difficult to collect. At the present time, the various institutions get information as to the expressed needs of youth and adults within the area served. The employment trends on a regional or State-wide basis are secured from Employment Security.

3. A system for the evaluation of the State Vocational educational programs in Tennessee for quality has not been devised at the present time. Emphasis at this point is on quantity. At the present time, no evidence has been submitted by which one can evaluate the quality of vocational programs in Tennessee.

4. Thirty-four new programs in secondary education were to be funded for 1969-70. These are located in 23 school systems in the State. Thirty-four all day trade classes were established in 18 area schools, 9 part-time trade classes were established in 6 area schools, and 93 supplementary classes were begun in 20 of the area schools. This makes a total of 136 new classes in the area schools alone for the school year 1969-70.

   The technical institutes have had some new technical programs approved both in Memphis and Chattanooga, and five programs are to begin in September of 1970 in the new technical institute in Nashville. The technical division of the community colleges have made several proposals for new technical programs. Many of these have been approved for inclusion in the catalog.

5. In secondary vocational education 9.6 per cent of the enrollees left the program during the year, or approximately 1 out of 10 dropped out during the school year. Also at the postsecondary level approximately 5 out of 10 enrollees dropped out during the year without completing the program. This, of course, will vary with the type of postsecondary institution being studied, but suffice it to say that there is cause for concern and study in this area to determine the factors causing the high percentage of dropouts.

6. Evaluation of programs being offered in the area schools is carried on continously to ascertain whether or not the programs are meeting the needs of those who want, need, and can benefit from such occupational training.

C. Recommendations

1. The times for submitting the Council's Annual Evaluation Report and the Division's Annual Descriptive and Statistical Report should be changed so that the data from the Division would be available to the Council prior to preparing their Report.

2. Some procedures should be established whereby programs in vocational-technical education may be evaluated on the basis of quality as well as quantity. Some procedure should also be established so that data may be obtained for year-end evaluation.

3. The problem of extensive dropouts in some of the programs in postsecondary education should be studied to determine the cause of the high dropout rate and the extent to which early leavers are finding employment.

4. There should be a concerted effort to develop an organized plan for the collection and dissemination of valid and reliable data pertinent to the program planning and evaluation process.

5. Studies should be undertaken to develop ways and means of accurately identifying potential dropouts.

6. The Council recommends the development of a plan for comprehensive evaluation of vocational-technical education programs in the State. This evaluation should consider the process as well as the product of instructional efforts.

Goal V. Evaluation should identify the employment opportunities within the State and the vocational services required.

A. Item evaluated

It should be known what occupational opportunities exist and may exist in the state. What vocational education programs, services, and activities are provided to train individuals for actual and potential job opportunities; are the programs appropriate?

B. Findings and/or Conclusions

One extensive study of present and projected manpower requirements and job opportunities in Tennessee has been conducted by Memphis State University. This projects through 1975 and is to be updated annually. Data is analyzed by Region and categorized by DOT code numbers. This study marks an important first step and clarifies the need for even more thorough and defined studies to provide data with greater validity and reliability for projection planning. The Department of Employment Security has been of assistance in providing data for program planning.

Employment information from this department and the projections which it makes indicate that some information used in the State Plan is out-of-date before the Plan is approved. The difficulty in providing up-to-date, reliable information for planning is thus highlighted, as is the imperative need for such information.

The Council finds that some emphasis has been placed on preparing people for shortage occupations in the areas of health occupations, service occupations, and construction and building trades.

The development of cluster-training programs remains in the early stages. Some beginnings have been noted.

C. Recommendations

1. The Council recommends that efforts to identify current and projected manpower requirements and job opportunities be continued and refined to provide more valid and reliable data.

2. Additional programs should be established to train personnel for occupations which have a current and critical need for skilled workers.

3. A more concerted effort to identify new and emerging occupations is needed. Programs should be designed to train persons for these occupations.

4. The potentialities of such programs as cluster-training within a broad occupational area should be further explored and expanded.

APPENDICES

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TENNESSEE STATE ADVISORY COUNCIL ON VOCATIONAL EDUCATION

MEMBERSHIP LIST

Name and Address	Membership and Category
Fred D. Wright Fred D. Wright Company, Inc. 707 Spence Lane Nashville, Tennessee 37217	Persons familiar with vocational needs and the problems of management and labor in the State, and a person or persons representing State industrial and economic development agencies.
Matthew Lynch, President Tennessee Labor Council 226 Capitol Boulevard Nashville, Tennessee 37219	
James H. Alexander, Staff Director Industrial Development 1222 Andrew Jackson State Office Building Nashville, Tennessee 37219	
Dr. Darrell D. Simmons, Dean Walters State Community College Morristown, Tennessee 37814	Persons representative of community and junior colleges and other institutions of higher education, area vocational schools, technical institutes, and postsecondary or adult education agencies or institutions, which may provide programs of vocational or technical education and training.
Charles O. Whitehead, Director State Technical Institute at Memphis 5983 Macon Cove Memphis, Tennessee 38128	
Guy R. Kirk, Superintendent McKenzie State Area Vocational-Technical School McKenzie, Tennessee 38201	
Dr. Fred Thornton, Supervisor Mechanical Training Tennessee Eastman Company P. O. Box 511 Kingsport, Tennessee 37664	Person familiar with the administration of State and local vocational education programs having special knowledge, experience, or qualifications with respect to vocational education and who is not involved in the administration of State or local vocational education programs.
Jack Carr, Coordinator Secondary Education Chattanooga City Schools 1161 West Fortieth Street Chattanooga, Tennessee 37413	Person familiar with programs of vocational technical education, including programs in comprehensive secondary schools.

Name and Address	Membership and Category
Miss Mildred Doyle, Superintendent Knox County Schools 400 West Hill Avenue Knoxville, Tennessee 37918	Person representative of local educational agencies, and a person representative of school boards.
Charles Tollett, Executive Secretary Tennessee School Boards Association 220 Cordell Hull Building Nashville, Tennessee 37219	
Henry Burkitt, Director Employment Services Department of Employment Security 531 Cordell Hull Building Nashville, Tennessee 37219	Person representative of manpower and vocational education agencies in the State, including a person from the Comprehensive Area Manpower Planning System of the State.
Dr. E. C. Stimbert, Superintendent Memphis City Schools 2597 Avery Avenue Memphis, Tennessee 38112	Person representing school systems with large concentrations of academically, socially, economically, and culturally disadvantage students.
Vernon L. Johnson, Coordinator Special Education State Department of Education 134 Cordell Hull Building Nashville, Tennessee 37219	Persons having special knowledge, experience, or qualifications, with respect to the special educational needs of physically or mentally handicapped persons.
O. E. Reece, Assistant Commissioner Vocational Rehabilitation 1808 West End Avenue Room 1400 Nashville, Tennessee 37203	
Joe Jared, President Free Service Tire Company Wilson and Buffalo Streets Johnson City, Tennessee 37601	Persons representative of the general public, including a person or persons representative of and knowledgeable about the poor and disadvantaged.
George W. Turner, Principal Jones Elementary School 700 Jones Circle Lewisburg, Tennessee 37091	
H. T. Lockard, Administrative Assistant to the Governor Governor's Office State Capitol Nashville, Tennessee 37219	

TENNESSEE
STATE ADVISORY COUNCIL ON VOCATIONAL EDUCATION
By-Laws of the Council

PREAMBLE:

The Tennessee Advisory Council on Vocational Education shall be guided by the following statement of Purposes, Duties, and Responsibilities:

(a) Advise the State Board on the development of the State Plan, including the preparation of long-range and annual program plans, and prepare and submit a statement describing its consultation with the State Board and the State plan;

(b) Advise the State Board on policy matters arising in the administration of the State Plan submitted pursuant to the Act and the regulations in this part;

(c) Evaluate education programs, services, and activities under the State Plan, and publish and distribute the results thereof;

(d) Prepare and submit through the State Board of Education to the Commissioner of Education and to the National Advisory Council an annual evaluation report, accompanied by such additional comments of the State Board as the State Board deems appropriate, which (1) evaluates the effectiveness of vocational education programs, services, and activities carried out in the year under review in meeting program objectives set forth in the long-range program plan and the annual program plan, and (2) recommends such changes as may be warranted by the evaluations; and

(e) Prepare and submit through the State Board (acting as fiscal agent for the State Advisory Council) within 60 days after the Commissioner's acceptance of certification an annual budget covering the proposed expenditures of the State Advisory Council and its staff for the following fiscal year.

These By-Laws and all acts and proceedings which, in the future, may be enacted by this Council, shall be binding on all officers and members of the council.

The term "Advisory Council," used hereafter in this document shall mean "Tennessee State Advisory Council on Vocational Education."

The Term, "Act" refers to P. L. 90-576, or P. L. 88-210 as Amended, in 1968.

Robert's Rules of Order (current edition) shall be considered as the ultimate authority for parliamentary procedure in all Council and/or duly constituted committee meetings.

A quorum consisting of 50 percent of membership shall be required for the transaction of official business of the Council and its committees.

ARTICLE I. OFFICERS' TITLES AND METHOD OF SELECTION

Officers of the Tennessee Advisory Council shall consist of a Chairman, and a Vice-Chairman. In conformity with the Federal statute, Paragraph 102.24, the Tennessee Advisory Council shall meet each year within 30 days after the certification of its membership by the U. S. Commissioner of Education and shall select from among its members a Chairman. Subsequently the Chairman shall appoint a Vice-Chairman. The appointment of these officers shall be confirmed by a majority vote of the membership of the Council for terms of office to be subsequently defined in this document.

ARTICLE II. OFFICERS' TENURE

Section A. Chairman. The Chairman shall serve a term of one year and shall be eligible to succeed himself for two additional terms.

Section B. Vice-Chairman. The Chairman shall appoint a Vice-Chairman from the membership of the Council for a term of one year or to serve at the pleasure of the Chairman.

ARTICLE III. OFFICERS' DUTIES AND RESPONSIBILITIES

Section A. Chairman

1. The Chairman shall preside at all meetings of the Council; or when unable to do so, he shall notify the Vice-Chairman who shall preside in the absence of the Chairman. In the absence of both the Chairman and the Vice-Chairman, the Council shall select from among its membership a Chairman pro tem who will preside at that meeting.

2. The Chairman shall appoint all standing and ad hoc committees and designate the Chairman of such committees as do not have a predetermined presiding officer.

3. The Chairman shall be an exofficio member of all committees.

4. The Chairman may call special meetings of the Council whenever in his judgment such meetings are necessary or whenever requested in writing by five or more members of the Council.

5. The Chairman will also serve as Chairman of the Executive Committee as provided elsewhere in these By-Laws.

6. The Chairman will perform such other duties as in his judgment are necessary or required by him as Chief Administrative Officer of the State Advisory Council on Vocational Education.

4316

ARTICLE IV. STANDING COMMITTEES. There shall be the following committees:

Section A. The Executive Committee

1. The Executive Committee shall be appointed by the Chairman of the Council with concurrence of the membership of the Council.

2. FUNCTIONS:

   a. To advise the Council on all relevant policy and procedural matters and problems;

   b. To serve as the planning board of the Council;

   c. To determine the agenda for Council meetings;

   d. To have the power to act for the Council between regular meetings on matters not involving conflict of policy prescribed in these By-Laws;

   e. To serve as liaison between the State Board of Education and the National Advisory Council on Vocational Education.

Section B. State Plan Committee

1. There shall be a State Plan Committee composed of not less than three members who shall maintain close liaison with the State Division of Vocational Education.

2. FUNCTIONS:

   a. To review and analyze the State Plan for Vocational Education for the succeeding year;

   b. To review and analyze the long-range program plans;

   c. To advise the State staff of Vocational Education on the development of short-range and long-range plans;

   d. To keep the Council continually informed on the direction, problems, and activities related to the State Plan.

4317

Section C. The Committee on Research and Evaluation

1. There shall be a Committee on Research and Evaluation composed of not less than three members.

2. FUNCTIONS:

   a. To determine the kind of research needed by the Council as basis for evaluating Educational programs;

   b. To analyze evaluation activities of vocational education currently being conducted by State agencies and local advisory committees;

   c. To determine the need for extra-council evaluation resources and personnel to be employed on short-term contract;

   d. To determine the format as well as the content of the annual evaluation report made to the State Board of Education, to U. S. Commissioner of Education, and to the National Advisory Council on Vocational Education;

   e. To assimilate and dissiminate existing research and co-ordinate research activities of the Council.

Section D. Ad Hoc Committees

The Chairman of the State Advisory Council may designate such ad hoc committees as seem necessary for the needs of the Council.

ARTICLE V. THE EXECUTIVE DIRECTOR - DUTIES AND RESPONSIBILITIES

The Advisory Council shall employ an Executive Director who is directly responsible to the Council and whose duties shall be:

1. To work, under Council direction, in supervising data collection, processing, and writing the Annual Evaluation Report on Vocational and Technical Education in the State of Tennessee;

2. To prepare tentative office operating budgets for consideration by the Council;

3. To prepare operating policy recommendations for consideration by the Council;

4. To make arrangements for meetings of the Council and Executive Committee of the Council including public meetings;

5. To recommend the employment of office staff adequate for accomplishment of the tasks prescribed by the Council;

6. To co-ordinate and supervise the operations of the office of the Council within approved budget allotments;

7. To develop and maintain liaison with all related agencies in the field of Vocational and Technical Education;

8. To plan and conduct conferences with employers, representatives of organized labor, and the general public for the purpose of gathering data for policy decisions and evaluation reports;

9. To develop and maintain liaison with educational institutions, both public and private, and with professional organizations;

10. To perform such other activities as may be assigned by the Chairman and Executive Committee of the Advisory Council.

ARTICLE VI. MEETINGS

1. The Tennessee State Advisory Council on Vocational Education "must meet within thirty (30) days after certification by the U. S. Commissioner of Education" each year.

2. The Advisory Council meetings shall be held quarterly or on call at a time and place to be determined by the Executive Committee.

3. The fiscal year, July 1 - June 30, is established as the budget year for the Advisory Council.

4. At least one meeting shall be held at which the public will be given the opportunity to express its views concerning the effectiveness and needs of the vocational education program. Proper advance notice will be given through State-wide mass media.

5. A quorum for the Advisory Council for the transaction of business shall be 50% of the established membership. Decisions shall be made on all matters involving division of opinion by a majority vote of members and bona fide proxies present and voting.

6. A quorum for the Executive Committee of the Advisory Council shall be three (3) members. If the Chairman is not present at a meeting, the Executive Committee shall select a Chairman Pro Tem from among its members present for that meeting.

ARTICLE VII. AMENDMENT TO BY-LAWS

1. By-Laws of the Advisory Council may be amended at any regular or special meeting at which a quorum is present, provided at least thirty (30) days' written notice is given to each member which must include the context of the amendment.

STATE OF TENNESSEE
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

FIRST REPORT
TO THE
STATE BOARD FOR VOCATIONAL EDUCATION

Vocational Education Amendments of 1968
Public Law 90-576

April, 1970

28/29 4320

The Tennessee State Advisory Council was created by the U. S. Congress through the Vocational Education Amendments of 1968. It is composed of seventeen (17) persons, appointed by the Governor of Tennessee, from diverse backgrounds in labor, management, and education. This Council was given a route through which its voice would be heard. This route is through public hearings, the State Board for Vocational Education, and on to the National Advisory Council. At every stage along this route, publication of findings is encouraged.

The Tennessee State Advisory Council as a working body is clearly charged with the responsibilities to advise the State Board for Vocational Education on long-range and annual program plans for vocational education and to evaluate the present vocational education programs, services and activities of the State. An evaluation report with recommendations is transmitted annually to the U. S. Commissioner of Education through the State Board for Vocational Education with whom the responsibility for implementation rests.

The Tennessee State Advisory Council desires to listen as well as to speak. We have listened and we have learned. We have learned that the status of Vocational Education in Tennessee is characterized both by progress and problems. In this, our first report, we would like to discuss both.

First of all, we applaud the State Board and its staff for its initial efforts in carrying out the purpose of the 1968 Amendments. Emphasis has been shifted from programs to needs of people to be served; priority has been given to persons who are disadvantaged and/or handicapped; target population and target areas to be served have been identified and designated. However, the Council expresses concern that adequate funding be provided to maintain and expand established quality programs as well as to provide for the mandatory set-aside programs.

The reorganization of the Division of Vocational Education by functions rather than subject areas is a very progressive move which provides for more effective types of assistance to local education agencies. We support this approach, and we believe that it is likely to encourage the public school systems to become more "people" oriented. We also believe that this approach will help to put vocational education in the main stream of educational endeavor where it rightly belongs.

The new State Plan calls for change. The times in which we live force us to recognize and deal with change. The new State Plan calls for the redirection of some old established programs as well as for implementation of new programs which more nearly meet student needs. As these programs develop and expand, evaluation will be a primary component of the total process.

Secondly, we have been made aware of some of the basic problems facing Vocational Education in Tennessee. *We have learned that only 17% of those persons enrolled in secondary schools of Tennessee are enrolled in a program of vocational education designed to prepare them for gainful employment.* We are particularly concerned about this condition in view of the following facts:

In an analysis of employment opportunities and labor market supply and demand as related to vocational education programs, we learned that the current employment in Tennessee is 1,234,844 and the projected labor demand is 139,473. The vocational education output plus the estimated output of other training agencies is 40,800 which leaves 98,673 jobs to be filled. These available jobs, however, require some formal preparation. We are told that the unskilled need not apply, regardless of a high school diploma.

Looking at the available potential workers, 70 of Tennessee's 95 counties have an unemployment rate among the youth age group of 16-19 which ranges from 12% to 49.1%. Eighteen counties have an unemployment rate among the age group 19-64 ranging from 6.2% to 12.9%.

There are more unemployed youth today than during the great depression.

It is quite evident from the above figures that our youth in Tennessee who have just completed high school and those who have left high school prior to graduation are the ones who are having the greatest difficulty in finding employment.

Men beg for jobs, and jobs beg for men.

Our education system has long recognized that it cannot and must not ignore the world of work and that the vitality of our economy is largely dependent upon the occupational training of youth. The National Committee on Secondary Education has purposed that high schools should offer vocational training to at least half of their students.

In an effort to provide vocational education for all those students in secondary schools who are available for and can benefit from vocational training, we recommend that the State Board for Vocational Education take the following action:

1. Initiate studies and/or pilot projects to determine the most appropriate time-blocks for effective instruction in secondary vocational programs.

It appears to the Council that the three hour time-blocks may present insurmountable scheduling problems for some students who want and need vocational training.

2. Take immediate steps to insure that additional training and information regarding vocational-technical education and the world of work be included in the programs for the preparation and certification of guidance counselors.

The lack of counseling and guidance aimed at occupational preparation is of particular concern to the Council. Most high school guidance personnel are oriented by training, experience, and by community pressures toward providing educational guidance for higher education. They know universities and university requirements, but they do not know enough about employment outside the professions or about the requirements for such employment.

We commend the State Board staff for its efforts in conducting workshops and in-service training for high school guidance counselors which emphasize vocational-technical education, but we feel that this program must be expanded to reach larger numbers of counselors in a shorter period of time.

3. Encourage local systems to design programs that will acquaint students in elementary and junior high schools with the world of work.

The entire curriculum could be designed to present a more realistic view of employment. Music, art, mathematics, and English could include content about employment opportunities and requirements in

related occupations. Curricula could be constructed in spiral fashion to enable each student to learn about the world of work in higher and higher levels of specificity as he proceeds through school. The Council believes that this approach will aid in changing attitudes toward the real world of work and eventually create a greater demand for an improved image of vocational education.

The Council has also learned and is very much concerned about the limited offerings of vocational education at all levels and in all types of institutions. Of the 371 institutions, both secondary and postsecondary, which offer vocational education courses, only 65 offer training in five or more occupational fields. Twenty-eight offer training in four; 33 include three areas; 72 have two different areas; and 173 schools offer only one area of training.

4. Provide for an evaluation of a cross section of all institutions in Tennessee which offer vocational-technical training at the secondary, postsecondary and adult levels.

The results of this evaluation would be highly valuable in determining the extent to which training or retraining in these institutions is of high quality, is realistic in the light of actual or anticipated opportunities for gainful employment, and is suited to the needs, interests, and ability of those engaged in such training.

5. Initiate pilot programs to employ teacher aides or assistants to aid or assist the shop instructor and the remedial instructor in providing the individual instruction to those persons who cannot function sucessfully in regular classes.

As an outgrowth of this pilot program, a role definition would be established for utilizing teacher aides in vocational education.

The Council has found little evidence that there is a serious commitment by public secondary schools to the placement of students or follow-up to determine their success or failure. Subsequent redirection of school programs to correct deficiencies is lacking.

6. We therefore, recommend involvement of advisory committees at the local level to assist in planning vocational programs, determining needs, placing students, publicizing the program, and performing other vital functions as identified by the committees. Adequate funding should be provided to establish and co-ordinate the responsibilities of the local advisory committees.

7. Provide assistance to individuals in getting into the labor force and in making necessary adjustments to a new environment. We believe providing this assistance is a critical supplement to skill development.

Relationship between employers and educators.

In a rapidly changing economy that finds skills becoming obsolete daily, there must be a strong working relationship between employers and educators to anticipate changes and retrain individuals for new job requirements.

Respectfully submitted,

Fred Thornton, Chairman

4323

State of Tennessee
Advisory Council on Vocational Education
Members

James H. Alexander
Henry Burkitt
Jack Carr
Mildred Doyle
Joe Jared
Vernon Johnson
Guy R. Kirk
H. T. Lockard
Matthew Lynch
O. E. Reece
Darrell Simmons
E. C. Stimbert
Charles Tollett
George W. Turner
Charles O. Whitehead
Fred D. Wright

4324

MEMORANDUM

To: State Advisory Council on Vocational-Technical Education

From: Charlie M. Dunn, Assistant Commissioner for Vocational-Technical Education

Subject: STATE ADVISORY COUNCIL RECOMMENDATIONS, RESPONSES, AND ACTION TAKEN

The purpose of this memorandum is to provide each of you with the response to recommendations made recently to the State Board for Vocational Education and to the state staff in connection with development of the State Plan for 1970-71 and matters pertaining to administration and supervision of Vocational-Technical Education in Tennessee.

I shall attempt to respond to the recommendations from the State Plan Committee first and then give some reaction to the recommendations made by the entire Council for your information. Let me say that I personally appreciate the time and effort that the Council has given in assisting us with these important matters. Your recommendations have been reviewed carefully and we have attempted to incorporate what we felt to be the intent of the recommendations into the State Plan where possible and have made note of those other recommendations and suggestions that have to do with administration and supervision.

RECOMMENDATIONS FROM THE STATE PLAN COMMITTEE

1. **Recommendation.** Since the area vocational-technical schools and the state technical institutes have received the lion's share of Federal funds, it is recommended that the high school (secondary) programs be considered for a more equitable distribution of these funds.

   Response. This recommendation has been incorporated into the new State Plan. Table I, Part 3 of the annual program plan will reflect an increase in State and Federal funds for secondary programs; further, the objectives for the secondary programs have been increased substantially.

2. **Recommendation.** We would request that the Advisory Council on Teacher Preparation and Certification consider teacher training and certification in the area of technical education and that this be a part of their recommendation to the State Board of Education.

   Response. Since this recommendation does not bear particularly upon the development of the State Plan, it will be taken up separately. I serve on the Advisory Council on Teacher Preparation and Certification and will follow through and attempt to get this topic on the agenda of one of the future meetings. It is recognized and agreed that the recommendation is certainly appropriate and pertinent.

3. **Recommendation.** There is a need for the total membership of the Advisory Council on Vocational Education to look at some new areas in the utilization of Federal funds. Example, counseling and guidance—there is not only a limited supply of personnel in this area, but there is a need to develop a program for the preparation of counselors.

   Response. This statement would appear to be an activity that the Advisory Council proposes to engage in, that is, look at some new areas in the utilization of Federal funds. We have taken note

of this concern and plan to allocate additional funds for certain activities and purposes in guidance and counseling in vocational education. For example, I have approved three summer institutes, one for each grand division of the State, intended to acquaint the high school counselors more fully with opportunities for vocational and technical education throughout the State. We did a pilot program of this sort last summer which proved to be highly successful and have tripled our efforts this year.

4. **Recommendation.** It was pointed out in the State Plan Committee's work that industries were locating in states other than Tennessee because of certain training programs by a state committee on technical education (South Carolina was a specific example). This special committee has come into being as a result of state legislation.

   Response. I am not quite sure that the State Plan Committee understood what was involved in this statement. In the state of South Carolina a committee on technical education was established by state legislation and given the responsibility for the establishment of technical education centers now referred to as technical institutes. In effect, what this did was take a great portion of Vocational and Technical Education out of the hands of the State Board for Vocational Education and create another body for the establishment and operation of these institutions.

   In my opinion while this would and has attracted a lot of industry into South Carolina in the long run it will result in the establishment of a dual system of vocational education. A similar proposal was made in this State and rejected. We have done virtually the same thing with our system of technical schools and our three technical institutes. I made the comment during the State Plan Committee meeting that such a plan would be possible in Tennessee, but I certainly would hope that it never materializes. I think further explanation of this might be necessary at some future meeting of the State Plan Committee.

5. **Recommendation.** The statistical tables were discussed as to their value in interpreting the vocational program. The committee was told that this form was requested by HEW, it was then decided that we would recommend some narration in connection with the statistical tables to be made available for local and state people.

   Response. The State Plan must be developed in accordance with specific guidelines. These guidelines do not provide for the type of information that lends itself to interpretation as much as is desired. We have taken special note of this statement made by the committee and have prepared a brief summary statement of the Tennessee State Plan for Vocational-Technical Education under the Vocational Amendments of 1968 and will make this available to the persons in attendance at the public hearing. Additional copies can be made available and I am asking that copies be attached to this memorandum for each of you. If further clarification is needed we would be happy to respond.

6. **Recommendation.** A committee for the purpose of encouraging local school systems (boards of education and superintendents) to initiate or expand their vocational programs. This could mean upgrading some of the existing programs so that they would be more meaningful. It could also mean adding or deleting certain programs. In order to get quality vocational programs it would well call for quality teachers.

   Response. This statement is not quite clear, however, I would point out that each of the applications for developing local plans for vocational education do require the establishment of a training

and consultant committee to work with local school systems in the development of their local plans.

7. **Recommendation.** The State Plan Committee recognizes the need for a manpower policy statement and requested that the State Vocational Board and Governor develop one. It was also recommended that this manpower policy statement be publicized both inside and outside the State.

   Response. A statement of this recommendation appears in the State Plan and it will be transmitted to the State Board and I will encourage officials to give approval to the actions that would be necessary for the development and implementation of such a policy statement. This is not a recommendation that has to do specifically with the development of the State Plan but a matter that has to be worked out with administrative officials and developed if the opportunity is given to do so.

8. **Recommendation.** The behavioral objectives should be spelled out in activities as well as goals enumerated. A bulletin published by the HEW Office of Education, title "Vocational Education for Handicapped Persons, Handbook for Program Implementation," was referred to as a guide for this purpose.

   Response. In the development of the State Plan the Office of Education guidelines have held very largely to numerical objectives which can be easily measured. I am in complete agreement that we do need to identify and state some behavioral objectives that vocational education programs would hope to achieve. The further response to this recommendation would include the fact that each local educational agency as it develops a local plan of vocational education and submits it to the State Board is requested to enumerate their objectives. Now whether these are done in terms of identifying behavioral changes that are to be acquired remains to be seen. They are asked, however, to state in narrative form these kinds of objectives. We will be looking for these as local plans are submitted.

9. **Recommendation.** In order to do an adequate evaluation there should be more funds made available. It was felt that the evaluative criteria and instruction was neither clear nor inclusive enough to actually find out what was being accomplished in vocational education.

   Response. Additional funds have been made available for evaluation purposes both for use by the Advisory Council and the State Board. We took note of the fact that the evaluative criteria and instruction are inadequate. We have made a few minor changes in the State Plan having to do with evaluation procedures. It remains however for us to come up with a good quality evaluative instrument. This I am hopeful of seeing developed. We are looking at a number of such instruments from other states and I have yet to find one that has all that we are looking for.

10. **Recommendation.** Curriculum materials in the area of vocational and technical education is lacking and there is a need for curriculum specialists in the area to develop guidelines. There is much left up to individual department heads and therefore is a lack of coordination of materials being taught in the technical institutions.

    Response. We certainly concur in the statement. I have received approval for the employment of additional personnel in the field of curriculum development and am hopeful that we will be able to make improvements in this area. Very shortly we also hope to, through some special committees to

be appointed, identify specifically curriculum materials and guidelines that are needed. There is a great deal of differences among institutions as to what is to be taught and what should be taught. Whether agreement can be reached remains to be seen also.

11. **Recommendation.** A need for some type of relationship between the area schools, the technical institutions and the community colleges so that a clearer understanding of programs and plans could be given to industry and the public.

Response. While this statement is not complete, I understand it to mean that we should work further toward development of a better relationship between these types of institutions and that this relationship be explained in various manners to the general public and industry. This is an administrative and supervision matter that we recognize, we take note of, and will be working on.

12. **Recommendation.** There should be some supervision from the State Department of Education for the community colleges and technical institutions.

Response. There is some supervision at present. It has not been possible for me to employ a person to fill a coordinator's position which has been vacant for over a year because of the low starting salary. Recently I have received approval to proceed at a higher salary and have interviewed two people and am hopeful of improving the amount of coordination as I believe that coordination here is needed more than supervision.

13. **Recommendation.** That we should develop a language that could be understood by the lay public.

Response. I would be most happy that this be accomplished. Whether this statement refers to the Advisory Council members or whether it is intended to mean that Vocational and Technical Education should develop this language is not stated. However, I can certainly agree that we do speak a language oftentimes that is not well understood by the public and we all certainly can improve in this area.

14. **Recommendation.** The Tennessee State Plan be printed in some form so that it won't be too voluminous.

Response. This year we are printing the 25 copies of the State Plan in accordance with the U. S. Office of Education guidelines which is voluminous. Secondly, we are printing over 600 copies for distribution within the State on both sides of each page and the document will be considerably less voluminous than previously. However, I will state that the required applications in the appendix will make the document more volumincus than we had hoped.

15. **Recommendation.** That our recommendations be formally presented to the State Vocational Board.

Response. As we have analyzed the above recommendations, statements and suggestions, they in effect will be presented formally to the State Board in the form of the State Plan for adoption as well as in the form of various requests for approval to accomplish the ideas, the recommendations, etc. that the Council had made.

GENERAL RECOMMENDATIONS BY THE ENTIRE COUNCIL ENTITLED FIRST REPORT TO THE STATE BOARD FOR VOCATIONAL EDUCATION

The State Advisory Council developed an excellent first report to the State Board. This document was presented to the State Board for Vocational Education at its last meeting by me personally. The members of the Board were given copies of the report which was read and commented upon. I am happy to state that the report was received with a great deal of favor and you will be interested to know that the Commissioner, who is Chairman of the State Board, personally read each recommendation to the Board and made brief comments.

Since presentation to the State Board the document has been printed and copies are in the hands of your executive secretary. He advises that additional copies are needed and we will be happy to assist in the printing of these so that a wider distribution of the report can be made. I would like to very briefly respond to each of the recommendations and will do so in the following manner:

1. **Recommendation.** Initiate studies and/or pilot projects to determine the most appropriate time blocks for effective instruction in secondary vocational programs.

   Response. Two special projects have already been approved for this specific purpose and we will be looking at the results during the year with the idea of learning new approaches to offering vocational education at the secondary level.

2. **Recommendation.** Take immediate steps to insure that additional training and information regarding Vocational-Technical Education and the world of work be included in the programs for the preparation and certification of guidance counselors.

   Response. I would refer to the recommendation and response made in the previous statements above relative to the three workshops for counselors that are being offered this summer. We are seeking other ways and will continue to do so in our efforts to improve in this area.

3. **Recommendation.** Encourage local systems to design programs that will acquaint students in elementary and junior high schools with the world of work.

   Response. We anticipate at least two projects to be funded during the coming fiscal year designed specifically to carry on some experimental work in this area and it will be encouraging (as we have attempted to do so in the past) to see local systems to accomplish this. I would point out that this is a matter that seems to me is a responsibility of the total educational system and not just vocational education.

4. **Recommendation.** Provide for an evaluation of a cross-section of all institutions in Tennessee which offer vocational-technical training at the secondary, postsecondary, and adult levels.

   Response. We are taking particular note to this recommendation and have in our plans considered a number of approaches to accomplish this. The State Board agreed that this was an important area for some additional activity.

5. **Recommendation.** Initiate pilot programs to employ teacher aides or assistants to aide or assist the shop instructor and the remedial instructor in providing the individual instruction to those persons who cannot function successfully in regular classes.

   Response. A number of teacher aides have already been employed in area vocational-technical schools for this specific purpose. During the summer a number of special summer programs are being operated and some teacher aides are being employed in connection with these. I think we can anticipate continued growth in this area.

6. **Recommendation.** We, therefore, recommend involvement of advisory committees at the local level to assist in planning vocational programs, determining needs, placing students, publicizing the program, and performing other vital functions as identified by the committees. Adequate funding should be provided to establish and co-ordinate the responsibilities of the local advisory committees.

   Response. As stated above in connection with recommendations by the State Plan Committee, each local application does require local school system to utilize advisory committees at the local level to accomplish the state purposes. No funds, however, are available for helping to fund such committees. Whether such can be made available is uncertain.

7. **Recommendation.** Provide assistance to individuals in getting into the labor force and in making necessary adjustments to a new environment. We believe providing this assistance is a creditable supplement to skill development.

   Response. We shall continue to work closely and try to work more closely with all agencies including the Department of Employment Security in this important area. Further, we are giving consideration to the addition to some staffs at the local level of persons skilled in the work of placement of students who complete training programs, and they too would be working with the local office of Employment Security and other agencies and groups in striving to fulfill the purposes included in this recommendation.

I sincerely trust that these comments made to the recommendations that the State Advisory Council has so graciously made will inform you of our sincere effort and desire to carry out the intent of recommendations made, and I am sure that each of you realize that this is not always easy to accomplish. However, you can be assured that your participation on the Council is appreciated, that your recommendations are received and notices made of them, consideration is given to them almost daily as we attempt to administer, supervise and promote programs of Vocational and Technical Education in the State of Tennessee.

NOTICE OF PUBLIC MEETING
TENNESSEE STATE ADVISORY COUNCIL
FOR VOCATIONAL EDUCATION

The Tennessee State Advisory Council for Vocational Education is holding a public meeting pursuant to the requirements in Section 104 (d) (3) of the Amendments to the Vocational Education Act of 1963 cited as the Vocational Amendments for 1968 (PL 90-576) and Section 102.24 of the U. S. Office of Education Regulations.

The public meeting will be held in conjunction with the public hearing on vocational education conducted by the State Board for Vocational Education. This meeting will be held in room 120 of the Cordell Hull Building, Nashville, Tennessee on June 12, 1970 at 10:00 a. m. CDT.

VT 012 321

First Annual Report of the Commonwealth of Puerto Rico Advisory Council on Vocational and Technical Education.

Education Systems Resources Corp., Arlington, Va.
Puerto Rico Commonwealth Advisory Council on Vocational and Technical Education, Hato Rey.

MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Oct70 73p.

DESCRIPTORS - *STATE PROGRAMS; *VOCATIONAL EDUCATION; TECHNICAL EDUCATION; *PROGRAM EVALUATION; ANNUAL REPORTS; PROGRAM DEVELOPMENT; ADVISORY COMMITTEES
IDENTIFIERS - PUERTO RICO

ABSTRACT - The Education Systems Resources Corporation was contracted to perform this first annual evaluation of vocational education in Puerto Rico. An item of major concern in the evaluation was the large number of persons finishing school without adequate preparation for further education or an occupation. Recommendations were made in three main areas: (1) goals and priorities, (2) fulfillment of the needs of the population, and (3) coordination between employment opportunities and vocational education services. Two other areas for evaluation, manpower development programs and the effects of the 1968 Amendments, were not evaluated due to lack of information. (BH)

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FIRST ANNUAL REPORT OF THE COMMONWEALTH OF PUERTO RICO ADVISORY COUNCIL ON VOCATIONAL AND TECHNICAL EDUCATION

VT012321

October 1970

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FIRST ANNUAL REPORT

OF THE

COMMONWEALTH OF PUERTO RICO

ADVISORY COUNCIL

ON

VOCATIONAL AND TECHNICAL EDUCATION

TO

THE GOVERNOR OF THE COMMONWEALTH OF PUERTO RICO

THE U. S. COMMISSIONER OF EDUCATION

AND

THE NATIONAL ADVISORY COUNCIL

ON

VOCATIONAL EDUCATION

-o00o-

OCTOBER 1970

A. Figueroa-Colón
Executive Director

Fred V. Soltero
Chairman

Commonwealth of Puerto Rico
ADVISORY COUNCIL ON VOCATIONAL AND TECHNICAL EDUCATION
P.O.Box 818 - Hato Rey, Puerto Rico - 00919

October 15, 1970

Honorable T. H. Bell
Acting Commissioner of Education
U. S. Department of Health,
Education and Welfare
Washington, D. C.

Mr. Hugh Calkins, Chairman
National Advisory Council
on Vocational Education
Regional Office Building No.3
7th and D Street
Washington, D. C. 20202

Gentlemen:

We transmit with this letter our first annual and evaluation report, submitted through the Commonwealth of Puerto Rico Board for Vocational and Technical Education.

In addition to the general contributions by the Advisory Council members and staff in the evaluation meetings, the main body of the report with its corresponding recommendations was prepared by the Education Systems Resources Corporation of Arlington, Virginia, a consulting firm specialized in evaluation, planning and design of vocational-technical education systems.

We believe that vocational-technical education is of vital importance today, and will become increasingly more important as future technological progress is made in this country. Indeed, the continued growth of the Commonwealth of Puerto Rico and the Nation may rest in a large part upon viable and relevant vocational-technical education systems.

It is our most sincere feeling that the recommendations contained in this report have been geared toward this end and will help significantly not only in improving the image of vocational and technical education but also in providing the education and training needed by our youth in meeting the real needs of our economy.

Sincerely,

Fred V. Soltero, Ph.D.
Chairman
Commonwealth of Puerto Rico
Advisory Council on Vocational
and Technical Education

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ACKNOWLEDGEMENTS

The Council wishes to commend the entire staff of the Vocational and Technical Education Area and all those involved in the evaluation of the vocational education program for the understanding and cooperation given in the performance of its duties.

One of the very important observations the Council has and needs to express is the interest in vocational-technical education displayed by everyone with whom the Council has been in contact during the evaluation and during the various meetings held with the Directors of Programs. This leads the Council to believe that despite some of the criticisms inherent in the findings which will be explained in detail in the report, there is an opportunity in the Commonwealth of Puerto Rico to make vocational-technical education a model for the rest of the United States.

Again, the Council wishes to stress that this evaluation is of a general nature and that further attempts will be made to cover specific fields during the coming years.

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SUMMARY STATEMENT

The goal of the Commonwealth Advisory Council is to help insure, by advising the Commonwealth Board for Vocational and Technical Education in the preparation of their program plans and by evaluating the effectiveness of vocational education, that all the people of the Commonwealth are given educational opportunities which prepare them to undertake their roles as wage earners and homemakers. We believe it will help place vocational and technical education into the mainstream of education and out of the isolation it has for so long endured.

The Council is primarily concerned with the large number of persons graduating from or leaving the secondary schools with neither the academic qualifications to continue their education nor the occupational skills needed to secure and hold adequate employment. The Council feels that the Commonwealth has the responsibility and the expertise to provide both the academic and the vocational education necessary to allow the choice of college, a job, or both to most of its youth, if certain challenges are recognized and met. While approximately 50% of the young people in the age group of 16 to 24 are unemployed, they do not have opportunities to receive training in the vocational school system of Puerto Rico. We believe that potential resources emerging from the over rapid economy growth are available and should be utilized for the expansion of vocational education.

SOME WORTHWHILE ACHIEVEMENTS

Positive attitudes -

Achievements in vocational and related programs — in spite of the lack of adequate funding — have been significant. Great have been the efforts of the vocational education personnel during the past decade in achieving many of the planned goals, but additional efforts are required if the needs of the projected enrollment are to be met. The vocational-technical education personnel are already busily planning to meet the challenge. Planning for the construction of new vocational-technical shops and laboratories is in progress. Existing programs are being expanded and better equipped. Recruitment of additional staff personnel is underway to assist in establishing more top-quality instructional programs.

The Governor of Puerto Rico, Honorable Luis A. Ferré has given a number of pronouncements enthusiastically supporting the expansion of vocational education in Puerto Rico. Towards this direction the Department of Education and the Vocational Education personnel have extended full cooperation.

Coordination -

Leaders in the Vocational-Technical Education Area seem to be aware of their responsibility for preparing Puerto Rican youth and the citizenship in general for the development of new jobs brought about by our dynamic economy. Special mention should be given to the fact that almost every government and private organization is involved in a coordinated effort toward vocational education. Thus we find joined in this endeavor the Puerto Rico Planning Board, the Departments of Labor, Health, Social Service, Public Works, and Justice, the Industrial Development Administration, the Water Resources and the Aqueduct and Sewerage Authorities, the Urban Housing Development Corporation, the San Juan Model Cities Program, the Medical and Dental Schools and Regional Colleges of the University of Puerto Rico, the Puerto Rico Family Institute, and the Puerto Rico Accident Prevention Council, among others. Coordination with these programs involve either actual vocational training for their respective requirements or services for the effective development of vocational programs in the Area. This action should avoid undue duplication of efforts in achieving training needs.

New programs and expansions -

The establishment, in 1968, of the San Juan Skill Center and of two new skill centers in 1968 and 1969 in Mayaguez and Ponce, and enrollment of about 800 disadvantaged youth with less than eighth grade academic achievement, implemented through the Manpower Training Program to serve an important segment of the population unattended in regular vocational training

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to that date, is a program that has been highly commended by both Federal and Commonwealth officials. It is expected that new additional centers of this type will be established in the near future, although the present policy in the Department of Education calls for increasing retention of students in regular programs.

The development within the Vocational-Technical Education Area of a $4,000,000 Manpower Development and Training Program and a $2,000,000 Work Incentive Program, in coordination with the Department of Labor and with the other vocational programs in the Area, has proved to be a sound endeavor of cooperation and management efficiency.

Awareness of the constantly increasing demand for industrial technicians and other sub-professional personnel in the various occupational fields, led to the establishment of a second technological institute at Ponce in 1968. An innovative educational program of one semester or one year pre-technical courses for academically disadvantaged students, at the technological institutes, has proved to be a success, thus permitting an increase in the enrollments of these institutions.

A notable thrust has been given to the Health Related Occupations Program with the staffing two years ago of a separate office for this service at the central level, with the addition of new health-related vocational offerings to bring up 27 such occupations, with the establishment, a year ago, in these premises, of an organism for the accreditation of Practical Nursing Schools and Programs, in compliance with local legislation, and by centralizing in the new office the work of the supervisory personnel for health-related activities under the Regular Program and the Work Incentive Program.

The recent establishment of a Research, Training and Curriculum Development Coordinating Office, of a Construction and Purchasing Coordinating Office, of a Planning and Evaluation Unit, and the Coordination of Special Vocational Programs Office (for the disadvantaged and handicapped, exemplary and work study programs), has proved to be an effective means for the successful implementation of the new federal legislation for vocational education programs.

School construction and facilities -

Construction, equipping and staffing of new vocational schools and special vocational training centers during the past five years merit recognition on the part of the Vocational-Technical Education staff. Among these are the School for Vocational Training of Personnel for the shoe industry in Aguadilla, the Tool and Die-making Specialized School in Bayamón, the Specialized Agricultural School for the coffee regions and four additional such schools serving in farm mechanization, horticulture, poultry raising, and tractor operation and maintenance.

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The efforts of the Vocational-Technical Education staff led to the approval of three special grants totalling $7,924,000 during the last three-year span (1967-1970) by the Economic Development Administration and the Department of Commerce for 80% of the costs of construction and equipment of the Guayama and Yauco Vocational Schools. This was a real worthwhile undertaking of the vocational staff which was geared to accelerate the expansion of vocational training in those areas.

Planning for the construction of new vocational-technical shops and laboratories is in progress. Existing programs are expanding and are better equipped. Additional staff personnel are being provided to assist in establishing top-quality instructional programs. A variety of projects were developed during the present school year by the teaching and supervisory personnel in a number of selected vocational schools — Mayaguez, Ponce, Arecibo, and Guayama — with the purpose of cutting down the training period or for adapting educational materials to present and prospective needs of the labor market.

Teacher-training -

In-service training of the teaching personnel in summer courses and year round seminars and workshops culminated at the end of fiscal year 1969 with 70% achieved of this program. Many efforts have been made for the teaching staff of the trade and industrial section to refresh their technical knowledge and skills through summer training in local industries, although a massive effort is needed to meet the needs contemplated in properly trained staff requirements for future years. Special attention should be given to this problem by institutions of higher education in Puerto Rico.

Moving ahead -

The Commonwealth's stated policy is to develop an economy sufficiently strong so that every citizen who wants a job and is able to work can find employment. Today the unemployment rate is above 10%. If many of the unemployed who are able and willing to work had the needed skills, they could be absorbed into the labor force, and unemployment could be reduced. Many of the persons employed in the new industrial plants received their training in local vocational and technical education programs. The demands of industry now are for clerical, sales, service workers and for craftsmen. The Commonwealth's vocational educators have the task of meeting these demands.

The objective of the Vocational-Technical Education Program is to provide skills to the young people who otherwise would not be able to find jobs in the emerging and complex employment market of Puerto Rico. A survey conducted under the auspices of the Advisory Council revealed that the

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majority of employers prefer vocational school graduates to non-graduates. The employers indicate that while salaries at the initial stage of recruitment of the graduates as compared to non-graduates are not much different, the graduates improve their salaries at a much faster rate than the non-graduates.

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SUMMARY OF RECOMMENDATIONS

The following summary of recommendations is a refined list of the findings resulting from the evaluation of the program. Priorities have not been established in this listing; in the final analysis, the first priority is in that combination of recommendations which will most benefit the student and as a result, the Commonwealth of Puerto Rico.

1. Develop and implement a functional Education Information System designed to provide the required data with the least amount of disruption to operational and planning activities.

2. Design and implement a system for acquiring accurate cost-effectiveness data, such as cost of graduates, placements and enrollments.

3. Identify those teaching positions associated with rapid changes in technology and establish a special program coordinated with industry for keeping teachers current in their field.

4. Develop a capability within the Vocational-Technical Education Area for conversion of currently available manpower data into usable education requirements.

5. Ask major industries to "sponsor" schools in the sense of assuming a participative role in curriculum development, selection of equipment, use of their own facilities in off hours as laboratories and shops, scheduling on a regular basis their own staff to augment school faculties and generally assume a realistic, even though paternal, interest in the schools.

6. Give consideration to evaluating the various components of the entire curriculum for possible less valuable trade-offs to allow more time for the teaching of communications skills. More coordination should be established between academic and vocational courses particularly in mathematics, science, and communications skills.

7. Introduce into the school environment substantively and relatively more realism by assuring that all future purchases of equipment and laboratory facilities be the same as those used in industry. In view of the fact that it has been concluded that tools, machines, and other instructional instruments are, in great extent, obsolete, expeditious action must be directed to replace such equipment with items more in line with those actually used in industry.

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8. That a deliberate set aside of time for each student in his senior year be allocated to actual observation and participation in a commercial or industrial establishment.

9. Authorize and fund the position of Assistant Deputy Director for Vocational and Technical Education at the Regional Level, responsible for those administrative and operational responsibilities appropriate to that level and vocational programs carried on therein.

10. Authorize and fund additional positions of Industrial Coordinators subordinate to the presently existing Regional Industrial Coordinator so as to provide more comprehensive and orderly coverage for cooperative work and exchange programs that will have adequate supervision and communication.

11. Design and implement a public information program to disseminate information about the availability of an educational opportunity that will result in a creditable, dignified way of life for the student, qualified employees for employers, and vocational education as a major contributor to Puerto Rico's continued growth and economic development.

12. Investigate the feasibility of a public education TV Channel oriented toward the expansion of vocational-technical education facilities to meet the needs of the population unable to attend regular vocational school classes.

13. Make a thorough study of the nature and problems of guidance and counseling so as to determine the needs in this critical area, where we have a ratio of students to counselors exceeding 900 to 1.

14. Establish a meaningful follow-up system of the most basic variety — simply a periodic but rigidly follow check on the employment of graduates so as to determine the results of the investment in the vocational education system.

15. Determine the feasibility of a system of mobile workshops with particular emphasis on the Agriculture and Trades and Industry programs so as to maximize the utilization of limited instructional and equipment resources.

16. Amend Commonwealth Law No. 133 (Law Creating the Puerto Rico Advisory Council on Vocational and Technical Education) to provide explicit statutory expression of the Council's independence and authority to contract for evaluation and other services and to hire necessary personnel for the adequate operation of the Council as determined by the Federal Law.

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17. Give participation to the Advisory Council in the decision making process for major program or administrative reform proposals as is appropriate to their responsibility, giving time to the Council to respond before definite action is taken on any such proposal.

18. Provide a system for reimbursing teachers for expenses incurred as a result of transfers required to balance regional programs and requirements. Such transfers should be arranged whenever possible so that the teacher may also receive position promotions.

19. Increase the use of superior academic school staff for the academic instruction of secondary vocational education students, to the end of ensuring a balanced use of the most competent teachers throughout the entire educational system.

20. Make all "efforts to divorce the vocational education pay scale from the general education instructors so as to enhance its ability to compete with private industry without distorting the salary structure of the whole school system." (Quoted from the Governor's Advisory Council for the Development of Government Programs Report of September 10, 1970, entitled "Youth, Their Skills and the Future of Puerto Rico. — Part I, Section C, Paragraph 4, Page 8)

21. Certify, through the appropriate occupational studies, that currently planned and all future planned workshops and instructional programs to be initiated in secondary education are the most appropriate occupational training cluster for the area.

22. Re-examine the major occupational clusters from the point of view of establishing more appropriate balances and lengths of time between academic and occupational education since many occupational clusters in the secondary education area may require less than three years of preparation and occupational instruction as required now.

23. Increase the utilization of teachers' aides and team teaching techniques of workshops and instructional programs so as to relieve the highly occupationally trained instructor from much of the clerical and administrative functions and thus provide him with sufficient time to visit and contact industry and commerce.

24. Institute a research project to compare academic achievement of those students entering general education programs and those entering vocational programs. Similarly test the academic achievement of both groups at the completion of their respective programs.

This will provide insight into possible academic deficiencies in vocational programs.

25. Proceed with the necessary accreditation procedures for the authorization to grant an Associate Degree upon completion of the requirements of the Technical Institute.

REPORT OF THE PUERTO RICO ADVISORY COUNCIL
ON VOCATIONAL AND TECHNICAL EDUCATION

ANNUAL EVALUATION
1970

The evaluation report which follows was performed, at the direction of the Advisory Council, by an outside contractor, the Education Systems Resources Corporation of Arlington, Virginia, a consulting firm especialized in evaluation, planning and design of vocational technical systems This was done in order to obtain an objective approach to the evaluation of the goals selected by this Council.

A. Figueroa-Colón
Executive Director

Fred V. Soltero
Chairman

SECTION I

INTRODUCTION

Public Law 90-576, October 16, 1968, firmly establishes State Advisory Councils in an authoritative position through the basic proposition that:

"Sec 103(b)(1) Any State which desired to receive a grant under this title for any fiscal year shall establish a State advisory council. . . which shall . . .

(B) advise the State board on the development of and policy matters arising in the administration of the State plan submitted pursuant to part B of this title, including the preparation of long-range and annual program plans . . .

(C) evaluate vocational education programs, services and activities assisted under this title, and publish and distribute the results thereof; and

(D) prepare and submit through the State board to the Commissioner and to the National Council an annual evaluation report, accompanied by such additional comments the State board deems appropriate, which (i) evaluates the effectiveness of vocational education programs, services and activities carried out in the year under review in meeting program objectives . . . and (ii) recommends such programs, services and activities as may be warranted by the evaluations."

This evaluation is the first effort by the Commonwealth of Puerto Rico, as well as all of the other States, to comply with the provisions of the law. As such, there are no precedents, no comparisons, no judgments set in the same framework of responsibility or other historical patterns or traditions from which the initial evaluation may depart or rest on. Therefore this initial evaluation, of necessity, becomes exploratory and precedent setting at the very same time.

In all candor it must also be stated that the law and its charges upon the Council may be somewhat presumptuous at this time. From the lofty perspective of the higher levels of government there is an inclination to expect that systems, procedures, information, time and competence are all available at the implementing level. Therefore strongly positive and highly substantive judgments and evaluations should flow easily and simply through systematic analysis and review.

In the future, the expectations of the law may be more easily met and the responsibility better discharged. However, present day realities, which are described in the following sections of this report, may be less than the ultimate of the Law's expectation. In a major sense, one of the most significant contributions of this initial evaluation has been to identify and

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hopefully stimulate, those areas and functions which must be energized and improved in the future so that all of the expectations may be met easily and all of the judgments and evaluations made with full confidence.

Above and beyond legal language and the mechanics of systems and procedures, there is a human issue. In the final analysis, all of us have a common goal in that respect. That goal is eloquently expressed for the Vocational-Technical Education Area in the address by Dr. Ramón Mellado, Secretary of Education, on July 4, 1970, when he said:

> "During this past year we have opened new vocational and technical schools, programs and shops. In the next four to six years, if current plans are carried out, Puerto Rico will have a network of educational centers to meet the occupational needs of all our young people. The goal must be to give every person on our Island a dignified means of earning a living and that all respectable ways of earning a living carry the same prestige and recognition."

This evaluation is an initial step towards assessing whether past performance and future plans are in consonance with Secretary Mellado's statement of goals. Our overall judgment is that the potential certainly exists. The issue is to provide the design, information, staff and resources to make it a reality. Our experience during the evaluation, from every level and area, leads us to believe that the motivation and willingness is abundantly present.

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EVALUATION AREAS

Goal I: State Goals and Priorities and the State Plan

Reference: Evaluation Report, Sections II and III

a) Items evaluated

(1) Enrollment goals and accomplishments

(2) Program effectiveness in meeting goals

b) Findings / Conclusions

(1) The FY 70 Plan reflects major differences in enrollment plans when compared with the FY 71 Plan. This is primarily the result of the problems encountered in attempting to develop the FY 70 Plan under extremely short deadlines and very confusing and complex Federal guidelines. Thus, the goals established in the FY 70 Plan have not been against actual achievements.

On the basis of enrollment goals established in the FY 71 Plan, it appears that they represent a realistic appraisal of our needs and capabilities in terms of overall enrollment. However, the proportional enrollment by occupational areas does not reflect the anticipated growth in the demand from some sections of the economy such as Trades and Industrial or Technical.

(2) Because of the problems inherent in the FY 70 program goals as discussed above, the evaluation of our achievement against those goals is, at the least, misleading. Overall, 99% of the enrollment objectives were achieved. Again, however, there were some major differences between the goals and actual enrollment by program and by level of program. In the program areas, where information was available, approximately one-third of the new programs planned for FY 70 were implemented. Late arrival of Federal funds was given as the primary reason for the failure to implement more programs. However, there was also some evidence of a lack of adequate management and understanding of the planning process.

c) Recommendations

In the Summary of Recommendations see Nos. 1, 2, 9, 10, 16, 17.

Goal II: Evaluation of human resources development programs at all levels.

(This goal could not be evaluated because of insufficient and reliable information.)

Goal III: Evaluation of the effects of the 1968 Amendments in FY 70

(This goal could not be evaluated as a separate goal because of insufficient information for FY 70 in terms of the specific objectives of the 1968 Amendments. However, the overall impact may be seen in the increased enrollments, particularly for special needs groups, the emphasis on the development of new programs and the current efforts to enhance the planning process through the development of information systems and manpower models.)

Goal IV. Evaluation of the effectiveness of the programs in meeting the needs of the population.

Reference: Evaluation Report, Sections II, III, IV and VI.

a) Items evaluated

(1) Enrollment and process objectives

(2) Program effectiveness in meeting needs.

(3) Student placement rates.

(4) Faculty qualifications.

b) Findings / Conclusions

The needs for vocational programs, services and activities are well defined in Part II of the State Plan. These needs are reflected in the socio-economic characteristics of population groups and some thirty-nine municipalities classified as depressed areas. The enrollment objectives, graduation objectives and placement objectives stated in Section 5 of Part II of the State Plan reflect a comprehensive awareness of these needs and a realistic program for meeting them.

As discussed under Goals I and III, adequate information to evaluate the effectiveness of the programs in meeting these needs is not currently available for FY 70. We feel that the difficulties attendant to the development of the structure for meeting the requirements of

the 1968 Amendments are such that it is not unreasonable to expect these deficiencies to exist, and we are confident that the implementation of our recommendations noted in Section I of this report will improve both the substance and the process of the vocational system.

c) Recommendations

In the Summary of Recommendations see Nos. 3,5,6,7,8,11,12, 13, 15, 18, 19, 20, 21, 22, 23, 24 and 25.

Goal V: Evaluation of employment opportunities related to vocational education services.

Reference: Evaluation Report, Sections V and VIII

a) Items evaluated

(1) Employer reactions to graduates of the vocational-technical school system.

(2) A study of Puerto Rico's present and prospective technical, skilled and clerical manpower and training needs: 1968-1975.

b) Findings / Conclusions

One of the major problems facing the vocational-technical area in Puerto Rico is the lack of reliable information on current and projected employment opportunities related to vocational-technical education. As a part of this evaluation the adequacy of the manpower study in (2) above was examined in light of our requirements in the vocational-technical area. The most significant factor that emerged from the examination was that the manpower requirements information could not be translated into vocational-technical program requirements. This factor is also the reason that current data available from the Department of Labor can not be effectively utilized. The problem does not seem to be one of a lack of information but rather one of translating available data into a format usable for vocational program planning.

As an additional focus of this part of the evaluation, a sample survey of employers was made to determine their reactions to the quality of vocational-technical school graduates. The results of the survey seem to indicate an overall satisfaction with the quality of the educational process. They also indicate a need for more coordination between the vocational-technical education area and industry and commerce.

c) Recommendations

In the Summary of Recommendations see Nos. 4, 13 and 14.

SECTION II

AN OVERVIEW OF THE VOCATIONAL- TECHNICAL EDUCATION AREA

It is axiomatic that enrollment in Puerto Rican vocational-technical education programs has been far less than desired and required. The reasons are complex — ranging from those rooted in social status problems to those of lack of facilities and schools. The past issue has never been one of overproduction but rather one of underproduction. The future issue is a dual one of accelerating the program while at the same time producing an internal balance so that one educational area does not overproduce while another is underproducing.

Our evaluation indicates that there is indeed an intent to meet the quantitative enrollment requirements of the future. All of the plans we have reviewed reflect a quantum increase in planned enrollment of students for the future and at all levels. This is perhaps most dramatically illustrated by the following chart.

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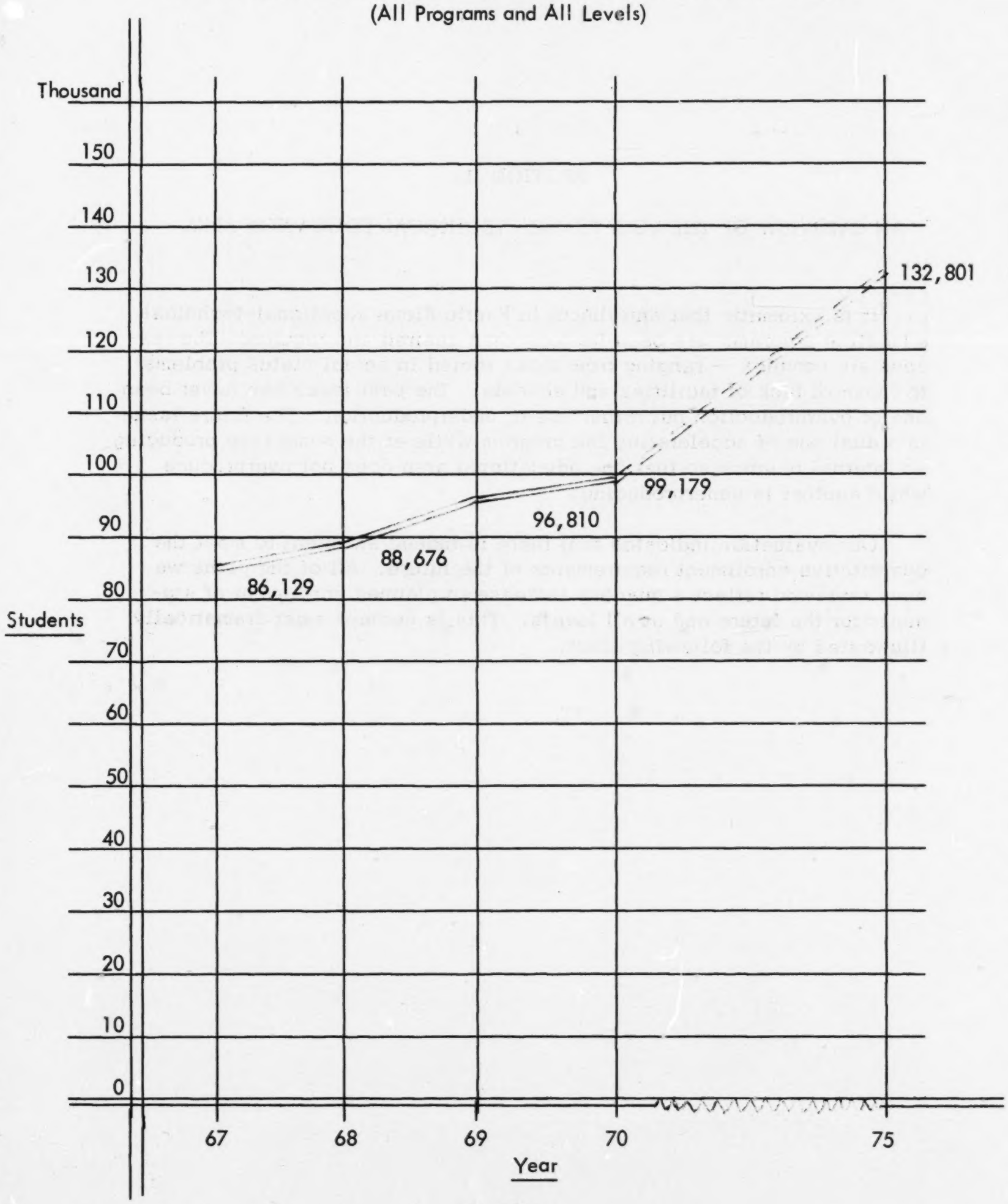
STUDENT ENROLLMENT IN VOCATIONAL-TECHNICAL EDUCATION
(All Programs and All Levels)



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Quantitatively, the major thrust of the increase in enrollment is at the secondary and post secondary levels. This is appropriate because those are the levels that form the major foundation of current and future supply of trained technicians. The other components — adults and those with special needs — are not intended to be minimized. They are as important as the rest. The difference is one of specialized program, design, duration and individual consideration.

To demonstrate the above configuration we have constructed the following table:

ENROLLMENT BY LEVEL

Levels	1967	1968	1969	1970	1975	% Increase 1975 vs 1969
Secondary	52,929	46,374	49,600		57,090	15%
Post Secondary	5,467	10,010	11,344		19,057	68%
Adults	19,289	22,717	24,080		21,334	-11%
Special Needs	8,444	9,575	11,786		35,320	200%
Totals	86,129	88,676	96,810	99,179*	132,801	37%

* The distribution of the 1970 actual data was not available in a compatible form for comparison with the other years.

The issue draws into sharper focus on the above basis. It becomes a matter of judgment as to whether or not it represents the quantitative and proportionate enrollment distribution that relates to either need or preference. Certainly an increase in Post Secondary education enrollment - particularly in view of technology demands - is waranted. We question, however, the relatively modest increase in enrollment at the secondary level which really represents the foundation of the entire system. Hopefully, the quantum increase in enrollment in the "Special Needs" category will, during actual implementation, be distributed to the secondary level. If such is the case, then there appears to be a more appropriate balance.

Even though the past is prologue to the future, it might be just as well to look towards the future without dwelling too much on the past. We say this as a mixture of philosophy and the practical circumstance of not being able to obtain information of sufficient credibility or compatibility with which to make reasonably confident comparisons. Typical of this circumstance and indicative of the problem encountered throughout this entire evaluation are the following points:

1. There is no information available on the number of adults or special need students by educational program who completed their work for the years 1967, 1968, 1969 or 1970. All of the information deals with secondary and post secondary completions.

2. All of the plans for future educational programs include completions of adults and special need students. There is no way, except by unreliable statistical assumptions, to extract those two categories to attempt to make past and future comparisons.

3. There are major inconsistencies between plans which preclude comparisons upon which we can base confident conclusions. For example:

   a. The Plan submitted for 1970 through 1974 reflects Vocational Education output totalling 51,145 for 1970 and 92,169 for 1974.

   b. The Plan for 1971 through 1975 (submitted one year later) reflects Vocational Education output totalling 36,635 for 1971 and 53,623 for 1975.

   c. Obviously we do not intend to produce almost the same number of students in 1970 as we plan to produce in 1975. Equally, we do not intend to produce <u>less</u> students in 1975 than in 1974 - approximately 33,000.

   d. All of our attempts to reconcile internal data within the plans have resulted in the same types of inconsistencies.

None of the above should be used as a basis for any conclusion except that the 1970-74 plan was produced under circumstances — both confusingly technical and under very tight deadlines — which gave rise to some misunderstandings of directions and arithmetical error. We understand that these problems were recognized in the Vocational-Technical Education Area and that the 1971-1975 Plan is technically more correct and probably more nearly reflects intentions and capabilities.

With the above in mind, we have accepted the 1971-1974 Plan as at least an indication of planned direction. The following table summarizes that projection:

PROJECTED EDUCATIONAL OUTPUT

Educational Program	1971 #	1971 %	1975 #	1975 %	1975 vs 1971 #	1975 vs 1971 %
Agriculture	1,779	4.8%	2,008	3.7	229	12.9
Distribution	10,905	29.8	15,225	28.4	4,320	39.6
Health	1,565	4.3	5,000	9.3	3,435	219.5
Home Economics	2,120	5.8	3,500	6.5	1,380	65.0
Office	4,500	12.3	6,500	12.1	2,000	44.4
Technical	669	1.8	975	1.8	306	45.7
Trades & Industry	15,097	41.2	20,420	38.2	5,323	35.2
Total	36,635	100.0	53,628	100.0	16,993	46.4

We are pleased to note from the above that proportionately and quantitatively there is a marked increase between the Plan for 1971 and the Plan for 1975. It is particularly gratifying for both the Health Education and Technical Education fields.

However, when each year is assessed by itself the same conclusion can not be reached. With the exception of the Health Education component, all of the others represent very little change as a proportion of the total for the year. For example, Technical Education remains at 1.8% of the total output both in 1971 and 1975. Distributive Education remains relatively the same proportion in both years. Office Education is different only to the extent of .2%. Surprisingly enough, Trades and Industries which produces graduates most in demand and most closely related to industrial development, is proportionately less in 1975 than 1971 even though the quantitative comparison between the years indicates an increase.

In summary, we feel it necessary to make two significant observations:

1. There are planned and significant increases in output between 1971 and 1975. This is required and appropriate.

2. With the exception of the Health Education component which increases and the Trades and Industries component which (surprisingly) decreases, the internal proportions of each of the years do not reflect any significant changes or different emphasis.

It is our reluctant conclusion that 1975, with the exception of the above notes, may in fact represent a compilation of data with some possible attempt to recognize new requirements but more likely an extension of the same proportionate directions as in the past.

SECTION III

COMPARISON OF THE 1969/70 STATE PLAN
WITH THE ACCOMPLISHMENTS

Introduction

The 1969/70 State Plan was prepared as mandated by Federal legislation and administrative regulations. Compliance with those requirements was necessary to qualify Puerto Rico for participation in the Federal funding programs authorized under the 1963 Act and 1968 Amendments.

Notwithstanding that frame of reference or motivation under which the Plan as a document was developed, the contents should represent the synthesis of the actual planning process as it related to the years under review. Analysis and review of the planning process which resulted in the product is an essential part of the evaluation through which both the planning process and planned services may be viewed. Therefore, the objective of the evaluation was in the determination of the need for both procedural and substantive improvement where required.

With the above as a preface, and given the often repeated limitations as to sufficiency and reliability of data, the following data sets forth the extent and degree to which programs carried out in academic year 1969-70 conformed with the targets and levels set out in the State Plan for that year.

TABLE I. TOTAL ENROLLMENT - STATE PLAN OBJECTIVES AND ACCOMPLISHMENTS

	State Plan	Actual	Percent of Objectives
TOTAL ENROLLMENT	131,252*	129,907*	99%
*Agriculture	7,349*	14,744	201
Distribution and Marketing	11,000	9,690	88
Trades and Industry	25,251	17,982	71
*Home Economics (useful)	60,056	62,905*	105
Home Economics (gainful)	2,592	2,597	100
Office	21,301	18,925	89
Technical	1,691	1,583	94
Health	2,012	1,481	74

*Includes grades 8 and below

TABLE II. ENROLLMENT BY EDUCATIONAL PROGRAM

A. AGRICULTURE

	State Plan	Actual	Percent of Objective
Total Enrollment	7,349*	14,744 *	201%
Secondary	1,435*	1,565	109
Post-Secondary	629	195	31
Adult	5,285	12,984	246
Special Needs	120	45	38
Disadvantaged	40	45	112
Handicapped	80	0	0

* Includes 8th grade and below

B. DISTRIBUTION & MARKETING

Total Enrollment	11,000	9,690	88%
Secondary	1,545	1,546	100
Post-Secondary	459	464	101
Adult	8,000	6,894	86
Special Needs	995	786	79
Disadvantaged	900	711	79
Handicapped	95	75	79

C. TRADES AND INDUSTRIES

Total Enrollment	25,251	17,982	71%
Secondary	9,896	8,067	82
Post-Secondary	7,689		46
Out of school youth		3,411	
Regular post-secondary		138	
Adult	4,620	3,188	69
Special Needs	3,460	3,178	92
Disadvantaged	2,936	N/A	
Handicapped	110	N/A	

N/A Not Available

D. HOME ECONOMICS (USEFUL)	State Plan	Actual	Percent of Objective
Total Enrollment	60,056*	62,905*	105%
Secondary	31,987	50,481	158
Adult	4,386	12,424	283
Special Needs			
Disadvantaged	23,623	28,014	119
Handicapped	60	11	18

* Includes 8th grade and below

E. HOME ECONOMICS (GAINFUL)			
Total Enrollment	2,592	2,597	101%
Secondary	575	1,217	212
Post-Secondary		252	-
Adult	85	1,128	1,327%
Special Needs			
Disadvantaged	1,932	1,479	77
Handicapped		66	-

F. OFFICE OCCUPATIONS			
Total Enrollment	21,301	18,925	89%
Secondary	13,300	15,404	116
Post-Secondary	2,651	1,467	53
Adult	5,350	1,054	20
Special Needs	290	1,050	362
Disadvantaged	190	1,050	553
Handicapped	100	0	0

G. TECHNICAL EDUCATION			
Total Enrollment	1,691	1,583	94%
Post Secondary	1,491	1,392	93
Adult	200	191	96
Special Needs	0	187	-
Disadvantaged	0	176	-
Handicapped	0	11	-

H. HEALTH OCCUPATIONS	State Plan	Actual	Percent of Objectives
Total Enrollment	2,012	1,481	74%
Secondary	576	363	63
Post-Secondary	1,137	777	68
Adult	299	235	79
Special Needs	158	106	67

Analysis of Tables I and II

As is evident from Table I above, Puerto Rico achieved 99% of the Plan objectives for total vocational education enrollment.

When actual enrollment is viewed from the point of instructional program categories as set forth in Table II above, several significant problem areas become evident. Trades and Industry enrollment was only at 71% of the objective, Health at 74% and Office and Distribution and Marketing at 89% and 88%, respectively.

In short, the gross overall enrollment statistical objectives were achieved largely by the statistics represented as enrollment in Agriculture.

Planned objectives versus achievement, when viewed from the perspective of program level, presents the perplexing circumstance wherein Secondary, Adult and Special Needs were achieved at 133%, 135% and 114%, respectively. Post Secondary enrollment was achieved at a level of 58%. Since we lack confidence in the reliability of the data — both in terms of the Plan's objectives and the reported achievement — we are hesitant to comment as strongly as is indicated by the above imbalance. Nevertheless, the dimensions of the differences are so great that we must point out that there is either a significant component of error in the assembly of the Plan itself or there has been less than the required degree of program management and control.

TABLE III. ANALYSIS OF SPECIAL PROGRAMS.

The following Programs or Projects were included in the State Plan, as Commonwealth priorities. The results or status are set forth opposite each program.

PROGRAM	STATUS
Program Evaluation:	
Development of systems approach to evaluation	Postponed

PROGRAM	STATUS
Evaluation of vocational education programs in:	
Vocational Industrial Training	Postponed due to high quote on proposal.
Vocational Guidance & Counseling	Postponed
Home Economics (Occupational)	Begun in 1968, in temporary abeyance.
Follow up of graduates at secondary level.	"Normal" follow up was carried out.
Follow up of graduates in Home Economics (Occupational)	Part of evaluation indicated above.
<u>Vocational Curriculum Improvement</u>	
Development of flexible methodology for curriculum development.	In process.
Adapting curricula for disadvantaged and handicapped.	In process with funds under Title I.
Curriculum guides for teachers or "Introduction to Vocations"	Postponed, in process for 1970/71.
Syllabus on occupational information for disadvantaged youth in secondary school.	Postponed
<u>Vocational Education Resource Development</u>	
Professional preparation and occupational experience of Voc/Tech personnel	In process.
<u>Teacher Training Activities</u>	
Seminar on research methods	Carried out and augmented.
Institute on data processing techniques for Vocational Educators	Postponed
Institute on new trends in curriculum development	Carried out in summer '69 under contract.

PROGRAM	STATUS
Organization and Administration of Vocational Education Programs	
	Limited:
Reorganization of program	(1) Creation of office of Special Programs (2) WIN, MDTA placed under Trades & Industry for coordination purposes.
Vocational Guidance and Career Choice Process:	
Identification of potential post-secondary students among college level drop outs	Postponed
Operational Research:	
Manpower needs in skilled and non-professional occupations in Agriculture	Postponed
Exemplary Programs:	
Six programs serving 3500 youth were planned.	None executed in 1969/70 althouth the programs were in administrative preparation stages awaiting Federal funding.

Analysis of New Programs and Planning Considerations

In the broadest of terms there are two approaches open to each State and the Commonwealth of Puerto Rico in re-orienting priorities so as to achieve the objectives of the 1968 Amendments and to better meet the community's needs for vocational and technical education.

- Numerically expand the existing program offerings so as to provide opportunity for more students and greater satisfaction of the quantitative needs of the Commonwealth.
- Introduce, in addition to the above, new program content and curriculum offerings, related as closely and currently as possible to new and changing industrial and technological requirements.

It is our belief that the degree to which the Commonwealth has been successful in re-orienting priorities in accordance with stated objectives is reflected by the degree to which new instructional programs envisaged by the Area, and hopefully, reflected in the State Plan, were in fact implemented.

Table 4 of the State Plan for 1969-80 listed a total of 332 instructional programs to be introduced during the period covered by that Plan. Table 3 of the same Plan listed a total of 316 instructional programs to be introduced during the same period. For our purposes we will assume that the inconsistency was in Table 4 and use the figure of 316 from Table 3 as the base.

The new offerings in Table 3 of the Plan were distributed among the following program areas:

	No. of Instructional Programs	Percent of Total
(1) Trades & Industry	166	52.5
(2) Distribution & Marketing	65	20.6
(3) Agriculture	42	13.3
(4) Office	24	7.6
(5) Home Economics	7	2.2
(6) Technical	6	1.9
(7) Health	6	1.9
	316	100.0

During our evaluation, each of the Program Directors was requested to provide information from which the degree of achievement versus the Plan could be assessed. The requested information was available for only four of the seven programs: Agriculture, Office Occupations, Health Occupations and Technical Education. These four areas represent 78 of the new offerings listed in the Plan, or 24.7% of the total number of new offerings scheduled to begin in the year under review. We regret the unavailability of data from Trades and Industry, Home Economics and Distribution and Marketing.

Of the 78 programs (originally 316), 25 were in fact begun during the year. Fully two-thirds of the 78 programs were not undertaken. The implementation by program was as follows:

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	No. of New Instructional Programs		Percent of Objective
	Plan	Actual	
Agriculture	42	16	38.1
Office	24	3	12.5
Health	6	3	50.
Technical	6	3	50.
Total	78	25	32%

	New Instructional Programs Enrollment		Percent of Objective
	Plan	Actual	
Agriculture	1750	750	42.9
Office	660	150	22.7
Health	72	40	55.6
Technical	215	84	39.1
Total	2697	1024	38.0

	New Instructional Programs Completions		Percent of Objective
	Plan	Actual	
Agriculture	1647	701	42.6
Office	465	105	22.6
Health	47	37	79.7
Technical	179	61	34.1
Total	2338	904	38.7

At the secondary level only 6 of 27 programs were instituted, Post-Secondary education received 9 new programs of a projected 17. At the Adult level 10 of 34 were begun. It is interesting to note that not one of the nine new offerings planned for benefit of the Handicapped in the four reporting program areas was implemented. This is not to infer that those program areas did not have any instructional programs for the handicapped. Rather, those programs were "continuing" or "expanding" as compared to adding new programs.

The absence of information about the remaining programs necessarily makes our analysis more illustrative than complete. But even the incomplete information speaks for itself.

It is perhaps conjecture on our part, but from the above experience it would seem that under conditions of restrictions or delays in funds to carry out the State Plan, the first programs to yield are those which were designed to provide new directions to the existing system and attempt new ways of providing innovative services. This may be a natural tendency since ongoing programs require little attention or adjustment. But if priorities are to be meaningful and emphases are sincere, then increased vigilance and discipline must be applied to protect them.

Information on the implementation of instructional programs projected for expansion was also solicited from each program area. Available information for analysis for this aspect was more limited than that set forth above. The pattern seems fairly much the same. For example:

- Of 20 instructional programs scheduled for expansion in Health Occupations 13 were in fact expanded.
- Vocational Agriculture had scheduled seven expanded program offerings and realized but two of these.
- In Health Occupations of the 10 programs at the Adult level only three were realized.
- At the Post-Secondary level a total of 10 programs were in fact expanded.
- Two of the offerings in Practical Nursing, not included in the Plan, were expanded.
- In Agriculture, two planned expansions in Post-Secondary Agriculture Production were not undertaken and three of five scheduled at the Adult level were not realized.

The reasons given by Program Directors for the above situation were the following, beginning with the most frequent.

(1) Lack of funds due to late arrival of Federal appropriations.
(2) Lack of facilities in which to present the program.
(3) Lack of appropriately trained teachers.
(4) Difficulty in predicting the need for the course.
(5) Agency requesting the course had withdrawn the request.

By far, the lack of funds due to late arrival of Federal appropriations was, according to the Directors, the major impediment to the fulfillment of the program objectives as set out in the State Plan.

The remaining reasons given by Directors may be more an indictment of the planning process than attributable to external factors. Reasons (2), (3) and (4) are ascertainable before being included in a plan with a lead time of but one year. They are either present or there is a reasonable certainty that they would be quickly available and supportable under a continuing resolution. Without these assurances, there is ample opportunity to realistically include those programs for a subsequent year and to provide a realistic amount of planning lead time.

There is an additional problem in predicting the needs for courses in the case of Adult upgrading or retraining. These types of courses are not subject to specific long lead time planning because the courses themselves are often instituted upon request of industry, another agency or potential enrollees. The importance of projecting the specific course is not as essential as estimating the level of activity that will be required and the program and geographic areas of responsibility. To the extent that specific courses of this nature can be predicted, this should be done. The efficiency of making these determinations can be increased through coordination between the vocational system, industry and other governmental agencies, at all stages of the planning process. The information flow on the need for these offerings should be continuous and a regular part of the administrative process including continuous and current exchanges, on a formal basis with the Commonwealth Department of Labor.

Conclusions:

We do not believe in gilding lilies or belaboring obvious points. The foregoing sections speak for themselves quite eloquently.

The lessons are obvious — planning as a matter of process and content must be realistic and substantive. It is inevitable that accountability against any plan will occur. It is just as inevitable that no matter how legitimate the reasons for not meeting objectives, they will be met with suspicion and generate requirements for justification that in retrospect may appear less valid than they were as past operating facts.

SECTION IV

STUDENT PLACEMENT

Introduction

In the final analysis, the payoff indicator for Vocational Education is student placement. This section of the report is concerned with that factor and the information available to assess the results.

The sources of information are limited to official reports submitted by the Area in conformance with the requirements of the U. S. Office of Education. Only historical information for Fiscal Years 1967, 1968 and 1969 were available. Fiscal Year 1970 data as required by the U. S. Office of Education is not due for several months.

Even though the available information is limited in nature and scope, we feel that it can be purposefully used to describe the placement and follow up situation. We stratified the placement data into 2 tables. Table I closely follows the report required by the U. S. Office of Education. Table II shreds out placements by educational program for 1969 as a sharper focus. Together they form a profile of the results in two dimensions — information availability and the placement payoff principle.

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TABLE I

PROFILES OF RESULTS (EMPLOYMENT) OF VOCATIONAL EDUCATION SYSTEMS

	Quantitative			Proportionate %		
	1967	1968	1969	1967	1968	1969
SECONDARY SCHOOLS						
TOTAL NUMBER COMPLETED REQUIREMENTS	7592	8240*	8366	100.0	100.0	100.0
Distribution Profile						
Status Unknown	2802	2475	2594	36.9	30.0	31.0
Entered Armed Forces	32	26	113	.4	.3	1.3
Continued Full Time School	1560	1087	1802	20.5	13.2	21.6
Other Reasons Not in Labor Force	65	1403	184	.8	17.0	2.1
EMPLOYED						
Full time - Occupation Trained	1023	803	1129	13.5)	9.8)	13.5)
Full time - Related Occupation	377	289	421	5.0) 18.5	3.5) 13.3	5.0) 18.5
Full time - Other	523	788	502	6.9	9.6	6.0
Part Time	20	201	653	.3	2.4	7.9
Unemployed	1190	1168	968	15.7	14.2	11.6
POST SECONDARY SCHOOLS						
TOTAL NUMBER COMPLETED REQUIREMENTS	794	1202	1639	100.0	100.0	100.0
Distribution Profile						
Status Unknown	358	510	471	45.1	42.4	28.7
Entered Armed Forces	37	10	32	4.6	.8	2.0
Continued Full Time	31	47	32	3.9	3.9	2.0
Other Reasons Not in Labor Force	11	163	21	1.4	13.6	1.3
EMPLOYED						
Full time - Occupation Trained	139	220	605	17.6)	18.3)	36.9)
Full time - Related Occupation	71	46	135	8.9) 26.5	3.9) 22.2	8.2) 45.1
Full time - Other	38	101	104	4.8	8.4	6.3
Part Time	4	20	77	.5	1.7	4.7
Unemployed	105	85	162	13.2	7.0	9.9

* Total includes 36 Post Secondary Completions from Hotel School

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TABLE II

PROFILES OF RESULTS (EMPLOYMENT) OF VOCATIONAL EDUCATION SYSTEMS
BY EDUCATIONAL PROGRAM - 1969

	Agriculture			Distributive			Health			Home Economics (Gainful)		
	No.	%		No.	%		No.	%		No.	%	
SECONDARY SCHOOLS												
TOTAL NUMBER COMPLETED REQUIREMENTS 1969	1018	100		418	100		176	100		1184	100	
Distribution Profile												
Status Unknown	578	56.8		34	8.1		46	26.1		335	28.3	
Entered Armed Forces	2	.2		10	2.4		2	1.1		6	.6	
Continued Full Time School	265	26.0		88	21.1		37	21.0		233	19.7	
Other Reasons Not in Labor Force	3	.3		11	2.6		7	4.0		36	3.0	
EMPLOYED												
Full time - Occupation Trained	38	3.7)	5.5	170	40.7)	50.3	56	31.8)	36.9	151	12.7)	18.3
Full time - Related Occupation	18	1.8)		40	9.6)		9	5.1)		67	5.6)	
Full time - Other	62	6.1		22	5.3		5	2.8		55	4.7	
Part Time	24	2.3		27	6.4		5	2.8		94	7.9	
Unemployed	28	2.8		16	3.8		9	5.3		207	17.5	
POST SECONDARY												
TOTAL NUMBER COMPLETED REQUIREMENTS 1969	288	100%		219	100%		475	100%				
Distribution Profile												
Status Unknown	112	38.9		66	30.1		73	15.3				
Entered Armed Forces	7	2.4		6	2.7		1	.2				
Continued Full time School	-	-		2	.9		13	2.7				
Other Reasons Not in Labor Force	1	.3		6	2.7		10	2.1				
EMPLOYED												
Full time - Occupation Trained	52	18.0)	24.2	69	31.5)	45.6	304	64.0)	68.8			
Full time - Related Occupation	18	6.2)		31	14.1)		23	4.8)				
Full time - Other	35	12.3		16	7.3		2	.5				
Part Time	9	3.2		7	3.3		23	4.8				
Unemployed	54	18.7		16	7.4		26	5.6				

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TABLE II (Cont'd)

PROFILES OF RESULTS (EMPLOYMENT) OF VOCATIONAL EDUCATION SYSTEMS BY EDUCATIONAL PROGRAM - 1969

	Office		Technical		Trades & Industry		Total	
	No.	%	No.	%	No.	%	No.	%
SECONDARY SCHOOLS								
TOTAL NUMBER COMPLETED REQUIREMENTS 1969	3236	100			2334	100	8366	100
Distribution Profile								
Status Unknown	912	28.2			689	29.9	2594	31.0
Entered Armed Forces	25	.8			68	2.9	113	1.4
Continued Full time School	766	23.7			413	17.7	1802	21.5
Other Reasons Not in Labor Force	84	2.6			43	1.8	184	2.2
EMPLOYED								
Full time - Occupation Trained	374	11.6)			340	14.6)	1129	13.5)
Full time - Related Occupation	186	5.7) 17.3			101	4.3) 18.9	421	5.0) 18.5
Full time - Other	183	5.6			175	7.4	502	6.0
Part Time	238	7.3			265	11.6	653	7.8
Unemployed	468	14.5			240	9.8	968	11.6
POST SECONDARY								
TOTAL NUMBER COMPLETED REQUIREMENTS 1969	370	100	151	100	136	100	1639	100
Distribution Profile								
Status Unknown	129	34.9	64	42.4	27	19.8	471	28.7
Entered Armed Forces	12	3.2	4	2.6	2	1.5	32	2.0
Continued Full time School	16	4.3	-	-	1	.8	32	2.0
Other Reasons Not in Labor Force	3	.8	-	-	1	.8	21	1.3
EMPLOYED								
Full time - Occupation Trained	78	21.1)	62	41.0)	40	29.4)	605	36.9)
Full time - Related Occupation	43	11.6) 32.7	8	5.3) 46.3	12	8.8) 38.2	135	8.2) 45.1
Full time - Other	26	7.2	6	4.0	19	14.0	104	6.3
Part Time	32	8.6	2	1.4	4	2.9	77	4.7
Unemployed	31	8.3	5	3.3	30	22.0	162	9.9

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There is a striking proportion of the secondary student graduates who are categorized as "Status Unknown" (Table I). The percentage varies from a high of 36.9% in 1967 to an average of about 30% in 1968 and 1969. Similarly the percentage of Post Secondary graduates who are categorized as "Status Unknown" varies from more than 40% in 1967 and 1968 to a lesser percentage — approximately 28% in 1969. Although the time frame of three years is too short a period upon which to forecast a trend, we are pleased that there seems to be an improvement at least when 1967 is compared to 1969.

Puerto Rico is not unique in the above respect although we believe that the proportions of "Status Unknown" are higher than the average experience of most other States. The significance to Puerto Rico is that with so few graduates and with such great needs, the absence of information about relatively large proportions of graduates makes planning and the determination of requirements an even more complex task than is already the case. Hopefully, our recommendations on follow up and information systems will be helpful in reducing this segment of the current information gap.

Table I provides an indication of the "pay off principle." At the secondary level for both 1967 and 1969 the data indicates that only 18.5% of all graduates were employed either in occupations for which they were trained or in related fields. We have deliberately omitted comparing the 1968 percentage because we are uncertain of the credibility of a percentage as low as 13.3%.

At the Post Secondary level, Table I provides a relatively better picture. The difference between 1969 and 1967 when the percentage of graduates employed in fields for which trained or related fields is marked: 26.5% in 1967 as compared to 45.1% in 1969. (Again we have omitted 1968 because of some concern as to its credibility.) Certainly we would have preferred a much higher employment rate but there is at least an indication here of an improving situation.

The only data available to us on which to base a comparison of Puerto Rico with other States is for fiscal year 1968. Because of our lack of confidence in the 1968 Puerto Rico data we are hesitant to present a comparison in absolute terms. However, we feel it appropriate to observe that Puerto Rico ranked among the lowest in percentage employed in occupation trained or related fields. We hope that the situation has changed for 1969 and will improve in the future.

Table II is perhaps more significant than Table I in that we may find our trouble spots since this Table focuses upon the various educational components. The following observations seem to us to be significant:

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A. The Secondary School Level

1. The markedly low employment rate in Agriculture, and relatively low rate in Office Education versus the relatively higher rates in all of the other educational components.

2. With the acknowledged high employment requirements in Trades and Industries occupations, the relatively low employment percentage of 18.9%.

3. The significantly high "unknown" rate among all of the educational components with Agriculture at 56.8% in the lead but a very low percentage of only 8.1% for Distributive Education.

B. The Post Secondary School Level

1. The consistently higher employment rates than reflected for secondary schools for all educational components.

2. The marked difference in "status unknown" between educational components ranging from 42.2% in Technical Education to a low of 15.1% for Health Education. All of the other components average about 1/3 in the "status unknown" category.

All of the above may appear to be a preoccupation with statistical data. Although there is that appearance, the intent is low placement rate in the face of a very high requirement for trained graduates. Secondly, we are concerned that by virtue of faulty or incomplete data, we are unnecessarily complicating and making less reliable any education program planning upon which rests knowledge of previous accomplishment, production or demand.

Accepting for the moment at the secondary level, and only as in illustration, the Trades and Industries data for 1969 which indicates an 18.9% employment rate in occupation trained or related occupations versus a very high demand for trained employees, then four questions immediately come to mind:

1. Is the low rate in any way related to the quality of the graduate? (Our employment survey would tend to somewhat deny this possibility)

2. Is the low rate related to the fact that the student is neither guided to the occupation for which he was trained or is unaware of the opportunities that exist for him?

3. Is the low rate simply a matter of faulty information collection and the reality a much better situation?

We are inclined to believe that the circumstance for Trades and Industry as well as the total picture, is a combination of all of the above and that each of the contributing factors must be treated separately. Therefore we recommend a coordinated, concerted and intense effort in the following directions:

- Guidance and counseling of students should begin early in their careers — preferably at the top of the elementary level.

- Each Vocational-Technical education faculty member should assume personal responsibility for student placement and follow up.

- The numbers of trained counselors must be increased allowing them to devote more attention to individual problems. The overall ratio of students to counselors now exceeds 900 to 1. An objective of reducing that load by 50% in the next 3 to 4 years seems reasonable and certainly desirable.

- The placement and guidance of students may also be the responsibility of industries whose staffs should become more involved, and apparently want to do so, on a personal basis with schools and individual students in their areas.

- Increased public information on the Vocational-Technical system and its importance to the individual student, commerce and industry and the growth and development of the Commonwealth.

- Meaningful follow up systems of the most basic variety — simply a periodic but rigidly followed check on the employment of graduates. This, it occurs to us, is more a matter of procedural discipline than sophisticated computer based technology. It must be accepted as a given responsibility for counselors and teachers, regional officials and those at the Area level, that this information is one of the major cornerstones upon which will rest a very important determinant of the results of the investment in the entire system of education.

SECTION V

EMPLOYER REACTIONS TO GRADUATES OF THE VOCATIONAL-TECHNICAL SCHOOL SYSTEM

Introduction

On a sampling basis, the evaluation team designed a sharply focused interview technique for employer reactions and responses to the following:

1. Sources of Recruitment

2. The Vocational-Technical School Graduate as an Employee

3. Possible Changes and Improvements

We deliberately chose this design so as to maximize responses which might be meaningful and useful in a qualitative context. Our purpose was to obtain a general feeling of satisfaction or non-satisfaction on the part of the employer and suggestions for improvement or change as perceived by the employer. No attempt was made to "guide" or restrict the employer's responses.

Our sample was oriented towards Vocational-Technical education programs as the first priority rather than a stratification by type of enterprise. Therefore, five of the seven major educational areas were selected as most representative — eliminating agriculture and home economics. On this basis the following design was selected:

Educational Component	Number of Organizations
Distributive Education	2
Health Education	3
Office Education	2
Post-Secondary Technical	3
Trades and Industry	5
	15

The geographic spread, although limited because of the nature of the design and the exclusion of organizations covered by the Comprehensive Study, nevertheless did extend to San Juan, Ponce, Mayaguez, Caguas and Carolina.

The results of the survey contained no startling surprises and in a general sense correlated positively with the findings of the Comprehensive Study.

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We have summarized them below but, as with most summaries, there are subtle points and possible important inferences that are lost. Therefore, we recommend that this summary be used only for quick reference.

1. Sources of Recruitment

   Major Source: Gate Hiring
   Secondary Source: The Employment Service
   Tertiary Source: Direct contact with the Vocational-Technical Schools

2. The Vocational-Technical School Graduate as an Employee

   - The majority of employers preferred vocational-technical school graduates to non-graduates or non-experienced personnel. However, few re-enforced their preferences with higher initial salaries.
   - Many, however, indicated that subsequent to the initial salary, advances were more rapid for the vocational-technical school graduate.
   - Many also felt that the vocational-technical school graduate displayed more satisfactory work attitudes and acceptance of responsibility than did non-graduates.
   - Substantially all of the employers felt a requirement to top off the school experience with additional on-the-job training and orientation in their own facilities.
   - One exception to the above was evidenced in one establishment where Office Education graduates were considered less desirable than private school graduates. An additional Office Education organization gave no preference to vocational-technical school graduates.

3. Possible Changes and Improvements

   - Closer coordination between employers and the vocational-technical school system on three scores.
     a. Curriculum Content
     b. Equipment Updating
     c. Placement of graduates

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- Improvement in written and oral communications skills for both Spanish and English, mathematics and science.

- Upgrading the currency of technological knowledge of faculty through periodic return to industry.

- There remained room for improvement in work habits and attitudes despite the higher level displayed by graduates as compared to non-graduates.

- An expansion of cooperative programs for the purpose of giving students a more realistic expectancy and orientation to the working world prior to graduation.

- Increase public information about vocational-technical education so that employers may be more aware of its purpose and use.

In short, the above "Report Card" looks reasonably good. However, we caution that no more be read into it than its limitations allow. Particularly we urge that more serious action be taken on the basis of possible changes and improvements than on the generalizations which preceded that component of the summary.

SECTION VI

AN ANALYSIS OF FACULTY EXPERIENCE AND QUALIFICATIONS

Introduction

There are three major components of the effectiveness of teachers in the Vocational-Technical education field. Perhaps the most important of the three is the ability of the individual teacher to impart knowledge to the student through the teacher's own personality and motivation. This is a highly individualistic factor that is difficult to assess except by structured tests which measure student achievement, direct classroom observation and subjective judgments. The other two components may contribute to the first. They are concerned with academic preparation and actual occupational experience — both of which are measurable.

During our evaluation we were able to gather data on the two measurable components of academic preparation and occupational experience. Further, we were able to stratify that information by educational component.

The data is abstracted from a more comprehensive study now underway in the area. We recommend that the Council avail itself of the full results when it is completed.

In the interim, the following data is informative and may provide insight into a major problem.

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Academic and Occupational Experience Levels of Faculty

	Distrib. Education	Technical Education	Home Economics	Agri-culture	Office Educ.	Trades & Industry	Health	Guidance
1. Number of Teachers	29	42	527	57	217	214	9	137
2. Academic Preparation								
% without College Degrees	0	7	9	10	9	68	22	2
% with College Degrees	34	10	66	37	61	12	22	2
% with P.G. work or Degrees	66	83	25	53	30	20	56	96
3. Occupational Experience *								
None	24	31	84	46	62	3	11	82
% with 1-2 years	21	17	5	14	18	5	11	4
% with 3-4 years	31	21	3	9	5	11		6
% with 5-6 years	7	5	2	5	6	17		6
% with 7-10 years	7	10	4	14	5	21	45	4
% with 11-20 years	10	16	2	12	4	43	33	4

* Other than Department of Education

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Observations

In terms of academic preparation, the Puerto Rican faculty has a right to be proud of the large proportion of college graduates and those with post-graduate degrees or credits towards post-graduate degrees. Yet it remains somewhat surprising that there are some educational programs where the proportion of teachers without a college degree is somewhat high. In Trades and Industries where 68% of the faculty have no college degrees, basic certification may be perfectly acceptable. In that instance, the preponderance of occupational experience — more than 80% have more than 5 years of such experience — may provide the desired balancing factor.

We invite your close attention to Part 3 of the Table which tabulates occupational experience. The data taken from the teacher survey is not sufficiently refined to assure that the "occupational experience" is directly related to the current teaching field of the individual faculty member. We are certain only that it represents numbers of years in the working world. As such, it is an important component of a teacher's inventory of experience to use in his primary purpose of imparting knowledge, instilling and changing student attitudes and being cognizant of the relationship between the working world and the academic environment.

Please note the significant proportions of faculty — inclusing guidance counselors — with no occupational experience. When the percentage of faculty members who have had no experience is added to those who have had from 1 to 3 years of experience, the total becomes more indicative — perhaps diagnostic of the problems reported elsewhere in this evaluation.

Obviously, there are differences between educational components, for example, the heavy proportion of Trades and Industry faculty with relatively long periods of occupational experience, as is appropriate. But then we are confronted with 24% of the Distributive Education faculty, 31% of the Technical Education Faculty, 84% of the Home Economics faculty, 62% of the Office Education faculty and 82% of the Guidance Staff with no occupational experience.

Drawing conclusions from these data must be done with caution. Three complications are present: (1) where there is data to indicate a reasonable amount of occupational experience, we have no information as to its relevance to the instructional discipline; (2) we have no information on the recency of the occupational experience and therefore cannot conclude that it is current with the work world; and (3) there is no data to indicate the level of employment — supervisor, regular work force, managerial, etc. — for the experience represented.

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What we are presenting is a panorama of data subject to intuitive judgment but also supportive of our recommendations for professional development which include:

- The identification of teaching positions associated with rapid changes in technology and the establishment of a special program coordinated with industry for the purpose of quick and intensive orientation.

- A systematic and scheduled time for all faculty members to gain basic experience or refresh previous industrial experience for the puspose of providing the student with the benefits to be derived from this knowledge.

- A renewal of conficence within the individual teacher after implementation of the above, that he is indeed better meeting his broad scope teaching responsibilities.

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SECTION VII

AN EDUCATIONAL INFORMATION SYSTEM

Throughout this evaluation and report we have indicated existing gaps in information which have made the current evaluation less complete than might otherwise have been possible. The lack of reliable, relevant and consistent information concerning the Vocational-Technical Education system has been a limitation for which we have had to make certain adjustments in our approach to this evaluation.

Nevertheless, our principal concern is not with the limitations placed upon our evaluation. Rather it is with improving the content, scope and quality of information that is necessary for effective planning and management of the Vocational Education System in Puerto Rico.

Decisions currently are being made on the basis of insufficient, unreliable or obsolete information. The ability to plan with reasonable certainty is equally hampered by this circumstance.

At this time, information and data collection for educational program decision making and planning consume a very large proportion of the time and staff needed for operational activities. An inordinate amount of time is spent in the collection and tabulation process, often characterized by several reports concurrently being manually processed by a single person. That time could be more effectively utilized in analysis, interpretation and application.

In all of our discussions and at every level, the need for a functional Education Information System was obvious. Repeatedly we were requested to make that fact known.

We therefore urge that a functional Education Information System be developed which meets the following criteria:

- Responsiveness to management decision making and planning requirements at each level of the Educational System from the individual school to the highest offices of the Commission with information that is:
    - Accurate
    - Complete
    - Timely
    - Relevant

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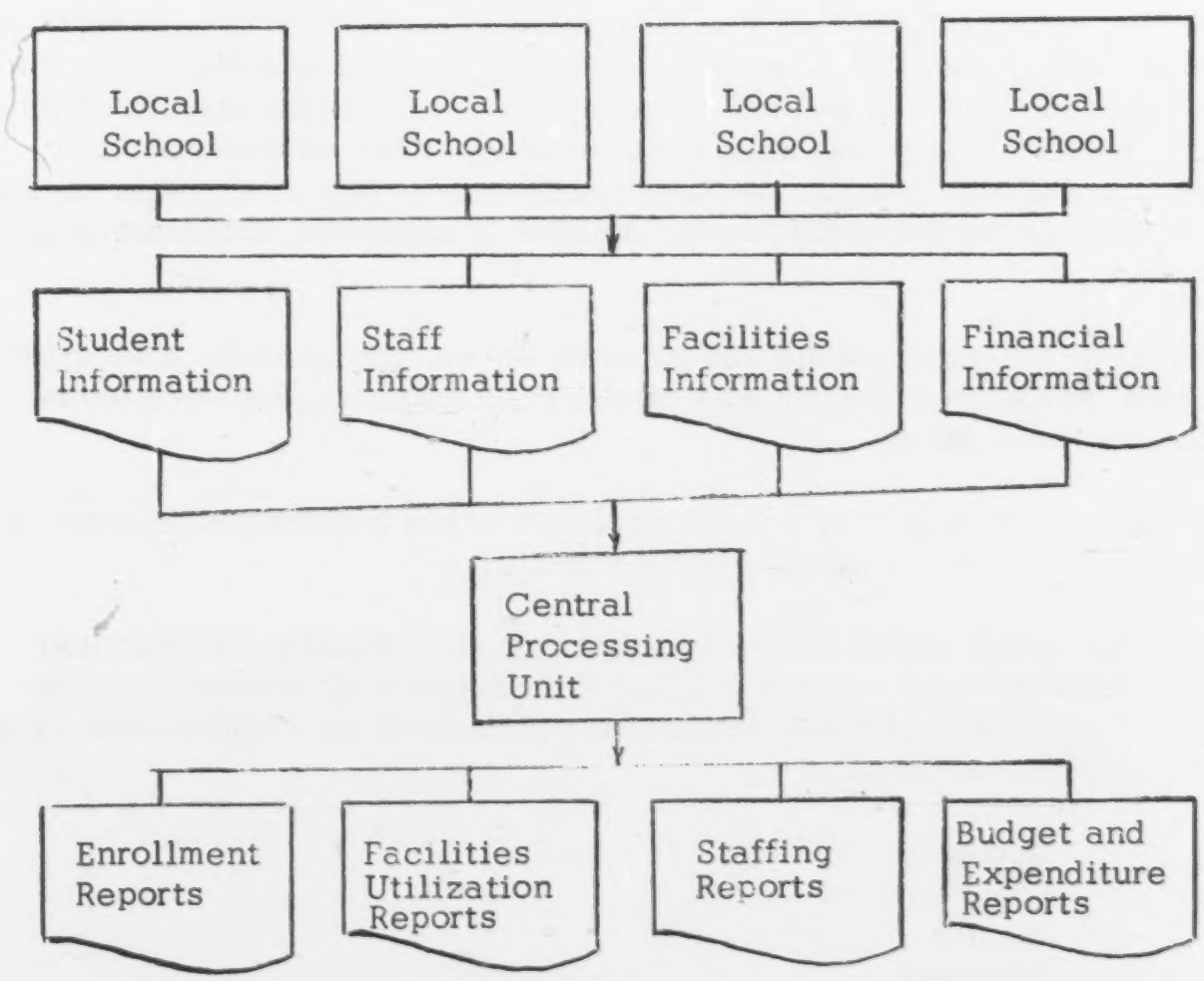
- Flexibility for expansion and meeting special information requirements.

- Designed to provide the required data with the least amount of disruption to operational and planning activities.

We have included as a part of this recommendation a suggested broad design for an information system which we feel illustrates some of the principles we have discussed above. The basic structure for the collection, processing and reporting of information is illustrated below:



The flow as illustrated above, begins with the base units, local schools, on to a processing unit which could be located at either the central level or the regional level, and which would have the function of assembling the data and producing specified reports. As indicated on the flow diagram, the information to be collected from the schools (defined as all instructional programs in the system) falls in four major categories, student information, facilities information and finance/budget information (the emphasis on this last area is for planning and evaluation purposes rather than for accounting purposes).

Suggested items of information to be included in each grouping are listed below. The list is not intended to be a final one, but to illustrate the kinds of data to be collected.

Student Information (by student)

1. Grade level
2. Age
3. Sex
4. Courses taken
5. Program of Study (T&I, GenEd, Coll.Prep. etc., by OE Code)
6. Special Program Participation (Co-op, work-study, etc.)
7. Target Group identification (Disadvantaged, handicapped, etc.)
8. Academic performance
9. Standardized test scores
10. Family/background data
11. Program completion/graduation date
12. Placement data

    a. Date placed
    b. Job title (DOT)
    c. Salary

13. Follow up data (6 mos., 1 year, 3 years, 5 years)

    a. Job title (DOT)
    b. Salary
    c. Marital status/dependents
    d. Additional training data

14. Other dispositions (Armed Forces, further education, etc.

Each student would carry a code identifying region, school and year.

Staff Information

1. Position (Admin., instructional, counseling, resource, etc.)
2. Instructional Program Area (by OE Code or special program)
3. Teaching experience
4. Occupational experience
5. Certification and education levels
6. Number of days in training status annually
7. Number of hours in classroom instruction
8. Number of hours in support activities
9. Teaching level (Adult, Secondary, etc.)

Each staff member would carry a code identifying region, school and year.

Facilities Information

1. Total number of square feet
2. Student capacity
3. Number of hours utilized each day, by each program

Each functional space in each school would need to be covered, i.e., classrooms, laboratories, auditoriums, gymnasia, offices, etc., and would be identified with a code for region, school and year.

Financial and Budget Information

Budget requests and expenditures allocated for:

a. Instruction
b. Support Activities (Maintenance, etc.)
c. Equipment
d. Administration
e. Construction
f. Special programs

Each item report would contain a code identifying region, school, year and object code.

Several options exist for the designation of the information to be collected, the methods and timing for collection, the processing system and the reporting phase. These options would need to be thoroughly explored during the design phase. For instance, at this point in time it appears to us that the system should be designed for use both manually (card processing equipment) and compatible with computer processing. The computer processing could be accomplished in Puerto Rico through data transfer to the United States.

Upon completion of the design phase, a thorough shakedown of the system should be accomplished through field testing the total process in selected schools. It is of critical importance to involve local and regional school personnel in the design and testing process in order to avoid the costly procedural errors common to central planning and to attempt to insure support and cooperation in providing these data.

SECTION VIII

EVALUATION

PUERTO RICO'S PRESENT AND PROSPECTIVE TECHNICAL, SKILLED, AND CLERICAL MANPOWER AND TRAINING NEEDS: 1968 - 1975

Introduction

We greeted this broad scope study with very intense interest. Our initial impression upon scanning the Table of Contents was that the Study would serve the precise purpose of our primary interest, Vocational-Technical Education in Puerto Rico.

The title inferred that before us was a master plan which would lead us from 1968 through 1975, in specified dimensions, for occupational education and training directly related to the needs of the Commonwealth of Puerto Rico. We looked forward to the discovery, of that particular tabulation or presentation, somewhere in the 395 pages, which would present those aforementioned dimensions, quantities and occupations for our educational purposes.

Our first apprehensions and beginning of doubt appeared rather early — page 36 of the Study.

After describing certain significant limitations of the Study and continuing with others, the following quote (underlined by us) energized our feelings of insecurity as to what we would eventually find:

> ". . . . One limitation, though, is that self-employed skilled and technical personnel are not included in the listing and thus were not represented in the study; this may have lead to understatement of the total employment in such occupations. <u>But, since the study is not aimed at inventory of supply or demand but rather at analyzing the nature of the probable shortages, such limitations may not be as significant as could otherwise be.</u>"

Our expectations and initial impressions were considerably different from the above perspective. Perhaps biased by our primary interests in the entire spectrum of the Vocational-Technical Education Area, we were concerned with more than just probable shortages. It occurs to us that "shortages" particularly those that may be filled by "crash" programs, although participated in and supported by the Vocational Technical Education

Area, may be more appropriate to other manpower training activities. We were anticipating the much larger system and foundation upon which to build a long range complex of educational programs.

We believe that there is an urgent and extraordinarily important requirement for qualitative and quantitative information throughout all of the occupational programs and educational activities of the Vocational-Technical Education Area. Precise information on dimensions are required for the present programs and mandatory for programs of the future. We take this very strong position because, unless such information is present, the desired quantity and quality objectives of the Vocational-Technical Education Area may be in jeopardy of imbalances we cannot afford. Upon the availability of this information depend the following six major responsibilities of the Area:

1. Sustaining a foundation or base to support a relatively constant demand for a series of stable and continuing occupations and skills.

2. Decreasing educational offerings and training programs where there is a reasonable certainty that the demand will decrease. (In this instance a rechanneling or retraining effort may very well be necessary.)

3. Increasing existing educational offerings and training programs where there is a reasonable certainty that demand will increase.

4. Adding new educational offerings and training programs for new and emerging occupational demands where there is a reasonable certainty that they will correlate with economic, technological and social development of Puerto Rico.

5. A continuous upgrading of educational content and teaching technology so as to be certain that the product of the Vocational-Technical Education Area is capable of meeting the requirements of the working world.

6. A continuous flow of current information within the Vocational-Technical Education Area reflecting its current progress and a continuous information dialog between the Vocational Education Area and the users of its product.

It is obvious that our perspective as reflected by the above frame of reference will necessarily result in a series of concerns about the Study which will be described in the following sections.

Nevertheless, we now wish to state, despite what may follow and appear as a critical analysis in our total evaluation, that the Study is certainly a very worthy initial effort. A summary description of its coverage and some of its findings will provide insight and value for the Vocational-Technical Education Area. It is in accordance with that purpose that we have comprehensively reviewed the entire document and present our findings.

SECTION IX

REGIONAL ORGANIZATION CONSIDERATIONS

Part I, 1.31-2 of Puerto Rico's Commonwealth Plan 1969/70 states:

"Because Puerto Rico is considered as a single local school district, responsible for all public education and services in 80 school districts, the Central Office must bear the bulk of administrative and instructional matters."

In view of this highly centralized organizational pattern, a significant amount of time and staff resources at the Central Office is expended in solving local program and administrative problems that might very well be solved at the regional level. It would seem more appropriate and efficient that the Central Office be involved primarily with administrative and program responsibilities that are concerned with policy making decisions and program directions. As a corollary to that pattern we suggest that appropriate decision making authority be delegated to the regions.

Puerto Rico is divided into six educational regions each with a Regional Director who is "responsible for their administrative and supervisory staff in general education and technical vocational education." As indicated on the Regional Chart in Part I of the State Plan for 1969-1970 there is a position indicated also for Regional Director of Vocational and Technical Education who "shall assist the Regional Director of Education in all matters of administration and supervision related to vocational and technical education for all levels and for all types of persons."

It is our understanding that as of this time this position has not been filled. The benefits both in terms of staff utilization and program efficiency almost mandate that this position be funded and staffed in each of the regions.

It is necessary to clearly define the relationship between the Regional Director who is presently responsible for both the general education and vocational technical education programs and the unfilled position. It may be more appropriate to designate the recommended staff member as the Assistant Regional Director for Vocational-Technical Education. The title change would not alter the responsibilities of the Assistant Director for administering, planning and supervising all of the vocational technical education programs and services within the region. As is usual, in the responsibility delineations in situations as described above, the Assistant Regional Director would be administratively responsible to the Regional Director and the Assistant Director of Vocational and Technical Education at the Central Office for policy and operational direction.

Presently the bulk of the planning activities, especially those related to programs are developed and approved at the central office and sent to the regions for implementation. There is an urgent need for a greater input of information from the regions and more participation in determining program directions.

The regions should therefore be directly involved in the planning process. The Assistant Regional Director and his staff should identify vocational technical education program needs, innovative program and other educational program requests reflecting his region's requirement. In turn such requests should be cleared and approved by the Central Office if they represent a departure from previously approved plans.

All staff positions are currently approved by the Central Office. The burden of this responsibility upon the Central Office is such that necessary delays result. It certainly appears administratively more appropriate and efficient to delegate this authority to the Director and Assistant Director for teaching and other staff positions needed to meet the educational demands of the schools within the region.

A second organizational consideration is the need for authorizing and funding the position of Local Industrial Coordinator who would be assigned to a specific geographic area within a region and responsible for the immediate and continued contact between industries and the schools which offer Vocational Technical Education. He would be directly responsible to and supervised by the existing Regional Industrial Coordinator.

The basis of this recommendation stems from the consistent finding of the evaluation for more and closer ties and coordination between the shools and industry at the local level.

There is a viable and profitable combination in the above suggestions when the Industrial Coordinator, guidance counselors and teachers team together and participate in the placement procedures and follow up of the vocational technical school graduates.

Other functions of the local industrial coordinator would be to organize and participate in excursions by vocational technical school students to industries, arrange for prominent people in the industrial field to lecture at the schools, obtain equipment loans from industry to be used by the vocational technical school students; organize summer work or other sabbatical programs for teachers to return to industry for updating purposes; encourage graduates who are currently employed in industry and in need of additional vocational or technical training to return to their schools.

The above references to the responsibilities of the local industrial coordinators are, by no means, an all inclusive commentary on their job definitions. Rather they represent a series of suggestions to improve the effectiveness and results of the Vocational-Technical Education Area.

SECTION X

RECOMMENDATIONS

The following recommendations are a distillation of the findings, observations and assessments resulting from the evaluation. Their genesis may be found in many sections of the report. They cannot be treated as a series of individual items each one to be acted upon independently of the others. Nor should we expect that all those that are agreed upon can be implemented immediately with immediate results.

There are priority requirements within this list of recommendations. Even priorities are a matter of perspective — the educator has one view, the administrator another and the individual teacher a third. In the final analysis, the first priority is in that combination of recommendations which will most benefit the student and as a result, the Commonwealth of Puerto Rico.

But there are certain fundamentals that must be dealt with that ascend a listing of priorities. We believe that the thread of uncertainty and lack of conficence in the data and information with which we have had to cope with throughout this evaluation fits the category of being a fundamental necessity.

No matter how well intentioned are our actions based on the recommendations herein contained or others which may be added, it will be a travesty if their results cannot be accurately reflected for lack of a reliable information system. Without reasonable confidence that the information we will have in the future will reflect what is happening and is useful for decision making, measurement of achievement and a foundation for planning, then we may win the ball game with well intentioned actions but the score will never be known nor will we know the dimension of the costs.

Therefore the first "Recommendation" that follows deals with a fundamental, basic requirement. In that context it transcends any order of priority and stands on its own merit apart from all the others. All of the other recommendations are, in our judgment, extremely important or we would not have included them. Their order or priority, however, must necessarily be a combined and coordinated consensus of views.

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EDUCATIONAL INFORMATION SYSTEM

Develop and implement a basic and functional Education Information System which meets the following criteria:

- Responsiveness to management decision making and planning requirements at each level of the Educational System with information that is:
  - Accurate
  - Complete
  - Timely
  - Relevant
- Flexibility for expansion and meeting special information requirements.
- Designed to provide the required data with the least amount of disruption to operational and planning activities.
- Operational within the capabilities of staff and required resources including computer applications at this time only to the basic extent mandated by efficiency and economy.

OCCUPATIONAL REQUIREMENT DETERMINATION RELATED TO VOCATIONAL EDUCATION PROGRAM DECISIONS

Develop a capability within the Vocational-Technical Education Area for conversion of currently available manpower data into usable education requirements by:

- Establishment of a planning unit under the direction of the Assistant Director of the Area staffed with competence in Vocational-Technical Education planning, economics and manpower requirements. In the event that organic staff competence is not immediately available, then consulting augmentation should be provided. However, this should be considered as a temporary expedient.
- The solution to permanent staffing may require scholarships and grants to graduate students knowing that there may not be a 100% return on such an investment but that it is a viable means by which to develop Puerto Rico's own competence.

RESOURCE ALLOCATION DECISIONS

(Allocation of required and limited resources for vocational education must be made in consideration of relative costs and effectiveness. There is currently an absence of fiscal information to relate to such important criteria as cost per placement, per enrollment or cost benefits per graduate/placement.)

Insist on the initiation of a system for acquiring accurate cost effectiveness data. Initially the system should be relatively unsophisticated, with the primary goals of making local and regional administration "cost-effectiveness conscious."

Cost estimates or cost guides by program for graduates, placements and enrollments may be issued by the Central Office and serve the purpose of initial guidance or targets for local schools. Those "base line" estimates would, of course, be subject to change but they would be a start towards the inevitable situation of accountability for vocational-technical education on a program cost effectiveness basis.

ACADEMIC PREPARATION AND WORK ATTITUDES

Communications skills, both Spanish and English, written and verbal, need to be improved.

Puerto Rico is not unique in this respect. There are indications that this is a deficiency of nation-wide proportions in the United States. The problem has been recognized at the highest levels in the Commonwealth and in the United States.

Increased time and emphasis should be provided either as separate intensive courses, incorporated into all existing courses as an integral part of each basic curriculum, or by trade-offs of time from less valuable course work. Whichever the method that is chosen, the issue is improvement.

Similarly there appears some criticism that students are not reflecting the attitudes and values demanded by success in the real work world. As with the requirement for improvement in communications skills, the need for attitudinal and values learning is a teaching and supervisory responsibility that should be incorporated into ongoing instruction or handled separately as recommended for communications skills. The teaching methodology is not nearly as important as recognizing the basic responsibility and acting on it.

GUIDANCE AND COUNSELING

Guidance and counseling of students should begin early in their academic experience — preferably at the top of the elementary level. Occupational audio-visual materials are abundantly available from the U. S. Office of Education.

Each vocational-technical education faculty member should assume personal responsibility for student placement and follow up as a matter of his own gratification as well as an administrative responsibility.

The numbers of trained counselors must be increased allowing them to devote more attention to individual problems. The overall ratio of students to counselors now exceeds 900 to 1. An objective of reducing that load by 50% in the next 3 to 4 years seems reasonable and certainly desirable.

Arrangements may be made with the staffs of industries and commercial organizations so that they become more involved on a personal basis with schools and individual students in their areas. Under this arrangement the capability for guidance and placement will increase in a quantum proportion.

The Advisory Council, time and opportunity permitting, should seriously consider accepting the responsibility for the required initial public relations, arrangements and contacts for the above purposes.

STUDENT PREPARATION FOR THE WORK WORLD

I. Equipment

More realism should be introduced into the school environment substantively and relatively quickly by assuring that all future purchases of equipment and laboratory facilities be the same as those used in industry. This does not necessarily imply sophisticated and exotic equipment. Indeed it may be just the opposite in some instances.

Further, replacement of incompatible equipment may be quickly remedied through gifts and donations from industry to whom the advantage accrues in getting a more readily usable student. Full advantage should be taken of surplus equipment available at no cost from the U. S. Department of Defense and from the National Inventory of Machine Tools and Equipment.

Mobile units are a practical and feasible means of bringing shops and laboratories to the schools. This is an economical method of maximizing student use and exposure to equipment, particularly when that equipment is

not required for long term use or study. There are already existent "package" units which should be explored without delay.

2. Work Environment Preparation

A concentrated effort should be made to minimize the teacher-student relationship towards the end of the academic preparation period with the change being towards a supervisor-worker relationship — including the necessary revision or addition to the student's Report Card to reflect appropriate grading on that basis. This is a subtle transition from an academic environment to the real world but if properly handled may be precisely the right bridge for the student.

A deliberate set aside of time for each student in his senior year should be allocated to actual observation in a commercial or industrial establishment with a requirement for a special report by the student to be graded by his industrial sponsor. There is every indication that this would be welcomed by both parties.

INDUSTRIAL SPONSORSHIP

Major industries should be asked to formally "sponsor" schools in their geographic areas in the full sense of assuming a responsible, participative role in curriculum development, selection of equipment, use of their own facilities in off hours as laboratories and shops, scheduling on a regular basis their own staff to augment school faculties and generally assume a realistic, even though paternal, interest in the schools. There is enough evidence in this evaluation to indicate the requirement for such "sponsorship" and the willingness to assume it.

The Advisory Council, time and opportunity permitting, should seriously consider the identification of these industries and accepting the responsibility for the initial public relations, arrangements and contacts.

PROFESSIONAL DEVELOPMENT

Immediately identify those teaching positions associated with rapid changes in technology and establish an accelerated, special program coordinated with industry for upgrading and keeping those teachers current in their field.

This may be accomplished in a number of ways:

1. Specifically designated times — such as the summer period — for the designated teachers to serve with industry.

2. Specifically designated intervals — such as three years — when the designated teacher will work in industry for a longer period of time — 6 to 12 months depending upon the technology.

3. Contract with industry to conduct classes and/or orientation especially designed to upgrade technical and technological information for the designated teachers. These may be evening classes or a concentrated period of several weeks full time or monthly seminars of one or two days duration.

Establish as a general policy that all vocational-technical education teachers will return for a sabbatical period — varying with the requirements of their teaching technology — to industry. The term "sabbatical" in this context is not meant to infer the "seventh year". Rather, the interval will depend upon the recency of experience and the changes that occur in the teacher's field. The principle, however, is that such periodic returns are a matter of administrative policy and scheduling rather than individual choice or whim.

TEACHER TRANSFER COST REIMBURSEMENT

Authorize the reimbursing of expenses incurred by teachers as a result of transfers required to balance regional programs and requirements. Such transfers should be arranged so that the teacher may also receive position promotions whenever possible.

VOCATIONAL-TECHNICAL EDUCATION TEACHER SALARY SCALES

The recommendation that follows is a direct quote from the Governor's Advisory Council for the Development of Government Programs Report of September 10, 1970, entitled "Youth, Their Skills and the Future of Puerto Rico." We endorse it unqualifiedly and commend it to the Advisory Council for their fullest support:

> "4- That the Department experiment with efforts to divorce the vocational education pay scale from that for general education instructors so as to enhance its ability to compete with private industry without distorting the salary structure of the whole school system."
> (Part I, Section C, Paragraph 4, page 8)

Realism, which is a part of the education we desire for students, is equally applicable to the situation of retention and upgrading of teachers who can command significantly larger salaries in private industry than in teaching positions.

DECENTRALIZED STAFFING

1. Authorize and fund the position of Assistant Deputy Director for Vocational and Technical Education. The incumbent should be made responsible for those administrative and operational responsibilities appropriate to the regional level and vocational programs carried on therein. Such responsibilities would include, as appropriate, authority to appoint staff, faculty and support personnel in accordance with policies, procedures and plans previously approved by the Central Office.

This recommendation follows the normal organizational and responsibility pattern wherein in most county or regional offices there is an assistant superintendent or deputy director for vocational-technical education.

2. Authorize and fund additional positions of Industrial Coordinators subordinate to the presently existing Regional Industrial Coordinator. The additional staff of Industrial Coordinators would be assigned to specific geographic areas within each region. Adding such assistants to the staff of the Regional Industrial Coordinator will provide more comprehensive and orderly coverage for cooperation and coordination with industry and commerce, including cooperative work and exchange programs that will have adequate supervision and communication.

INCREASED PUBLIC INFORMATION SERVICES

Information about the availability of an educational opportunity that will result in a creditable, dignified way of life for the student, qualified employees for employers and vocational education as a major contributor to Puerto Rico's continued growth and economic development, must be intensified and more widely spread.

Radio and TV spot announcements on tape are available from the U.S. Office of Education. Translation into Spanish is not an expensive or complex "dubbing" task. Radio and TV stations generally reserve time for public service announcements and this could probably be readily arranged.

Frequent open house demonstrations, school fairs to which the public and industry is invited, competitions between schools in scientific,

commercial and industrial projects are all means by which information may be disseminated.

Our recommendations are more concerned with the need for the dissemination of information than illustrative technique. We therefore urge that a public information program be designed and implemented intensively without delay.

VOCATIONAL TECHNICAL EDUCATION TELEVISION

Educational television ranging from separate channels on public systems to closed circuit TV in specific schools has met with various degrees of success. Within closed circuits it is generally considered as a valuable audio-visual teaching aid. As a public systems method on a separate channel there have been mixed reactions ranging from criticism of programs that are too culturally oriented to criticism that the programs are too narrow.

This recommendation concerns itself with two dimensions:

1. Closed circuit TV as a valuable audio-visual teaching aid has been recognized and is widely in use in the United States. Therefore, the Vocational-Technical Education Area should take advantage of that current state of the art with a special focus on vocational-technical education materials. Special grants for this purpose should be requested from the U. S. Office of Education.

2. The feasibility of a public education TV Channel should be investigated. This recommendation holds that if the feasibility study is vocational-technical education oriented then, in view of Puerto Rico's needs, there might very well be favorable consideration. The investigation of this possibility should be a coordinated effort by several public agencies in Puerto Rico. The resources required for the feasibility study could be requested from the Ford Foundation, the U. S. Office of Education and private enterprise.

We are making this recommendation with full understanding of the long range implications and the requirement that a "Task Force" for this purpose be established in Puerto Rico. If either of the two recommendations are as meritorious as we believe they are, the investment of time and resources will pay off in quantum proportions for vocational-technical education and, in turn, the Commonwealth of Puerto Rico.

AMENDMENTS TO LEGISLATION
CREATING THE PUERTO RICO ADVISORY COUNCIL

Adoption of the technical changes and language to the Commonwealth Statute in conformance with P. L. 90-576. The specifics of those changes and recommendations as to the Council's position are set forth in detail in a separate document entitled:

CONSIDERATIONS AND RECOMMENDATIONS RELATING TO COMMONWEALTH LEGISLATION CREATING THE PUERTO RICO ADVISORY COUNCIL ON VOCATIONAL AND TECHNICAL EDUCATION.

APPENDIX A

COMMONWEALTH OF PUERTO RICO ADVISORY COUNCIL

Name	Representing
Dr. Fred V. Soltero, Chairman Chancellor, Regional Colleges University of Puerto Rico	Institutions of Higher Education
Mr. José Conde Marín, Vice Chairman Director, Department of Industrial Education, College of Education University of Puerto Rico	Programs of Vocational and Technical Education and Comprehensive High Schools
Mrs. Virginia T. Belaval, Secretary-Treasurer Director, Health Education Program Department of Education	Special Education Programs for Physically or Mentally Handicapped Persons
Mr. Orlando de Aragón Vice President Puerto Rico American Sugar Refining Corporation	Industry
Mr. Juan B. Ferrer Supervisor Vocational Rehabilitation and Liaison Officer Veterans' Administration	Administration of State and Local Vocational Education Programs
Mr. Abidam Archilla Archilla Enterprises	General Public
Mrs. Hilda Grana de Bonilla Director, Program of Special Education for Handicapped Children Department of Education	Special Education Programs for Physically or Mentally Handicapped Persons
Mr. Jorge Treviño Sub District Director United Steel Workers of America	Labor
Dr. Miguel Echenique Director, Division of Social and Economic Analysis Planning Board	Economic Development
Mr. José A. Liceaga Manager, Chace International	Economic Development

Name	Representing
Dr. Mohinder Bhatia Consultant Peat Marwick Mitchell & Co.	Economic Development
Mr. Angel A. Arreche Chief, Electronics Department Technological Institute of San Juan	Programs of Technical and Vocational Education including Comprehensive Secondary Schools
Dra. Luz M. Torruellas President, State Committee on Manpower (MDTA) University of Puerto Rico	Manpower and Vocational Education Agencies, including Comprehensive Area Manpower Planning
Mrs. Carmen Rivera de Amaral Associate Director Central High School	Local Education Agencies and State Boards
Mr. A. Figueroa-Colón Executive Director Consultant in Human Resources Development	

Vacancies:

1. Representative of Local Education Agencies and Education Boards
2. Representative of School Systems with Large Concentrations of Socially and Economically Disadvantaged Students.
3. Representative of Manpower and Vocational Education Agencies in the State including the Comprehensive Area Manpower Planning System.
4. Representative of the General Public.
5. Representative of Institutions of Higher Education
6. Representative of Management.
7. Representative of General Public.

APPENDIX B

ORGANIZATION AND ACTIVITIES OF ADVISORY COUNCIL

The Commonwealth of Puerto Rico Advisory Council on Vocational-Technical Education was created through Public Law No. 133 of June 28, 1969.

The Honorable Governor of Puerto Rico appointed twenty-one persons with specific expertise in matters affecting education and training as outlined by Federal P.L.90-576, the Vocational Education Act of 1968, and Commonwealth P.L. No. 133 of June 28, 1969. Through this Commonwealth law the Commonwealth of Puerto Rico was made eligible to participate in and receive funds from the program of activities provided by that Act.

Among the responsibilities of the Council are the mandates to evaluate vocational education in the Commonwealth and to advise the Commonwealth Board for Vocational and Technical Education in matters affecting programs. Periodic reports to the Governor, at least one meeting each year at which the public is invited to express reaction, an annual report to the U. S. Commissioner of Education and the National Advisory Council, and the dissemination of information to the public are also required.

The Council has held monthly and various executive committee meetings since its creation. It has established offices in the Vocational and Technical Education Area, seventh floor of the Department of Education building. It has contracted the services of a human resources development consultant to develop necessary materials, maintain liaison with other agencies and manage all business transactions in the name of the Council and aided by part-time secretarial and bookkeeping personnel. It has held its first public meeting, has been represented at conferences of the National Advisory Council on Vocational Education at Washington, the American Vocational Association at Boston, Massachusetts and San Juan, Puerto Rico. Members of the Council currently serve with teacher education, occupational legislation, certification and evaluation task forces.

VT 012 325
Professional Development of Administrators, Vocational Education Teachers, and Support Personnel for Occupational Education Programs in North Carolina.

North Carolina State Advisory Council on Vocational Education, Raleigh. Professional Development Committee.
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ABSTRACT - In expressing their strong desire for a continued, expanded and more encompassing professional development program, the Council recognizes the efforts that have been made by the State Board of Education. The report highlights recent thrusts and modifications which have implications for professional development of personnel and offers recommendations to the State Board of Education, the State Board Staff, colleges and universities with vocational teacher education, guidance, and/or administration programs, and to the Council on Vocational Teacher Education. Among the recommendations directed to the State Board is one encouraging a study of the guidelines for certification and approval of professional education programs for occupational education personnel. (JS)

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PROFESSIONAL DEVELOPMENT OF ADMINISTRATORS, VOCATIONAL EDUCATION TEACHERS, AND SUPPORT PERSONNEL FOR OCCUPATIONAL EDUCATION PROGRAMS IN NORTH CAROLINA

POSITION PAPER
OF
STATE ADVISORY COUNCIL ON VOCATIONAL EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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Raleigh
Spring, 1970

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PREFACE

The North Carolina State Advisory Council on Vocational Education was appointed in March 1969 by Governor Robert W. Scott, under the provisions of Public Law 90-576.

The main functions and responsibilities of the Council include:

(a) Advise the State board on the development of the State plan, including the preparation of long-range and annual program plans and prepare and submit a statement describing its consultation with the State board on its State plan.

(b) Advise the State board on policy matters arising in the administration of the State plan submitted pursuant to the Act and the regulations.

(c) Evaluate vocational education programs, services, and activities under the State plan, and publish and distribute the results thereof.

(d) Prepare and submit through the State board to the Commissioner and to the National Advisory Council an annual evaluation report, accompanied by such additional comments of the State board as the State board deems appropriate, which (1) evaluates the effectiveness of vocational education programs, services, and activities carried out in the year under review in meeting the program objectives set forth in the long-range program plan and the annual plan, and (2) recommends such changes as may be warranted by the evaluations.

The Council will develop and publish reports from time to time in addition to the annual evaluation report. This is the first of these special reports. This report was initially prepared by the Professional Development Committee of the Council and later amended and adopted by the full Council.

Comments concerning this report or any matters related to the functions and responsibilities of the Council are encouraged. Comments may be addressed to: Dr. Joe R. Clary, Executive Director, State Advisory Council on Vocational Education, Box 5312, Raleigh, North Carolina 27607.

Members of the Council are listed on the inside back cover of this report.

PROFESSIONAL DEVELOPMENT OF ADMINISTRATORS, VOCATIONAL EDUCATION TEACHERS, AND SUPPORT PERSONNEL FOR OCCUPATIONAL EDUCATION PROGRAMS IN NORTH CAROLINA

A REPORT OF THE
NORTH CAROLINA
STATE ADVISORY COUNCIL ON VOCATIONAL EDUCATION

Raleigh
Spring, 1970

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State Advisory Council On Vocational Education

A Position Paper

Prepared by

PROFESSIONAL DEVELOPMENT COMMITTEE

Professional Development of Administrators, Vocational Education Teachers, and Support Personnel for Occupational Education Programs in North Carolina

Spring 1970

INTRODUCTION

For many years the State Board of Education and its staffs have given leadership to and provided resources for professional development of vocational education personnel employed in the public school system in North Carolina and, more recently, in the Community College System. Pre-service education was considered to be a basic responsibility of colleges and universities in the State. Certain of these colleges and universities developed programs of professional education in designated subject matter fields which were approved by the State Board of Education and received financial support from the State Board in carrying out this function. In-service education was considered to be a joint responsibility of the State Board staffs and of the colleges and universities.

The intent of this report is to recognize the State Board and its staffs for professional development efforts of the past and to express the strong desire of the Council for a continued, expanded, and more encompassing professional development program in the future. This is urgent in view of the new thrusts in vocational education, the expected expansion of programs, the reorganization of the State Board staff in the Department of Public Instruction and the new roles being assumed at the local educational agency level.

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Vocational Education Amendments of 1968

In its "Declaration of Purpose," the *Vocational Education Amendments of 1968* authorized "Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis, so that persons of all ages in all communities of the State—those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, those with special educational handicaps, and those in post-secondary schools—will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training."

In carrying out the purpose of the Act, focal emphasis was to be on needs of people to be served. Certain dollar priorities were to be given to programs for persons who were disadvantaged and/or handicapped. Target populations and target areas were to be reidentified and new program emphases spelled out. Specific objectives concerning Secondary, Post-Secondary, Adult, Disadvantaged, and Handicapped populations and also for Special Programs in the areas of Research, Exemplary Programs, State Residential Vocational Schools, Consumer and Homemaking Education and Work-Study were to be set forth in the State Plan. Development of local plans for vocational education were to be required in those states where local planning had never been observed before.

Reorganization of the Division of Occupational Education

The Council views the reorganization of the Division of Occupational Education by functions rather than subject areas as a procedure giving promise of more effective types of assistance to local educational agencies.

The new structure does not inherently mean an increased or even a continued emphasis on professional development of per-

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sonnel. However, the Council sees within the reorganization opportunities for new and revitalized efforts for professional development, thus our recommendation along this line. In view of the emphasis on vocational guidance and counseling in the Federal legislation, the Rules and Regulations, and the State Plan for Vocational Education, the Council believes the organizational chart of the Division of Occupational Education should reflect the relationships existing between the Division of Occupational Education and the Division of Pupil Personnel Services.

Expected Expansion of Programs and Addition of New Programs

In Part II of the State Plan for Vocational Education the projected increase in the number of teachers of vocational education in the 5 year period ending in 1974 is 3,881 teachers. Thus, there is an anticipated need for training an average of 776 additional teachers each year *for expansion alone.*

New Programs. In analyzing the data on projected expansion of programs, the Council believes that increases will take place largely in emerging areas growing out of the legislation and in occupational areas which are rapidly expanding. Thus, the projected increase should be in such areas as health, office occupations, public service, technical, remedial, and group guidance. New programs and emphases on the disadvantaged and handicapped cut across all program areas.

The State recently developed and instituted pilot programs of vocational education in the middle grades which have implications for special professional development emphasis.

New Roles of Personnel Concerned with Occupational Education Programs

The new thrusts, new programs, and changing emphases in vocational education necessitate changed roles on the part of personnel involved in the programs, such as:

Vocational Teachers. As some teachers must necessarily be requested to assume changed roles in terms of their specialty, to provide training at new levels for a new type of clientele, to use new techniques in their training programs, and to look at new patterns of consultative assistance, a great deal of in-service training will be required to assist them in these adjustments.

Principals. The principal assumes the role of leadership in identifying the occupational education needs of students in his

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school and of personnel in his attendance area and then planning, in conjunction with his staff and the staff of the administrative unit, programs to meet these needs.

Other Local School Personnel. All teachers must look at new approaches and new techniques to effectively accomplish the tasks ahead. These teachers, as well as the vocational teachers, will need to join in workshops on making themselves more aware of occupational education and job opportunities in local industry, as well as more effective team teaching.

Guidance Personnel. Guidance personnel must integrate the new concepts and new thrusts in occupational education in group guidance and counseling efforts with all students. High priority must be given to counseling and advising students concerning opportunities in occupational education programs.

The Council believes that the Vocational Education Amendments of 1968 and the Rules and Regulations should be implemented so that the program of instruction provides for vocational guidance and counseling personnel and services sufficient to enable such a program to meet its objectives and the standards and requirements for vocational instruction.

Administrative Unit Staff Personnel. Responsibility for development of local plans for vocational education and effective implementation of these plans through wise use of resources allocated through the State Board has shifted to the local educational agency. The assumption of these responsibilities by a *superintendent* or *assistant superintendent* or by a *local director of vocational education* has implications for immediate and continuing in-service education efforts and for the development of new, expanded, and/or revised graduate programs in colleges and universities. Among these implications is the need for awareness by administrative personnel for opportunities in and needs of local industry. This should be a high priority item in the professional development program.

State Staff Personnel. The members of the State Staff are assuming new roles and methods of working with local administrative units and with teachers. Area directors are giving leadership to consulting with local staffs on problems and concerns in all occupational areas, having access to specialists particularly in subject matter areas. The Council recognizes that many of these area directors are specialty-oriented by training and experience. A continuing in-service educational program for State staff personnel is essential.

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The Council encourages a close relationship between the State Staff in the Division of Occupational Education and the Division of Pupil Personnel Services. Area directors need to work closely with, and have access to, specialists in the Pupil Personnel Services area.

Post-Secondary Personnel. Almost all of the above implications and concerns relate equally to post-secondary personnel as to those in elementary and secondary education. As clearly indicated in the Vocational Education Amendments of 1968, a close working relationship between occupational education personnel in elementary, middle school, high school, and post-secondary institutions will be necessary if continuing opportunities are available to meet the occupational education needs of the citizens of North Carolina.

Certification of Teachers and Other Personnel

Guidelines for the certification standards for vocational education personnel and approval of teacher preparation programs currently reflect a specialty orientation and/or a work experience requirement which may allow little opportunity for development of competencies needed to meet the new thrusts while in pre-service education programs. Certification as teachers of vocational education in certain fields may be accomplished without completion of a program of pre-service education in an approved teacher preparation program.

Improved guidelines for approved teacher preparation programs should be developed for certain additional areas, e.g., introduction to Vocations.

Most courses and programs at the pre-service level dealing with the disadvantaged and handicapped are designed to assist teachers dealing with special handicaps (such as mental retardation, etc.). Assistance should be provided for teachers working with general socially disadvantaged and handicapped individuals.

As the State shifts responsibility for determining in-service needs and provision of programs for certificate renewal to local educational agencies, these agencies will need increased assistance in interpreting occupational education needs and providing appropriate and high quality programs for teachers and staff.

Vocational Teacher Education Programs for the Future

Vocational teacher education programs in the past have been generally specialty-oriented; major emphasis was concentrated on

programs and courses for undergraduate or graduate degrees. Resources should be provided for expanding current specialty programs, for development of new programs, and for bringing expertise to assist teachers working with special groups such as disadvantaged and handicapped students.

Programs designed to provide assistance to local administrative personnel (principals, superintendent, local directors of vocational education) or to State level personnel who work in the broad field of occupational education should be clearly defined and made available.

The role of vocational teacher educators in in-service programs should be critically examined in light of recent changes occurring in both legislation and program scope and structure.

No college or university in the State currently provides training programs for personnel in all of the recognized specialities. The Council is not aware of any joint program or consortium of institutions with the basic purpose of providing professional development for personnel with broad occupational education responsibilities. The State Council for Vocational Teacher Education was organized to coordinate such efforts. Difficulties in working across institutional lines and programs as well as lack of finances have limited the Council's effectiveness.

RECOMMENDATIONS OF THE COUNCIL

To State Board of Education. The Council:

1. Encourages the appointment of a task force charged with a comprehensive study of professional development needs in the area of occupational education (including guidance and counseling and other supporting services) and with the development of, or recommendations for, a comprehensive statewide plan for occupational education professions development.

2. Encourages a strong policy statement enacted by the State Board of Education and implemented through the State Plan for Vocational Education supporting the need for continued, improved, and expanded professional development programs.

3. Encourages allocation of additional resources for occupational education professional development for preparing teachers in such areas as health occupations, public service occupations, and occupational exploration, to provide preparation for those

working with the disadvantaged and handicapped, and for training Pupil Personnel Services personnel.

4. Encourages a critical examination of the procedures, formulas and alternatives for reimbursing approved vocational teacher programs, to determine priorities needed, and to provide appropriate and adequate financing of professional education programs.

5. Encourages an annual allocation of at least $50,000 to be held in escrow by the State Board and used to fund special projects and workshops in new areas or in areas of critical need and/or to bring in top level nationally recognized leaders to assist the State in program planning and development. Safeguards or guidelines should be developed to assure that all teacher education institutions have equal opportunities to develop project proposals and that projects be encouraged and approved in a number of institutions so that professional development opportunities for teachers, counselors, and other supporting personnel are made available in reasonable proximity to their local schools.

6. Encourages a study of the guidelines for certification and approval of professional education programs for occupational education personnel.

7. Recommends encouragement to local administrative unit officials to specify the use of State allotted occupational education resources (man months) for professional development.

8. Recommends encouragement for increased professional education for occupational supervisors and administrators.

To State Board Staffs. The Council:

1. Encourages a strong and continuing program of professional development for State staff members, especially as they assume new leadership roles.

2. Encourages a close and continuous liaison with professional education institutions to assist them in reflecting local needs in their educational programs as well as utilize expertise on professional education staffs in assisting local administrative units with planning, implementing and evaluating local programs of occupational education.

3. Encourages assistance to local education agencies in the development of appropriate budgets for professional development activities in occupational education for all teachers and profes-

sional staff. Assistance in locating appropriate resource personnel may be especially needed.

4. Encourages leadership in actively seeking ways to improve communication with teacher education institutions, including cooperative workshops or conferences.

5. Encourages cooperative planning of state-level in-service education programs between State staffs, teachers, local administrative unit personnel and teacher education personnel.

6. Recommends an immediate analysis of the backgrounds, educational qualifications and/or competencies of personnel being certified in the areas of occupational education as one base for examination of professional development needs.

To Colleges and Universities With Vocational Teacher Education, Guidance, and/or Administration Programs. The Council encourages:

1. A critical examination of current requirements and practices in pre-service teacher education programs, especially inclusion of experiences designed to assist future teachers in effectively working with the disadvantaged and handicapped, in effective use of cooperative vocational education techniques, and in effectively incorporating occupational information in the content of regular academic subjects.

2. The development of professional education programs in the areas of health occupations, Introduction to Vocations and/or middle school or occupational exploration programs, and public service occupations.

3. Closer working relationships with the State Department of Public Instruction and staffs of local educational agencies in determining professional development needs in the area of vocational education and in meeting these needs.

4. Each institution to carefully review its commitments, policies, and practices concerning in-service education to educational personnel in the field, which is in addition to graduate programs and courses offered for degree purposes.

5. Colleges and universities to cooperate to the fullest extent possible, including the commitment of a specific amount of resources, in assisting local education agencies with their in-service education needs.

6. Colleges and universities training school administrators to

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provide for the development of an understanding and appreciation of occupational education conducted under a wide variety of circumstances and to assist in the development of competencies necessary to plan and implement local programs of occupational education.

7. At least one college or university to develop further programs with the depth and scope necessary for training administrators to work in the broad field of occupational education. A consortium with a number of institutions may be necessary to effectively accomplish this. The "programs" should be comprehensive enough to provide consultative assistance, seminars, workshops, institutes, and graduate programs. Leadership in research, exemplary programs, and program planning and evaluation should peak in this setting.

8. Institutions training guidance counselors and other support personnel to examine current programs and practices to determine whether they are consistent with current needs of people to be served through occupational education.

To Council on Vocational Teacher Education. The Council:

1. Encourages the Council on Vocational Teacher Education to analyze competencies and areas of expertise of vocational teacher educators, supervisors, administrators and others in the State, to publish and/or distribute the results for use by administrators of local educational agencies in locating consultants and/or assistance with the development and implementation of locally designed in-service professional development programs.

2. Encourages the development of the Council to the extent that it provides an effective liaison between all the institutions training teachers and/or support personnel for occupational education in the State and that it provides a mechanism for effective cooperative study and planning and a sounding board for project proposals and ideas as requested.

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Executive Director

VT 012 326
State of Illinois Advisory Council on Vocational Education Annual Report.

Illinois State Advisory Council on Vocational Education, Springfield.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Dec69 7p.

DESCRIPTORS - *ANNUAL REPORTS; *EDUCATIONAL NEEDS; *ADVISORY COMMITTEES; *PROGRAM EVALUATION; STATE AGENCIES; *ADMINISTRATIVE ORGANIZATION; PROGRAM IMPROVEMENT; PROGRAM PLANNING

ABSTRACT - This first report of the Illinois Advisory Council on Vocational Education describes the responsibilities of the Council and the organization of various working committees. In Illinois, there is an entirely new State plan of vocational education, which places emphasis on human and financial support where the system most needs it. Since the Council is still new, it restricted itself to 11 recommendations, including a call for support for improved inservice and preservice training of classroom teachers, guidance counselors, and administrators. (JS)

VT 012 326

ED0 54390

STATE OF ILLINOIS

ADVISORY COUNCIL ON VOCATIONAL EDUCATION

ANNUAL REPORT

Vocational Education Amendments of 1968
Public Law 90-576

DECEMBER 1969

VT012326

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STATE OF ILLINOIS
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

222 SOUTH COLLEGE
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RICHARD B. OGILVIE
GOVERNOR

WILLIAM E. NAGEL
EXECUTIVE DIRECTOR

December 29, 1969

Mrs. A. W. Schmid
Chairman
State Board of Vocational
Education and Rehabilitation
405 Centennial Building
Springfield, Illinois 62706

Dear Madam Chairman:

The State of Illinois Advisory Council on Vocational Education is required by law to make " . . . annual evaluation reports . . . and recommendations . . . to the State Board for transmittal to the U. S. Commissioner of Education and the National Advisory Council."

Accompanying this letter is our first report indicating our concern for various areas of vocational education with recommendations we hope will be given reflective consideration in the State Plan for 1970-71.

Because we are just getting started, and a totally new State Plan is being followed, our suggestions and recommendations do not reflect the more detailed appraisal we anticipate for next year. The Council will publish additional findings and recommendations this year.

Sincerely,

Rupert N. Evans

Rupert N. Evans
Chairman

FIRST ANNUAL REPORT

of the

State of Illinois

ADVISORY COUNCIL ON VOCATIONAL EDUCATION

The State of Illinois Advisory Council on Vocational and Technical Education is a relatively new social agency, resulting from the Federal Vocational Education Amendments of 1968. Council Members, each selected by the Governor, have varied backgrounds of experience, but mutual aspirations for the educational, social and economic progress of the citizens of Illinois.

The State Advisory Council is a working body clearly charged with the responsibility to advise the State Board of Vocational Education on long-range and annual program plans for vocational education in the State; and to evaluate the present vocational education programs, services and activities of the State. This evaluation report with its recommendations is transmitted to the U. S. Commissioner of Education through the State Board of Vocational Education with whom the responsibility for implementation rests.

The Advisory Council on Vocational Education has been organized recently. The Council (28 persons) in its organization has selected from its membership a Chairman, Vice-Chairman, Secretary-Treasurer, and Executive Committee (9). By-Laws were adopted establishing guidelines for operation and duties of its officers and staff. An office, with professional staff, has been organized to which questions and problems can be directed. Working Committees have been selected in these areas:

1. *Relationship of State Structure (State Board, Junior College Board, Higher Education Board, State Superintendent, National Council).*

2. *Relationship Between Institutions (Elementary, Secondary, Area Schools, Junior Colleges, Technical Institutes, Community College and Universities).*

3. Committee on Exemplary Programs and Projects in Vocational Education (groups not presently well served).

4. Committee on Cooperative Vocational Education Programs.

5. Committee on Attitude Toward Vocational Education (Vocational Guidance, student recruitment, public information).

6. Committee on Private Industry Involvement in Vocational Education.

The members of the Advisory Council on Vocational Education want to listen as well as to speak. We will hold public hearings. We will listen to laymen and professionals, youth and adults, employers and employees. We do not seek to place blame for the predicament of our social, economic, or educational worlds. We know that an evaluation report involves criticism, and some times negative criticism. The goal is to assist our schools to equip our youth and adults with proper skills to assume gainful employment in a growing and dynamic economy. We will do this as fairly as we know how.

The Advisory Council recognizes that Illinois has a growing vocational and technical program under a professional and experienced State office staff. The Council seeks to cooperate with the State Division of Vocational and Technical Education in the development of an expanding and improving program, but will continue to maintain its independence to insure the objectivity necessary for maximum effectiveness of the Advisory Council.

Illinois is a microcosm of the nation. The unrest and dissidence that wracks our inner cities and schools is caused in large part by unequal opportunity, unemployment and underemployment. Illinois schools last year had a drop-out (or push-out) rate of about 30%. What job skills and attitudes did these young people have for meaningful employment? Further, are the young men and women who are graduated from high school each year educated to a level of adequate employability? And, do adults who are unemployed or underemployed have a place to turn for help to put them back on a career ladder?

In Illinois, a completely new State Plan of vocational education has been written for 1970. It places emphasis on human and financial support where the system of Vocational and Technical Education most needs it. Further, it aids poor school districts more than it aids wealthy districts. It sets up an incentive system for schools which rewards:

a. Relative ability to pay.
b. Service to disadvantaged persons.
c. Service to handicapped persons.
d. New programs.
e. Programs which meet high manpower priorities.
f. High cost-low incidence programs.
g. Special organizational structures designed to serve greater numbers of people.

We support this approach, which is in marked contrast to the old plan which had no incentives for added service. We believe it is likely to encourage the Public School and Junior College systems to become "people" oriented. We believe it will help to put vocational and technical education into the mainstream of education and out of the isolation where it has so long endured.

Its effectiveness, in part, can be measured by the consistency with which reimbursement applications are handled, and also by the consistency of the local plan approvals and/or rejections.

Some school systems will not like this new State Plan because it redirects many old, established programs in order to implement new programs which more nearly meet student needs. As these programs get underway, we will be evaluating them with one goal in mind: Are there better ways of meeting the needs of Illinois citizens?

We think we know what some of our basic problems are. The National Advisory Council says they are attitude, programs, and money.

Because we are just getting started, and a totally new State Plan is being followed, our suggestions and recommendations at this time do not reflect the more detailed appraisal we anticipate for next year of the administration and the operation of the vocational and technical programs. The Council will publish additional findings and recommendations throughout the year.

We will watch with qualitative vigilance.

At this time our recommendations are:

1. Encourage changes in recruitment, curricula and placement services to make vocational education fully effective for the hard-core disadvantaged in both urban and rural areas.

2. Encourage programs and changes in curricula, facilities and equipment to make fully effective adequate training of handicapped persons; and especially those with moderate or hidden physical disabilities.

3. Expand support for improved in-service and pre-service training of classroom teachers, guidance counselors and administrators.

4. Establish a flexible certification code for teachers of vocational and technical education which emphasizes employment experience and professional competence as well as academic background.

5. Encourage a program of guidance beginning with the elementary school. We are all responsible for the indifference of our youth to the opportunities of vocational training. By our attitudes, and support, we have created an idea that work, and vocational education are desirable only for the other fellow. We must begin at the elementary school level to change attitudes toward the real world of work.

6. Continue surveillance of programs, services and activities of the Area Vocational Centers, the Community Colleges, and the secondary schools, to make sure that a power struggle for students, equipment, facilities and money does not evolve.

7. Support establishment of programs meaningful to women at the skill or craft level, and in technical and professional areas of training. Women represent over 35% of the labor force but they get little preparation for wage-earning except in clerical and health fields.

8. Encourage the development of a rational system for planning, programming and budgeting (PPBS) by the Division of Vocational and Technical Education to meet State educational needs.

9. Strongly support the establishment of a data processing system for forms required of local districts in writing and reporting their annual, five-year, and long-range plans.

10. Encourage a more positive role in the advancement and development of a broad program of continuing education. The teaching of adults persists as a supplementary occupation to some other professional commitment, which makes the teaching of adults a secondary concern.

11. Encourage a plan of reimbursement that is equitable to a local community and the State in support of new or ongoing programs advancing local and State manpower requirements.

Respectfully submitted,

Rupert N. Evans

Rupert N. Evans, Chairman

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William E. Nagel, Executive Director

VT 012 329
A Final Evaluation Report of Missouri's 1969-70 Vocational Education Program.

Missouri Univ., Columbia. Center for Educational Improvement.
Missouri Advisory Council for Vocational Education, Jefferson City
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Oct70 104p.

DESCRIPTORS - *STATE PROGRAMS; *PROGRAM EVALUATION; *VOCATIONAL EDUCATION; *EDUCATIONAL OBJECTIVES; ADVISORY COMMITTEES; MANPOWER DEVELOPMENT; PROGRAM PLANNING
IDENTIFIERS - MISSOURI

ABSTRACT - To comply with federal regulations concerning state vocational education programs, the Missouri Advisory Council contracted with the University of Missouri Center for Educational Improvement for evaluation of the state system. Evaluation and recommendations are made in the following six areas: (1) State goals, (2) manpower programs, (3) effects of 1968 Vocational Education Amendments, (4) effectiveness of vocational education in helping various groups, (5) employment opportunities and vocational service required, and (6) evaluation and program planning. The report also notes that improvements are needed in administrator selection, minority enrollment, guidance programs, and program size. (BH)

VT 012 329

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FINAL
EVALUATION
REPORT

MISSOURI 1969-70

VOCATIONAL EDUCATION PROGRAMS

Conducted Under the Auspices of

THE CENTER FOR EDUCATIONAL IMPROVEMENT

College of Education
University of Missouri-Columbia

OCTOBER
1970

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VT012329

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October 5, 1970

Missouri State Board of Education
Jefferson Building
P.O. Box 480
Jefferson City, Missouri

Dear Board Members:

In accordance with section 102.23 (c) Federal Rules and Regulations, P L 90-576, the Missouri Advisory Council for Vocational Education hereby submits to the State Board of Education the evaluation report on Vocational Education in the State of Missouri and the Council's recommendation to the State Board of Education for their consideration. The Council requests further transmittal of this report to the Commissioner of Education, United States Office of Education and the National Advisory Council on Vocational Education.

The evaluation is not as thorough in some respects as the Council believes it should be; but timing was a factor in submitting this report. The Advisory Council in subsequent reports and recommendations will deal more completely with many areas of concern.

Sincerely,

William E. Clark

William E. Clark, Chairman
Missouri Advisory Council for
Vocational Education

WEC/pk

A FINAL EVALUATION REPORT
OF
MISSOURI'S 1969-70
VOCATIONAL EDUCATION PROGRAM

Prepared by

The Center for Educational Improvement

College of Education

University of Missouri - Columbia

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SUMMARY AND RECOMMENDATIONS

Educational endeavors entail the interaction of a variety of social, psychological, and economic factors. In all such activities, time and resources must not be devoted exclusively to the activity itself but to the assessment of effectiveness as well. In short, any activity worthy of engagement is also worthy of evaluation.

The evaluation process demands that careful attention be directed to the specification of program objectives as well as to the methods of assessing the achievement of the specified objectives. Even though the Advisory Council's evaluation efforts focused primarily upon the latter, it was considered necessary to describe more fully the objectives specified quantitatively in terms of enrollments and programs through the "State Plan for the Administration of Vocational Education Under the Vocational Amendments of 1968." Brief examples of the program objectives are as follows:

- That vocational education programs be made available to (a) youth in high school, (b) youth and adults in post-high school institutions, (c) employed and unemployed adults as well as out-of-school youth, and (d) youth and adults who are disadvantaged and/or handicapped in all sections of the state, rural and urban.
- That appropriate orientation experiences as well as counseling opportunities be provided to youth as a basis for occupational choice and career planning.
- That systematic studies of student interest, aptitude, and motivation be made as a basis for enrollment as well as program development.

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- That labor market demands and employment opportunities as well as projections be taken into account in program planning and development.
- That placement and follow-up services be provided which will permit the ultimate test of program effectiveness: employment, job satisfaction, and advancement.
- That job requirements in terms of skills, knowledge, and attitudes be considered the prime components of vocational programs recognizing that the progression from one training program to a more advanced program is also a highly desirable outcome.
- That the community or area served by vocational education become involved through appropriate citizen advisory groups in the establishment, maintenance, and improvement of vocational programs.
- That vocational education programs be effectively coordinated with other human resources development programs of the state.
- That appropriate and adequate ancillary services such as guidance and counseling, curriculum and instructional materials development, teacher education, research, planning and evaluation as well as administration and supervision be provided to support vocational education programs.

This evaluation report concerns itself with an appraisal of the vocational education program in terms of the program objectives as perceived by the Council and stated above, and the quantitative objectives specified in the State Plan. Inherent in this appraisal is the impact of the 1968 Amendments to the Vocational Education Act of 1963; however, due to late funding the impact had to be measured in terms of stated plans and programs initiated rather than people served and programs completed.

It is recognized that evaluation is an on-going and continuous process; however, due to a variety of circumstances, the Council limited its evaluative efforts to informal program observation as well as reports from and conferences with personnel of the Vocational Division, Missouri State Department of Education during FY 1970.

In July, 1970 the Missouri Advisory Council for Vocational Education entered into a contract with the Center for Educational Improvement of the College of Education, University of Missouri - Columbia to assess the vocational education program in the State of Missouri and prepare a report of its findings, conclusions, and recommendations. In addition to a comparison of the Missouri State Plan for 1969-70 with program developments for that period, CEI compared the status of vocational education in 1969-70 with the program's status in 1965-66. This latter comparison was based upon the Governor of Missouri's Study of Vocational Education conducted under the direction of Dr. J. Chester Swanson, the report of which was titled A Gateway to Higher Economic Levels.

RECOMMENDATIONS

The recommendations formulated herein are based upon a review of the findings and conclusions presented to the Council by the Center for Educational Improvement as well as the observations of Council members resulting from visitation as well as review of program data and conferences with personnel of the Vocational Division, Missouri State Department of Education. The recommendations cited here encompass, and in some instances summarize, those recommendations which are reported under each of the Evaluation Goals within the body of the report.

GOAL I

State program planners must take the leadership in identifying the data that are required for the efficient management of the state program and motivating the appropriate agency to collect the data. Program plans should be formulated according to geographical regions or areas such as the six major labor market areas of the state. State program planners should analyze the labor market data and the needs of the youth and adults of the state for vocational education, and by relating these two factors to the current state and area programs, identify priorities and objectives for program development. These objectives should be precise and measurable and developed on both an annual and long-range basis.

Program emphases stated in the State Plan should be identified with more precision and specificity in order to provide additional direction and guidance to program planners as well as to permit assessment. Increased attention should be given to specific programs and services for the disadvantaged and handicapped in order that the intent of the Vocational Education Amendments of 1968 is met.

In order to facilitate and improve program planning, evaluation, and especially management of the statewide Vocational Education program, all professional staff members of the various divisions, especially the Directors, should continue to be involved in program planning and management on a comprehensive statewide basis. In order to accomplish this goal, the positions of Director and Supervisor of Vocational Program Planning and Evaluation should be filled.

GOAL II

The State Department of Education should continue to cooperate and when possible provide leadership to the development of the CAMPS organization at the state level. Cooperation with the Division

of Employment Security should be continued and expanded. Cooperation should be strengthened between the Special Education and Vocational Rehabilitation areas and the Vocational Division of the State Department of Education in planning and coordinating services for disadvantaged and handicapped individuals.

The publication Vocational-Technical Schools and Programs in Missouri should be maintained and up-dated each year to continue serving the need of informing the various schools as well as potential students concerning training available in the state.

The state program is well served by constantly directing public attention to the success of vocational students in the local and area vocational and technical education programs. This emphasis should be encouraged to enforce the image of vocational and technical education in Missouri. The continued support of the activities of vocational youth groups of the State is one viable means of enhancing this image.

The articulation of vocational education and general education could be strengthened by the formation of a committee of general and vocational educators to study and make recommendations that might aid in fostering this articulation.

GOAL III

It would appear that of the large number of programs in operation in the state, at least a few could be assumed to be functioning inadequately in terms of the intent of the Vocational Education Amendments of 1968. Implementation of the Vocational Division's plan for evaluation of one-third of the state's vocational progress during FY 1971 should permit better assessment of program effectiveness.

The development of new programs and the expansion of existing programs at the post-secondary and secondary levels and

especially those programs designed to serve the disadvantaged and handicapped should be continued. The lateness of the appropriating of federal funds , which were quite limited, did not permit the extensive development of exemplary programs.

New directions have emerged in state management policies and procedures which should be continued and refined. All staff members of the Vocational Division, State Department of Education should become more involved in both the development and implementation of these emerging policies and procedures. Efforts should be made to (1) relate vocational programs to the needs of persons who require special assistance to successfully compete in the labor market; (2) give priority attention to programs serving areas of the state where concentrations of such persons occur, and/or such areas which lack the resources to develop vocational programs; and (3) direct additional efforts to ensure the development of new programs and the redirection of existing programs to prepare persons for occupations which indicate increasing job opportunities.

The state system of allocating federal funds should become a management tool to accomplish the priorities and objectives of the State Plan. The criteria for determining the relative priority for local applications required by the Vocational Education Amendments of 1968 should be supplemented by additional criteria from the state level and incorporated into a new system for allocating funds.

The progress that has been made toward orientating the statewide program to meet the major priorities and program emphases of the Vocational Education Amendments of 1968 should be continued and even accelerated. One of the greatest restraints handicapping progress in this area is tradition which was established by the earlier vocational education legislation. Program administrators and teachers must be encouraged to adopt the philosophy and intent of the new legislation.

GOAL IV

Information available from the 1970 census should be used in checking the reliability of the population characteristics and this verified information used in future planning.

Missouri has made a significant start in the development of special programs for disadvantaged and handicapped students and should continue to expand these services. Special attention should be directed to the development of post-secondary and adult programs for the disadvantaged and the handicapped.

The State Department of Education is in a unique position to support and encourage the expansion of area schools and junior college vocational offerings. They should explore possibilities with the smaller school districts in the state to encourage greater participation in area school programs. The State Department of Education has a definite responsibility to coordinate the development of the more specialized vocational offerings at the post-secondary level to assure that there will not be undue competition for students between similar programs in the state.

In addition to placement information secured in September following graduation from high school, it is suggested that some procedure be established to ascertain the student and employer satisfaction with the outcomes of the programs.

GOAL V

There is a need to increase the level of validity and reliability of data describing existing employment opportunities and projection for the next five years. Specifically, the terminology between the Standard Industrial Classification, the Dictionary of Occupational Titles, and the Office of Education Code must be better correlated so that valid information is available for planning when using the Office of Education terminology. The Division of Employment Security must be encouraged to

supply data classified into specific job categories, eliminating as much as possible the "Not Elsewhere Classified" category so that a more valid base can be obtained for the number employed and needed in each occupational area.

Until such time as the above procedures are refined to increase the validity and reliability of the data concerning job opportunities and projected employment needs in Missouri, the State Department of Education should be cautious in using the information obtained in making decisions related to program planning.

Missouri secondary school programs of vocational education emphasize training for a variety of jobs within an occupational area and should be encouraged to continue to develop and refine this approach to vocational education. The Vocational Division, State Department of Education, should continue to encourage the development and expansion of programs in the areas of identified occupational shortages. Efforts must be maintained to determine more effectively the existing and emerging manpower needs of the state and the occupational opportunities available.

Local schools should continue and expand their practices of providing youth with occupational information as well as exploratory experiences which will permit more realistic choice of training programs.

The Guidance Section of the Vocational Division, Missouri State Department of Education is encouraged to continue to seek out and make available to all schools the information concerning current and projected opportunities for employment as well as training in Missouri, the region, and the nation. In addition, schools should be encouraged to become much more active in the location of employment for vocational students and graduates as well as in assessing the job adjustment of employed graduates. It is further recommended that the requirements for vocational guidance counselors include work experience outside of

professional education and/or professional experiences related to vocational education. Intensive, inservice programs should be developed by the State Department of Education to provide greater awareness for all counselors of vocational technical education and occupations and further, that special attention be given to counseling of minority groups.

GOAL VI

Local districts must be encouraged to conduct a comprehensive evaluation of their vocational program's effectiveness on a three to five year cycle, and the results of this assessment should be utilized in the planning and development of the vocational education program. Area considerations should also be taken into account as labor market needs and employment opportunities are assessed. Not only would the yield in terms of data from such a comprehensive appraisal be significant, but in addition the analytical process could contribute immeasurably to the insight of those involved in local evaluation.

The Vocational Division should implement its plan for evaluation whereby one-third of the local vocational programs can be assessed annually. It is recommended that local evaluation activities be coordinated to insure that unwarranted duplication of effort will not occur and that standardized data will be available for statewide evaluation.

It is further recommended that the position of Director, Vocational Planning and Evaluation, as specified in the organization chart for the Vocational Division, State Department of Education be filled and that the functions inherent in the position be carried out.

INTRODUCTORY STATEMENT

The Advisory Council for Vocational Education in the State of Missouri submits the following report in compliance with Regulation 102.59 of the Office of Education Rules and Regulations for State Vocational Education Programs.

The report has been prepared according to the "Recommendations Regarding Vocational Education Evaluation by State Advisory Councils," which were adopted May 1, 1970 by representatives of the State Advisory Council at the semi-annual meeting in Washington, D.C.

As recommended, the report specifies major evaluation areas which are identified as "Evaluation Goals." In an effort to assess each major goal, the goals were subdivided into items which could be addressed in a rather specific and direct manner. Findings and conclusions pertinent to each of these items formed the basis for recommendations related to the "Evaluation Goals."

The reporting format for each Evaluation Goal is in three parts: (A) Items Evaluated, (B) Findings/Conclusions, and (C) Recommendations. For any of the six Evaluation Goals, item A-1 has counterparts B-1 and C-1 which cite the findings/conclusions and recommendations related to the item evaluated.

The Council now recognizes the magnitude of the task which statewide program evaluation implies. As a result, it is apparent that the data collection and program assessment should be carried out throughout the year for which the annual report is to be prepared.

However, this evaluation report of the 1970 fiscal year is based primarily on informal observation prior to July, 1970 at which time a systematic and formalized evaluation procedure was initiated through a contract with the Center for Educational Improvement of the

College of Education, University of Missouri - Columbia. This fact places severe limitations upon the qualitative aspects of the annual report; however, it is believed that recommendations based upon the data presented in the report are appropriate and valid.

Due to the fact that the evaluation process requires that a considerable amount of quantitative data must be secured through the Vocational Division of the State Department of Education for the fiscal and program year ending July 1, the October 1st deadline for submission of the Advisory Council's report is inappropriate. It is impractical to expect accurate and complete data by August 1st for a fiscal and program year ending July 1st; therefore, the preparation of a report based, in part, on these data with appropriate and meaningful review by the Advisory Council and State Board in advance of October 1st is impractical. Setting back the deadline to at least November 1st in future years would be one of our suggestions for the administration of the Advisory Council program.

GENERAL OBSERVATIONS

Local supervision of vocational education in comprehensive high schools is frequently assigned to administrators who have little or no vocational experience and/or training. It is the Council's view that vocational supervisors and administrators should have more experience and/or vocational teaching experience. In addition, they must have delegated authority to work with the principal of the high school.

Relatively few persons of minority groups are enrolled in vocational courses at either the secondary or post-secondary level. Efforts should be directed towards enrolling more persons of minority groups in vocational curricula. Guidance counselors need special training related to minority groups which will enable them to develop realistic occupational objectives.

The Council has many concerns about the inadequacy of a number of local vocational education programs in Missouri. Concerns extend to such areas as the obsolescence of facilities and equipment, curricula, financing, vocational training needs of people, job opportunities, and the absence of appropriate offerings and enrollment.

The Council believes that present guidance and counseling services related to vocational education are inadequate for the state despite the fact that Missouri has more counselors than most states.

There were 163 comprehensive secondary school districts with guidance programs approved and reimbursed from vocational education funds in the 1969-70 school year. These counselors were assigned to 137,955 secondary school students in grades 9 through 12. This means that approximately 138,000, or in other words one-half of the secondary school students in grades 9 through 12, were not served by a counselor in an approved vocational guidance program.

In the approved guidance programs it has been found that, if all the counselors had all their time available for counseling with the

secondary students, there would be only 2.25 hours in the school year to counsel with each of the youth. It is evident that there is little likelihood that any impact could be made in the life of a student with no more time available to the counselor than 2.25 hours. Since he must conduct the testing program, collect and disseminate occupational and educational information, work with the individual inventory, and do all of the other activities that are assigned which take away from his assigned counseling time, the Council estimates that the counselors have actually less than 30 minutes per youngster during the course of a school year to spend in counseling.

The Council finds that there are approximately 250 elementary guidance counselors serving in Missouri's elementary schools. Missouri has an elementary school enrollment of 766,103. Most of the elementary schools have no formalized counseling services. The elementary age child needs guidance and counseling. He needs information about himself, the work world, education, and the potential through vocational education.

It is a major concern to the Council that guidance and counseling has not been made available to elementary age children at even close to the minimum requirements recommended by the State Board of Education. It is a major concern that approximately 50 per cent of the high school youth do not have the benefits of an approved vocational guidance program. The Council is further deeply concerned that virtually no adult vocational guidance is available.

The youngsters of Missouri must be informed about the opportunities, the challenge, the intellectual and financial rewards available to those with well-developed vocational skills and knowledge.

It is recommended:

1. That the requirements for vocational guidance counselors include work experience outside of professional education and/or professional experiences related to vocational education.

2. That the Department of Education increase requirements for guidance program approval to one counselor for not more than 250 pupils in secondary schools.

3. That the Department of Education increase elementary guidance program requirements to one counselor for not more than 750 elementary students or an administrative unit.

4. That state funds be provided with the specific intent of providing guidance and counseling programs in all Missouri elementary and secondary schools.

5. That intensive, inservice programs be developed by the State Department of Education to provide greater awareness for all counselors of vocational technical education and occupations, and further, that special attention be given to counseling of minority groups.

GOAL I

EVALUATION OF STATE GOALS AND PRIORITIES

A. Items Evaluated

A-1. Validity of program priorities and objectives.

A-2. The extent to which objectives and program emphases listed in the State Plan were proper and adequate with respect to the priorities and intent of the Vocational Education Amendments of 1968.

A-3. The extent to which the program objectives were met.

A-4. Specific actions being taken by the State Board and its staff to improve the effectiveness and efficiency of its overall program planning and evaluation activities, particularly with respect to State Board management and responsibility relating to State Plan operations; the adequacy of these actions and the extent to which these actions should be redirected or reordered.

B. Findings/Conclusions

B-1. Section 4.0 of Part II of the Missouri State Plan for the Fiscal Year 1970 identifies the Vocational Education program needs. The U.S. Office of Education requested that on the basis of the statistical data and other information, identify and describe the vocational education needs which are to receive priority attention in terms of the target population, target areas, and program emphases. The needs described in this section are general and they are not stated in a manner which would permit precise assessment. However, Sections 2.1 to 2.13 of Part III do attempt to place the needs stated in terms of program priorities and objectives.

Reference is made to the target populations of the disadvantaged, handicapped, unemployed post-secondary groups, secondary youth, and programs of retraining for new job entry and for persons who have already entered the labor market. However, the only action indicated for these target populations is that the state educational agency will work with local school personnel and other interested agencies in planning and conducting programs for them. It is difficult to conceive that this interpretation would cause these groups to receive priority attention.

The sole reference to target areas of the state is that made to areas of high unemployment of youth and adults. It is stated that the Vocational Division "will work closely with" local agencies in these areas; however, it is impossible to determine the degree of priority attention that has actually been given at the local level or the criterion by which high unemployment was to be measured.

Section 5.0 of Part II of the State Plan identifies the vocational education objectives for both 1970 and 1974. The outcomes sought are quantitative and, thus, measurable. Since data indicate projections of linear program growth, the objectives do not appear to anticipate planned program changes or modifications.

The vocational program in Missouri has been in a transitional state, and, as a result, base line data from schools and other agencies were not available at the time the 1969-70 State Plan was written; these data would have permitted preparation of specific descriptions of target areas and target populations.

B-2. The objectives and program emphases appear to be proper and adequate with respect to the priorities and intent of the Vocational Education Amendments of 1968. The special emphasis placed upon the development of programs and services to serve the disadvantaged and handicapped was consistent with the priorities of the legislation.

B-3. The majority of the program objectives which specified the securing of a given number of enrollees in programs were met. However, the outcomes sought for disadvantaged and handicapped persons were noticeable exceptions. Belated and minimal staffing of the section seems to be evident. The Council found that late funding placed a nearly insurmountable obstacle in the path toward full realization of the stated objectives. This may be due, in part, to the reluctance of local administrators to plan additional program expenditures in view of the uncertainties of federal funding. With the exception of the goals established for the number of disadvantaged students enrolled in cooperative programs and the number in instructional programs for the handicapped, none of the stated objectives were fully met. The outcomes sought for Consumer and Homemaking Education in regard to serving youth and adults in economically depressed areas were not fully accomplished. Thus, it appears that while these priorities of the Vocational Education Amendments of 1968 were adopted as priorities for the State Plan, the priorities were not completely implemented in programs and services which was, no doubt, the result of previously cited reasons, i.e., late funding, etc.

B-4. The position of Coordinator of Vocational Education was filled. The primary function of the Coordinator is to improve the effectiveness and efficiency of the State Board's management responsibilities. More observation time is needed to determine whether or not these actions will be adequate, but it seems reasonable to assume that progress will be made.

C. Recommendations

State program planners were severely restricted by the absence of adequate manpower demands and employment opportunity data from which to develop state program priorities and objectives. Specific priorities and objectives are essential for sound state planning and management.

C-1. State program planners must take the leadership in identifying the data that are required for the efficient management of the State program, and motivating the appropriate agency to collect the data in a form which is usable for program planning or take steps to gather supplemental data. Following are recommendations for data which should be collected and which should become the basis for program planning.

Program plans should be formulated according to geographical regions or areas such as the six major labor market areas of the state. The state as a whole is too large and diverse for realistic program planning. Individual school districts and even counties appear to be too small and do not sufficiently represent central labor markets to provide for adequate vocational education analysis and planning on a statewide basis. The only defined areas which appear to be large enough—these areas represent central labor markets, areas of high population density, and those for which labor market data are available—are the six major labor market areas specified by the Division of Employment Security; however, others might be identified. The specific data which should be collected for the six areas and the state as a whole include the following: (a) current and projected manpower needs classified by broad families of occupations, or occupational clusters, and even specific occupations when possible. The manpower needs should include both expansion and replacement needs. (b) Those occupations where a critical need exists should be identified. (An occupation with a critical need is one for which it is difficult to locate qualified personnel.) (c) Specific job requirements of the occupations, including physical, educational, specialized training, aptitude, and personal requirements. (d) Characteristics of the area population, especially identification of those who are disadvantaged, handicapped, school dropouts, non-college bound high school graduates, college bound students who will not complete a four year college program,

welfare recipients, unemployed, low-income, and members of minority groups. (e) A profile of the current occupational education being conducted in each area, including those programs being conducted by other agencies. The profile should include enrollment data identified according to the population groups specified in the Amendments of 1968 according to the population characteristics identified and according to the occupation for which training is being offered. (f) An accurate assessment of the labor supply including those currently in training as well as the effects of migration upon supply. The State Plan, Part I, Section 3.0 specifies the type of pertinent data required to supplement those provided by the Division of Employment Security which can serve as a basis for decisions made in program planning.

State program planners should analyze the labor market data and the needs of the youth and adults of the state for vocational education, and by relating these two factors to the current state and area programs, identify priorities and objectives for program development. These objectives should be quite specific, e.g., identifying the exact number of a particular population group that should be served.

Precise and measurable objectives should be developed on both an annual and a long-range basis. The objectives should be based on the identified needs of population groups for vocational education and upon the needs of the labor market. While such objectives are difficult to specify and perhaps defy exact measurement, they should be selected upon the data available and the judgment of professional and advisory personnel. Regardless of the method used, realistic long-range goals should provide for each population group.

C-2. Program emphases stated in the State Plan should be identified with increased precision and specificity in order to provide additional direction and guidance to program planners as well as to permit assessment.

C-3. Additional resources and attention should be directed toward programs and services for the disadvantaged and handicapped to insure that the State Plan objectives are met. The position of Director of Programs for Disadvantaged and Handicapped, which has been filled, should be additionally staffed with one or more supervisors for disadvantaged and handicapped as is presently indicated in the organization chart of the State Plan for vocational education.

Increased attention should be given to specific programs and services for the disadvantaged and handicapped in order that the intent of the Vocational Education Amendments of 1968 are met.

C-4. In order to facilitate and improve program planning, evaluation, and especially management of the statewide Vocational Education program, the positions of Director and Supervisor of Vocational Program Planning and Evaluation should be filled. In addition to these staff positions, all professional staff members of the divisions, especially the Directors, should continue to be involved in program planning and program management on a comprehensive statewide basis.

GOAL II

EVALUATION OF THE HUMAN RESOURCES DEVELOPMENT PROGRAMS OF THE STATE

A. Items Evaluated

A-1. Identification and analysis of actions taken and the new programs and working arrangements implemented to improve the joint planning, implementation, and evaluation efforts of the State Board, Employment Service, vocational rehabilitation agencies, employers, and organized labor.

A-2. The joint actions taken by public and private vocational education institutions and agencies to effect improvements in state program planning, coordination and evaluation efforts.

A-3. The actions taken in the state to enhance the image of vocational education and to effect a closer articulation between general and vocational education.

A-4. The steps taken to eliminate duplication and unwarranted competition in vocational education program efforts in the state.

B. Findings/Conclusions

B-1. A representative of the State Department of Education serves at the state level on the Cooperative Area Manpower Planning Systems (CAMPS), which is the organization in Missouri that brings together representatives of the various agencies and services which deal with the development of human resources. There are seventeen public and private agencies represented at the state level monthly meetings where the representatives consider manpower needs and opportunities in the state and exchange

information concerning new and on-going programs to meet these needs. Data from the Missouri Division of Employment Security are most often used as a basis for identifying potential manpower needs in the state. However, on occasion there have been program proposals presented by other groups such as organized labor. It is then the function of the state Cooperative Area Manpower Planning Systems organization to serve as a clearing house; however, the proper service or agency at the state level, but more often at the area or local level, is encouraged to implement a program to meet the need identified.

The cooperation and interaction between the Missouri State Department of Education and the Missouri Division of Employment Security is direct and extensive, although the data provided do not permit as high a level of effectiveness as might be desired. The basic data for manpower needs used in the State Plan are supplied by the Division of Employment Security. The use of these data is discussed under Goal V of this report. The major effort at present is to coordinate communication between the agencies so that the data will be more usable in planning vocational programs in the state. There are two specific problems with which the agencies are concerned and which have a direct bearing on the effectiveness of the data for use in vocational program planning. One problem focuses on the terminology and organization of the information supplied by the Division of Employment Security and that used in vocational program planning. Until a more precise method of correlating job titles listed in the Standard Industrial Classification and in the Office of Education Code is developed, there will continue to exist a problem of classifying and coordinating employment needs and vocational training programs. The employment data are also organized in broad categories with a large percentage (in some cases over 50 per cent) of employment needs being grouped under one nondescript job title. Again, this presents a problem in using the data for program planning. The second major concern of

the agencies relates to the participation of employers in reporting employment opportunities. It seems that often only the most "difficult to fill" positions are reported to the Division of Employment Security.

The State Department of Education in Missouri is responsible for program initiation and development in Special Education, Vocational Rehabilitation, and Manpower Development and Training. Vocational Rehabilitation is represented at the state level in the Cooperative Area Manpower Planning Systems organization. However, there was little evidence of extensive intra-agency coordination and planning between Vocational Education and the areas of Special Education and Vocational Rehabilitation. The coordination between Manpower Development and Training and Vocational Education programs was considered to be effective. This is due, in part, to the fact that the Manpower Development Training Act program is coordinated by the Vocational Division of the State Department of Education, and the two groups are represented on Cooperative Area Manpower Planning Systems by the same individual.

B-2. The State Department of Education surveyed the private vocational education agencies in the state in 1968 and published a directory titled Vocational-Technical Schools and Programs in Missouri, which supplied information concerning the services offered. Included was information concerning the location of the school, type of school, admission requirements, financial aids available, length of program, cost of program, school enrollment, accreditation information, tuition refund policy, and student living facilities. The cooperation of the private agencies in supplying information for the report was voluntary.

The State Department of Education in Missouri does not have the authority to organize, supervise, or appraise private programs of the nature previously described. It is stated in the State Plan (Part I, p. 12):

1.8 Vocational Education Under Contract.
Since there are no State statutory provisions for contracting for vocational education services as provided for in Section 102.5 for the Regulations pertaining to the Act to which this Plan applies, no provision is made herein.

Therefore, the major efforts of cooperation with these agencies to date has been in collecting, compiling, and distributing the information previously described.

B-3. Traditionally, the image of vocational education in Missouri has been good. However, many recent activities have served to broaden and enhance this image. The establishment and functioning of the area vocational schools has extended services and knowledge of vocational education to schools, students, and parents who were not previously aware of opportunities through vocational education. The use of advisory councils in area schools and in the post-secondary technical programs has broadened the involvement and informed many additional persons about the contributions of this phase of the school program. There have also been numerous brochures prepared to illustrate and elaborate on various phases and services of the programs available in the state. The youth organizations (Distributive Education Clubs of America, DECA; Future Business Leaders of America, FBLA; Future Farmers of America, FFA; Future Homemakers of America, FHA; and Vocational Industrial Clubs of America, VICA) continue to enhance the vocational programs at the secondary level and serve as vehicles to increase the public awareness of the total program. Finally, cooperation with Cooperative Area Manpower Planning Systems at the state level and with the Division of Employment Security has increased the visibility of vocational education as a training program for employment in the State of Missouri.

The Counseling Area of the Vocational Division of the Missouri State Department of Education continually strives to supply the counselors in the state with information about opportunities in the various

phases of vocational-technical education. This has implications for improved articulation between the general and vocational education programs of the students who are advised by these counselors. The advisory councils of the area schools serve a parallel function in working with counselors and administrators from the feeder schools. Program opportunities, scheduling, and transportation problems are discussed with these groups as are the prerequisite courses required by students to successfully complete the vocational programs. In isolated cases, special sections of English and mathematics are offered exclusively to meet the needs of the vocational students. This type of articulation is not general, nor is it promoted by a statewide planning committee. The articulation between vocational education and general education is handled at the local and area level with encouragement from the State Department of Education.

B-4. The agencies participating in the Cooperative Area Manpower Planning Systems organization (see B-1) provide a means for eliminating duplication of efforts as does the publication of the listing of private vocational programs (see B-2). In addition, the service area Directors of the Vocational Division provide consultations and coordination among districts seeking to develop and expand vocational programs. These efforts have evidently prevented any major duplication of programs within areas of the state. The sources reviewed in preparing this report did not reveal serious program duplication or undue competition for students in vocational programs. The one exception would be in the area of cosmetology where a court case is pending due to the contention of duplication and unwarranted competition.

There is excellent coordination and articulation among the directors of the various vocational education programs in the State Department of Education. Utilizing this close working relationship has prevented duplication or competition of programs at the state

level. There is an occasional duplication of programs in some area schools. This occurs when one or two feeder schools offer a program which the area school makes available to the other feeder schools in the area. This does not seem to be a major difficulty and may diminish as the area schools mature in their role of extending specialized training programs to surrounding schools.

C. Recommendations

C-1. The State Department of Education should continue to cooperate and when possible provide leadership to the development of the Cooperative Area Manpower Planning Systems organization at the state level.

Cooperation with the Division of Employment Security should be continued and expanded. The State Department of Education must share the responsibility in coordinating terminology and employment breakdowns required for program planning. They must encourage the Division of Employment Security to improve the methods and techniques of obtaining employment information from employers and organized labor in the state.

Cooperation should be strengthened between the Special Education and Vocational Rehabilitation areas and the Vocational Division of the State Department of Education in planning and coordinating services for disadvantaged and handicapped individuals. It is expected that the addition to the Vocational Division staff of a Director for Special Needs in May, 1970 will increase the coordination of state programs.

C-2. The information supplied in Publication No. 101R, Vocational-Technical Schools and Programs in Missouri aids in coordinating and informing the various schools as well as potential students concerning training available in the state. The publication should be maintained and up-dated each year to continue to serve this need.

C-3. The state program is well served by constantly directing public

attention to the success of vocational students in the local and area vocational and technical education programs. This emphasis should be encouraged to enhance the image of vocational-technical education in Missouri. The continued support of the activities of vocational youth groups of the state is one viable means of enhancing this image.

The articulation of vocational education and general education at the secondary level could be strengthened by the formation of a committee of general and vocational educators to study and make recommendations concerning the (a) specific needs of students, and (b) the means by which these needs might best be met through the integration of information and examples from the world of work into the content of language arts, mathematics, science, and social studies experiences designed to serve all students.

C-4. Continued cooperation with Cooperative Area Manpower Planning Systems and communication with private vocational agencies should be maintained as a method of avoiding the duplication of vocational programs and unwarranted competition for students.

GOAL III

AN APPRAISAL OF THE EFFECTS OF THE VOCATIONAL EDUCATION AMENDMENTS OF 1968 UPON THE VOCATIONAL PROGRAM IN 1969-70

A. Items Evaluated

A-1. The number and types of, as well as the reasons for, program or service terminations during the year.

A-2. The number of new programs and other outcomes resulting from the influence or requirements of the new State Plan.

A-3. The accomplishments and effects of special programs which were implemented under Parts C through I of the Amendments of 1968 which were funded during 1969-70.

A-4. The specific changes made in state management policies and procedures relating to vocational education which were a result of implementing the new State Plan and meeting the intent of the Amendments of 1968.

A-5. The effects which the new state system of allocating federal funds to local education agencies has had on vocational programs in the state.

A-6. The efforts made by the state to meet the major priorities and program emphases of the Vocational Education Amendments of 1968.

B. Findings/Conclusions

B-1. There were no programs terminated during 1969-70 as a direct result of withdrawal of support by the State Department of Education.

However, it was reported that six secondary programs were discontinued by local districts. Three were in small schools which lost teachers and could not find replacements. Of the other three discontinued programs, one was transferred to another school due to reorganization, and two were recently established programs which had not attracted sufficient enrollment to justify continuance. There was no direct relationship established between the termination of the program and the influence of the Vocational Education Amendments of 1968. The Vocational Division plays a major role in approving new programs. By giving special attention at this point, it becomes less necessary to terminate programs which might have been initiated without adequate justification. Also, programs are frequently modified at the request of the Vocational Division rather than terminated.

B-2. There was significant activity in the establishment of new programs at the secondary and post-secondary level as well as programs to serve the needs of special groups as mandated by the 1968 Amendments. Table III-1 reports the nature of the new offerings in the state. It was indicated by the staff of the Vocational Division that the sixty-four secondary, twenty-eight post-secondary, and three adult programs initiated during the year would be continued. In addition, the special programs to serve disadvantaged and handicapped students, with the exception of the twenty-five special summer programs, were continued as a base from which to expand program emphasis to serve these people. Vocational education programs were expanded in 1969-70, and a large proportion of the new programs serve persons specifically identified in the 1969-70 State Plan.

TABLE III-1

PROGRAMS OF VOCATIONAL EDUCATION INITIATED IN MISSOURI DURING 1969-70

Occupational Area	NUMBER OF SCHOOLS			
	Secondary	Post-Secondary	Adult	Special
Agriculture	2	2	3	2
Business & Office	10	7		
Cooperative Industrial	3	2		
Distributive	6	5		
Health	1	1		2
Home Economics	11			12
Technical		11		
Trade and Industrial	31			22
All Areas—Special Summer Programs				25
TOTAL	64	28	3	63

B-3. Part D—Exemplary Programs and Projects. There were three exemplary programs funded through Part D funds.

Part F—Consumer and Homemaking Education. During 1969-70 year, 54,215 persons were enrolled in the Consumer and Homemaking Education program. Table III-2 details the enrollment, the number of teachers involved in the program, and the number completing the program. It should be noted that the secondary program may be three or four years in length when considering the completion rate. Teachers were also asked to identify those enrollees from depressed areas served through the regular program. By this method, 3,964 students were classified as being from low income families and 2,261 were classified as handicapped.

TABLE III-2

CONSUMER AND HOMEMAKING EDUCATION ENROLLMENT IN 1969-70 PROGRAMS

Program Information	Secondary	Post-Secondary	Adult	Total
Number Enrolled	49,653	10	6,086	55,749
Number Completing Program	11,091	10	6,086	17,187
Number of Districts With Programs	315	1	32	------
Number of Teachers:				
Full-time	428			428
Part-time	50	1	135	186

Part G—Cooperative Vocational Education Programs. Cooperative programs funded under Part G of the Amendments served 419 secondary and 133 post-secondary students. Two secondary programs were in Home Economics, one post-secondary program was in Agriculture, and the remainder were in the Distributive and Industrial areas.

Part H—Work-Study Programs for Vocational Education Students. Information was not available as the programs were functional in the summer of 1970, and the reports had not been submitted to the State Department of Education. (Appendix A contains a summary of research on Work-Study, FY 1968.)

Programs were conducted in all areas funded under Parts C through I of the Amendments. The late date at which funds were appropriated presented problems in planning and implementing new programs under these parts of the legislation. Considering the lead time available, the state made judicious use of the funds available in establishing

special programs.

B-4. The past year was a transition period in terms of management procedures and policies. There were the dual responsibilities of continuing the existing program in the state and responding to the priorities and emphases of the Vocational Education Amendments of 1968. Because of the manpower and time required for the development of the State Plan, coupled with the late appropriation of federal funds, the state division was severely handicapped in implementing new policies and procedures. Nevertheless, new directions have been taken which include an attempt at comprehensive planning involving teams or committees of staff members of the division. Special attention has been given to the development of programs and services for disadvantaged and handicapped persons, and for areas with high unemployment, high levels of poverty and high school dropouts. Efforts have been made to coordinate planning and evaluation with other agencies and groups interested in helping to train employees, and priority attention was given to training programs for new and emerging occupations as well as those occupations which demonstrate increasing opportunities for job placement.

B-5. The state system of allocating federal funds was not altered significantly as a result of the Vocational Education Amendments of 1968 prior to submission of the State Plan for fiscal 1970. A minimum reimbursement for all Part B programs and activities was retained. However, the Vocational Division has now developed a reimbursement formula which encourages local agencies to structure programs according to the criteria required in the legislation. In addition, provisions have been made for a significantly higher rate of reimbursement for programs serving the disadvantaged, handicapped and cooperative programs developed under Part G of the 1968 Amendments.

B-6. The State Plan recognizes and includes all of the listed priorities as set forth by the Vocational Education Amendments of 1968. Concentrated efforts and additional staff have been placed in areas of disadvantaged and research. Other areas have initiated special programs with emphasis toward the priorities outlined in the Amendments. Since program developments generally parallel federal aid and since federal funds from the 1968 Amendments were not assured at the beginning of the FY 1970, a more detailed picture of the impact of the legislation upon actual program operation can be expected to become more evident during FY 1971.

Some noteworthy changes in programs for vocational education have resulted from guidelines established in the 1968 Amendments. Many of these changes cut across the various service areas. There has been a thrust toward serving the disadvantaged through existing programs. The various service areas are attempting to orient their respective programs toward an increased awareness of and concern for the handicapped and disadvantaged. A teacher-supervised summer program for training the handicapped and the disadvantaged served 1,756 students through programs in 25 schools.

Consumer and Homemaking Education has been strengthened and expanded to serve an increased number of secondary, post-secondary, and adult persons as well as persons in depressed areas and those with special handicaps. (Data cited under Goal V of this report.)

Cooperative occupational education has been expanded to include all service areas; however, the administration of these programs is on a service area basis rather than unified. Part G funds have been used for post-secondary technical programs in 13 schools.

An Instructional Materials Laboratory located at the University of Missouri - Columbia has been partially funded by the State Department of Education. The laboratory has employed a full-time director and services all program areas of vocational education.

Vocational education programs in Missouri reflect the changes specified in the State Plan. However, certain areas of policy and management procedures have been less affected by change.

C. Recommendations

C-1. It would appear that of the large number of programs in operation in the state, at least a few could be assumed to be functioning inadequately in terms of the intent of the Vocational Education Amendments of 1968. The State Division of Vocational Education should assume a more decisive leadership role in evaluating local programs to provide valid information as a basis for decision making relative to program continuation and termination. A plan has been developed which will be implemented in FY 1971 whereby the Vocational Division will assume a more decisive role in the assessment of local program effectiveness (see Goal VI).

C-2. The development of new programs and the expansion of existing programs at the post-secondary and secondary levels and especially those programs designed to serve disadvantaged and handicapped should be continued at a more rapid pace.

C-3. The lateness of the appropriating of federal funds, which were quite limited, did not permit the extensive development of exemplary programs, therefore prohibiting detailed analysis and evaluation. However, based upon the program development thus far, it appears that efforts should be accelerated to develop cooperative vocational education programs under Part G in all vocational areas, and that consideration should be given to the administration of these programs on a unified basis in the Vocational Division. Previous development of cooperative programs has been primarily in Distributive and Industrial Education.

C-4. New directions have emerged in state management policies

and procedures which should be continued and refined. All staff members of the Vocational Division, State Department of Education should become more involved in both the development and implementation of these emerging policies and procedures. Efforts should be made to: (1) relate vocational programs to the needs of persons who require special assistances to successfully compete in the labor market; (2) give priority attention to programs serving areas of the state where concentrations of such persons occur and/or such areas which lack the resources to develop vocational programs; and (3) direct additional efforts to ensure the development of new programs and the redirection of existing programs to prepare persons for occupations which indicate increasing job opportunities.

C-5. The state system of allocating federal funds should become a management tool to accomplish the priorities and objectives of the State Plan. The criteria for determining the relative priority for local applications required by the Vocational Education Amendments of 1968 should be supplemented by additional criteria from the state level and incorporated into a new system for allocating funds. This system should serve to motivate and encourage local educational agencies to develop programs which reflect these criteria; a goal reflected by the prioirities and objectives established in the State Plan. Local school districts could be further encouraged to implement programs for the disadvantaged and handicapped by a reimbursement policy of 100 per cent which proved successful in implementing the Manpower Development and Training Act program. The Vocational Division has developed a formula for the disbursement of funds which can be expected to encourage compliance with the intent of the legislation.

C-6. The progress that has been made toward orienting the statewide program to meet the major priorities and program emphases of the Vocational Education Amendments of 1968 should be continued and

even accelerated. It would appear that one of the greatest restraints handicapping progress in this area was the tradition which was established by the earlier vocational education legislation. Program administrators and teachers must be encouraged to adopt the philosophy and intent of the new legislation. The transition to the new concept will undoubtedly be a gradual process. The Vocational Division, State Department of Education should continue to accelerate the transition by further organizing and implementing the administration, operation, and management of a statewide program which reflects the philosophy of the legislation and through leadership activities, which would encourage local vocational education personnel to share these concepts.

GOAL IV

EFFECTIVENESS OF VOCATIONAL EDUCATION IN MEETING NEEDS OF VARIOUS GROUPS OF INDIVIDUALS

A. Items Evaluated

A-1. The actions taken by the State Board to obtain data pertaining to the current and projected vocational education needs of all youth and adults in the state and the validity and reliability of the data.

A-2. The progress that has been made toward providing programs for dropouts, potential dropouts, unemployed, and underemployed youth and adults, and disadvantaged and handicapped youth and adults.

A-3. The extent to which new programs, services, and activities are being planned and implemented; old ones being modified, and all programs being articulated to enable new students—potentially, all those not now served—to profit from some type of occupational training and guidance.

A-4. The effectiveness of programs in meeting pre-established objectives relative to numbers of enrollments and completions, job placement in fields for which trained, graduates' initial success on the job, and graduates' and employers' satisfaction with the training program.

A-5. The status of the state program effort regarding its mandated responsibility to provide ample opportunity for youth and adults who desire or who are able to profit from technical and vocational education programs at the post-secondary level of education.

B. Findings/Conclusions

B-1. The information to identify vocational needs of youth and adults of Missouri was based on descriptions of the population in Missouri and inferences drawn from the data. The 1960 census figures were used as the base figures with school grade enrollments, numbers of handicapped persons, and private school enrollments supplied by the State Department of Education. The evidence available suggests that the data are as valid and reliable as can be obtained prior to having the information provided by the 1970 census. The data for disadvantaged groups were compiled by the Missouri State Comprehensive Manpower Committee, FY 1969, and were based on accepted definitions of the disadvantaged, that of family income, unemployment, minority groups, and persons on welfare. The "Age Distribution—Unemployment" of adults presented in Table 2, Number 4 of Part II of the State Plan, is subject to question. The FY 1971 State Plan lists figures under the identical heading which are about twenty times larger than those listed in the FY 1970 State Plan. The rationale for identifying only working women as those needing "Consumer and Homemaking Education" as suggested in Table 2, Number 7, Part II of the State Plan, is also subject to question. This approach would seem to preclude the need which nonemployed women have for Consumer and Homemaking Education. The data collected indicate that there are large groups of people to be served by programs implemented under all parts of the Vocational Education Amendments of 1968.

B-2. Missouri operated ninety-three vocational education programs serving 4,324 disadvantaged persons during 1969-70 including short-term programs which were begun in June, 1970 and involved 1,756 students in 25 schools. Of these, five programs involving 455 students were designed to work specifically with potential dropout students. Each service area reported some degree of activity in the development of special programs for disadvantaged youth for the 1969-70 school

year. In addition to the secondary programs, one post-secondary level program in Business and Office Education was offered in FY 1970 involving 28 students. Trade and Industrial education together with Technical Education reported 138 adults enrolled in seven classes for the disadvantaged. The information is summarized in Table IV-1.

During the same time period, seven programs for handicapped students served 200 secondary students. Three of the programs were offered during the summer to serve forty-seven students, and the remainder were offered in Home Economics during the regular school year.

In addition to the special programs, many disadvantaged and handicapped students were served by the regular vocational offerings in all areas. Home Economics identified 3,964 students from low income families in depressed areas and 2,261 handicapped students as a part of the enrollment in the regular secondary program.

TABLE IV-1

ENROLLMENT IN SPECIAL PROGRAMS SERVING DISADVANTAGED PERSONS DURING 1969-70

Vocational Area	Secondary Level	Post-Secondary Level	Adult	Number of Programs
Agriculture	40			2
Business and Office	617	28		30
Home Economics*	507			12
Health	45			2
Trade, Industrial & Technical	1,193		138	22
All Areas—Special Summer Programs	1,084	672		25
TOTAL	3,486	700	138	93

*Home Economics also identified 3,964 students from low income families in depressed areas who were served by the regular programs.

The position of Director of Programs for the Disadvantaged and Handicapped was filled in June, 1970. The director is responsible for the administration of the monies earmarked for handicapped and disadvantaged youth and adults for each of the various service areas under the Vocational Education Amendments of 1968. The leadership provided in this position should serve to encourage expansion of programs to serve the handicapped and disadvantaged in new and revised programs in the state.

B-3. Vocational education in Missouri is becoming increasingly available to greater numbers of persons through the expansion of offerings in area vocational schools and junior colleges as well as an increase in the number of secondary and adult program offerings in local schools. Table IV-2 presents a summary of the expanded services offered by the area schools. During 1969-70, 12,696 students from 181 schools in Missouri were served by a functioning area school. Of these students, 7,457 were considered to be from feeder schools. However, only about 2,000 of the students from feeder schools were involved in area schools outside the metropolitan districts of the state. An examination of Table IV-2 suggests that many of the smaller districts of the state are not sending students to the area schools. In his Summary Report, Don Rice notes the necessity of financing students sent to area schools and the consequent reduction of enrollment in their own programs as two major reasons for a low level of cooperation in this regard. He reviews other causes which further inhibit smaller districts' involvement with the area schools (see Appendix B for summary of research directed to this problem). Therefore, while the area schools appear to be serving the metropolitan areas of the state, there are a number of smaller schools which do not take advantage of the existing opportunity to provide vocational education for their students. It should be noted that eight additional area schools have been approved and should become functional during 1970-71. The relative cost of program per pupil has been given only a small amount of attention when program planning decisions have

TABLE IV-2

THE NUMBER OF SCHOOLS AND STUDENTS SERVED BY FUNCTIONING AREA VOCATIONAL SCHOOLS IN MISSOURI*

Area Vocational School	Number of Participating Schools	Number of Students Attending From Feeder Schools	Total Number of Students
Bonne Terre (Lead Belt)	7	151	206
Brookfield	5	110	240
Cape Girardeau	6	172	399
Chillicothe	3	18	182
Columbia	2	10	286
Crowder College	5	225	225
Eldon (Tri-County)	3	13	133
Excelsior Springs	5	62	182
Fort Osage	4	92	323
Hannibal	7	84	444
Jefferson College	8	152	152
Kansas City	12	936	936
Kennett	3	41	141
Kirksville	4	14	177
Lebanon	2	---	332
Linn	-	---	440
Macon	4	5	136
Malden	7	132	160
Marshall	5	49	212
Maryville	3	22	66
Mexico	5	72	542
Moberly	2	5	109
Monnett	5	82	398
Poplar Bluff	2	5	184
Rolla	6	67	320
St. Charles (Lewis & Clark)	4	116	207
St. Joseph	3	260	260
St. Louis City	10	2,782	2,782
St. Louis County Special District	25	1,002	1,002
Sikeston	6	127	455
Springfield	12	604	604
Washington	2	21	206
Waynesville	4	26	255
TOTALS	181	7,457	12,696

*There are eight additional designated Area Vocational Schools in Missouri for 1970-71.

been made (see Appendix C for summary of research directed to this problem).

The growth of vocational-technical programs at the post-secondary level is discussed in detail in B-5 of this section of the report. It should be noted that the per cent of the post-secondary enrollment served by vocational courses increased from 17 to 27 per cent in the year under consideration. These students were served in 200 institutional programs within 123 schools. It was also reported that twenty-eight of the offerings were instructional programs initiated during the year. The increased availability of service in the post-secondary area is further supported when the data presented in the Swanson Report (1965-66) are used as a base line. It was reported that during 1965-66 there were nine public junior colleges and fourteen secondary schools offering 52 instructional programs in vocational education for adults (p. 12).*

Although the estimated per cent of the adult population served has not changed significantly, Table IV-3 reports a total increase in the numbers of adults served between 1965-66 and 1969-70. The fact that the number served more than doubled in a five year period indicates concern for and expansion of this phase of the vocational program.

TABLE IV-3

ENROLLMENT IN ADULT VOCATIONAL CLASSES IN 1965-66 & 1969-70

Occupations	Enrollment 1965-66*	1969-70
Agriculture	4,161	4,100
Business Office	678	4,211
Distributive		5,484
Health	374	1,092
Home Economics	6,586	6,086
Trade and Industrial & Technical	1,800	12,394
TOTAL	13,608	33,367

*Totals except Home Economics were taken from A Gateway to Higher Economic Levels, by J. C. Swanson, et. al., p. 17.

It was reported in Goal III, Section B-2 that sixty-four new instructional programs were started in 1969-70 at the secondary level. Many other courses were modified in either content or approach to serve better the needs of the students. Attention was directed to serving disadvantaged and handicapped students within the regular program as was cited in B-2 of this section of the report. Table IV-4 illustrates the availability of vocational curricula during the 1968-69 program year.

TABLE IV-4

DISTRIBUTION OF VOCATIONAL CURRICULA IN MISSOURI HIGH SCHOOLS

Comparison of the Number and Per Cent of High Schools Offering Vocational Curricula During 1965-66 and 1968-69

Number of Vocational Curricula	1965-1966		1968-69		Rate of Change
	No.	%	No.	%	
None	194	36	126	24	-12%
One	189	35	151	29	-06%
Two	90	17	79	15	-02%
Three	32	6	64	12	+06%
Four	6	1	41	7	+06%
Five or More	17	3	59	11	+08%
Total High Schools	528		520		

The data in Table IV-4 do not reflect the changes as a result of the initiation of the sixty-four new secondary programs in 1969-70. It was estimated in the Swanson Report that in 1965-66 vocational education, including Home Economics, was serving 21 per cent of the students in grades eleven and twelve (p. 26).* In 1969-70 the comparable figure was

*J. C. Swanson, et. al., A Gateway to Higher Economic Levels.

27 per cent. When Home Economics is included in the 1969-70 figure, approximately 42 per cent of the students in grades eleven and twelve were enrolled in a program of vocational education.

Although it is somewhat difficult to find comparable data for previous years on which to make accurate numerical comparisons, it is evident that vocational education programs for the population groups identified in the 1968 Amendments in Missouri have expanded significantly in the past five years. The availability of vocational education is even more extensive than Table IV-4 reveals when the number of schools participating in area programs is considered (see Table IV-2). Moreover, a sizable part of the growth occurred during the 1969-70 school year.

B-4. A comparison of total enrollment figures for vocational education for the 1969-70 school year and the projected enrollments for the year are made in Table IV-5. It is noted that the post-secondary and adult enrollments correlate highly with the projections while the secondary projection was high. Significant progress was reported in the special program areas, but only Consumer and Homemaking Education exceeded the projection for the year.

TABLE IV-5

TOTAL VOCATIONAL EDUCATION ENROLLMENT

Level	Actual 1969-70	Projected 1970
Secondary:		
Grades 9-12	90,408	134,330
Grades 8 & Below	15,000	10,000
Post-Secondary	8,142	8,490
Adult	33,367	29,229
TOTAL	146,917	182,049

TABLE IV-5A

VOCATIONAL EDUCATION ENROLLMENT IN SPECIAL PROGRAMS

Program	Actual 1969-70	Projected 1970
Disadvantaged—Total	4,477	6,491
Secondary	3,667	5,145
Post-Secondary	674	500
Adult	138	846
Handicapped—Total	47	630
Secondary	47	80
Post-Secondary	0	510
Adult	0	40
Cooperative Program—Total*	552	900
Secondary	419	740
Post-Secondary	133	160
Consumer & Homemaking Education—Total	55,749	45,551
Secondary	49,653	42,057
Post-Secondary	10	0
Adult	6,086	3,494

*Part G enrollments only.

The data presented in Tables IV-6 and IV-7 detail the scope, number of teachers, and number of persons completing the secondary and adult vocational programs respectively. The program completion by over 28,000 secondary students must be considered in terms of the length of the program offerings. Home Economics programs are two and three years in length and Agriculture programs are normally four years in length, while the others typically enroll juniors and seniors. If it is estimated that approximately 25 and 30 per cent respectively of the total enrollment represents those starting the program, then the completion rate could be estimated at roughly 95 per cent. This corresponds with the 96 per cent completion rate for secondary programs reported in Part

II of the State Plan. The corresponding figure for adult programs was reported at 95 per cent. However, the data in Table IV-7 would approximate a 90 per cent completion rate for adult programs.

TABLE IV-6

PROGRAMS IN SECONDARY VOCATIONAL EDUCATION BY OCCUPATIONAL SERVICE AREAS IN 1969-70

Occupation	Enrollment	Number of Programs	Number of Teachers FULL	Number of Teachers PART	Number of Seniors Completing Program
Agriculture	12,466	234	252	12	2,671
Business & Office	10,299	420	343	65	7,197
Cooperative Industrial	1,085	76			810
Distributive	5,891	101	129		1,915
Health	270	14	10		N/A
Home Economics	49,653	343*		50	11,091
Trade & Technical	10,744	341	348		4,639
TOTAL	90,408	1,529	1,510	127	28,323

*Number of districts offering programs.

TABLE IV-7

PROGRAMS IN ADULT VOCATIONAL EDUCATION BY OCCUPATIONAL SERVICE AREAS IN 1969-70

Occupation	Enrollment	Number of Programs	Number of Teachers FULL	PART
Agriculture	4,100	119	3	99
Business & Office	4,211	52	0	227
Distributive	5,484	73	0	69
Health	1,092	17	1	N/A
Home Economics	6,086	36*	0	135
Technical	465	9	22	N/A
Trade & Industrial	11,929	218	459	121
TOTAL	33,367	524	485	651

*Of this number, 32 represent number of districts offering programs.

At the time this report was prepared, data concerning job placement of graduates and their evaluation of the program were not available for 1969-70. Information on job placement is collected during September of each year as it relates to June graduates. Overall, the completion rate of vocational programs appears to be good. However, follow-up information concerning placement and job competence should be considered in any judgment concerning the effectiveness of the programs.

B-5. Enrollment data presented in Table IV-8 show that a total of 8,142 post-secondary students were enrolled in technical and vocational education courses in 1969-70. The programs were in operation under the direction of 360 full-time and 91 part-time teachers. Each of the

various service areas indicated some involvement in program development at the post-secondary level.

TABLE IV-8

PROGRAMS IN POST-SECONDARY VOCATIONAL TECHNICAL EDUCATION IN 1969-70

Occupation	Enrollment	Number of Schools *	Number of Teachers FULL	Number of Teachers PART	Number Completing Program
Agriculture	213	8	14		170
Business & Office	1,590	41	21	86	483
Distributive	482	13	31		165
Health	2,773	30	200		NA
Home Economics (Occupational)	124	8	5	5	80
Technical	2,960	23	89		577
TOTAL	8,142	123	360	91	1,475

*There were 200 instructional programs reported.

The post-secondary programs were associated with the public junior colleges, area schools, four year institutions, and local vocational-technical schools. The area of rapid expansion during the past year was in the public junior colleges. Table IV-9 reports the type of schools which offered post-secondary programs and provides for a comparison of the offerings during the 1965-66 school year. It was noted in Goal III, Part B-2, that twenty-eight new post-secondary programs were initiated in 1969-70. This would support the conclusion that Missouri is concerned about vocational offerings for post-secondary persons and is making progress in expanding programs to serve the needs of these people.

TABLE IV-9

DISTRIBUTION OF POST-SECONDARY PROGRAMS BY OCCUPATIONAL AREAS AND TYPE OF INSTITUTION IN 1965-66 AND 1969-70

Occupational Area	Programs Per Type of Institution							
	State College		Junior College		High School		Area School	
	65-66	69-70	65-66	69-70	65-66	69-70	65-66	69-70
Agriculture	0	1	0	6	0	0	0	1
Business & Office	7	5	6	13	1	0	0	3
Distributive	0	1	1	12	0	0	0	0
Health	1	2	1	9	11	3	0	13
Technical	4	2	9	11	9	1	0	9
Other	4	0	7	0	3	0	0	0
TOTAL	16	15	26	54	24	4	0	27

C. Recommendations

C-1. Information available from the 1970 census should be used in checking the reliability of the population characteristics and this verified information used in future planning. Information concerning the status of the unemployed in the state should be verified, and the approach utilized to identify those needing Consumer and Homemaking education should be carefully evaluated.

C-2. Missouri has made a significant start in the development of special programs for disadvantaged and handicapped students and should continue to expand these services. Special attention should be directed to the development of post-secondary and adult programs for the disadvantaged and handicapped. The regular secondary programs have the potential and are serving many of these students, including many potential

dropouts. Effort should be exerted to encourage all educational administrators and instructional personnel in Missouri to serve these people in the regular programs when they can best be served in this manner or when a special program for the student or group of students is not feasible.

C-3. Significant progress has been realized in expanding vocational offerings through area schools and junior colleges as well as through the local secondary programs. The State Department of Education is in a unique position to support and encourage the expansion of area schools and junior college vocational offerings. They should explore possibilities with the smaller school districts in the state to encourage greater participation in area school programs.

C-4. In addition to placement information secured in September following graduation from high school, it is suggested that some procedure be established to ascertain the student and employer satisfaction with the outcomes of the programs. Most logically, the initial collection of data would be conducted at the local program level and used in evaluation of the local programs. This information could then be compiled and submitted to the State Department of Education to provide a composite view of all programs in the state. (Further amplification of this recommendation is under Goal VI.)

C-5. The State Department of Education has a definite responsibility to coordinate the development of the more specialized vocational offerings at the post-secondary level to assure that there will not be undue competition for students between similar programs in the state. It is also anticipated that the rapid development of these programs would require that leadership be exerted in the area of program evaluation and development as well as initial planning. The State Department of Education is uniquely qualified to aid in these programming functions and should place high priority on providing the leadership at this highly critical

stage of post-secondary program development in the state.

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GOAL V

ASSESSMENT OF EMPLOYMENT OPPORTUNITIES AND VOCATIONAL SERVICES REQUIRED WITHIN THE STATE

A. Items Evaluated

A-1. The actions taken by the State Department of Education to obtain data pertaining to employment opportunities and manpower requirements as well as the reliability and validity of the data obtained.

A-2. The extent to which vocational education programs are providing training to meet the current and projected manpower requirements in shortage occupations.

A-3. The extent to which the various vocational education programs are providing training for job clusters or groups of jobs within a broad occupational area.

A-4. The extent to which vocational and technical education programs and services are planned and implemented to provide occupational training and guidance for the full range of potential job opportunities in the state.

B. Findings/Conclusions

B-1. The State Department of Education contracted with the Missouri Division of Employment Security to provide data relative to job opportunities and projected manpower needs in Missouri (p. 47-48, Part I of State Plan). They were supplied a copy of the report of annual average Estimated Employment by Occupation by the Division of Employment Security. This report in tabular form revealed the following data for

each occupation:

1. The actual number employed according to the 1960 census.
2. The projected employment in each occupation for 1969.
3. The projected 1975 employment in each occupation.
4. Annual growth from 1969-75.
5. Annual replacement needs 1969-75.
6. Total annual needs 1969-75.

The 1960 census was used as a base for the projections reported. A national matrix was applied to the census data to arrive at employment estimates for Missouri. The distribution was adjusted to reflect the actual changes in the total employment with the assumption that the employment was distributed by occupation as reported in 1960. The figures for the 1974 projections were based on the assumption that the rate of change found between 1968 and 1970 would hold through 1974.

The information from the tabular report was circulated to each area director in the vocational division. The area directors determined which occupational listings were appropriate for his area of responsibility by using the Office of Education Code as a guide to convert occupations to training areas.

The major concern has been to coordinate communication between the agencies so that the data will be more usable in planning vocational programs in the state. There are three specific problems with which the agencies are concerned and which have a direct bearing on the validity and reliability of the data for use in vocational program planning. One problem focuses on the terminology and organization of the information supplied by the Division of Employment Security and that used in vocational education program planning. Until a more precise method of correlating job titles listed in the Standard Industrial Classification and in the Office of Education Code is developed, there will continue to be a basis for questioning the validity of the information in vocational education program planning. The Research Coordinating Unit of the State Department of

Education is currently developing a computer program to use in correlating job titles on a coded basis. The approach has promise for solving the terminology problem.

A second concern focuses on the organization of the data by the Division of Employment Security into broad categories with a large per cent (in some cases over 50 per cent) of employment needs being grouped under one nondescript job title. Again, this presents a problem in using the data for planning of vocational education programs. When comparing Table 1, page 3, Section 5.1c, page 17 of the Objectives of Part II of the State Plan, it is evident that efforts must be extended to ascertain the opportunities in agriculture and home economics for the various existing and proposed training programs. This will require a more precise listing of occupational needs in the state.

The third major concern of the agencies relates to the participation of employers in reporting employment opportunities. It seems that the most "difficult to fill" positions are reported while many easily filled employment opportunities are not reported to the Division of Employment Security. The fact that data concerning job openings may not be representative of all positions or openings in the state presents a question concerning the reliability of the data for program planning. It was found that the State Department of Education and the Missouri Division of Employment Security are striving to work together to obtain valid and reliable information for program planning. However, because of the diverse methods of organizing and coding the data, there exists serious question concerning the validity and reliability of the data for use in the planning of vocational education programs.

There was one area where caution and revision is advised in reporting the data from the State Plan. The "Projected Labor Demand" section of Table 1, Part II, appears to be in error and is subject to misinterpretation. The heading would suggest that the data deals with the number of new workers to be employed in the occupation in the given year

rather than the total number of workers employed.

B-2. The 1969 Fiscal Year Report of the Missouri Cooperative Area Manpower Planning System listed twenty-four occupations which had occupational shortages. The list was developed from Employment Security ES-219 labor area reports, the unfilled job openings survey, and local office occupational guides. The following were listed:

Accountants & Auditors	Auto Body Repairmen
Auto Mechanics	Carpenters
Cooks	Draftsmen
Electricians	Engineers
Farm Equipment Mechanics	Farm Hands
Janitors	Licensed Practical Nurses
Machinists	Maintenance Men (Building)
Mathematicians	Nurse Aide
Plumbers	Policemen
Registered Nurse	Salesmen
Sewing Machine Operator	Typists, Stenographers, Secretaries
Waiters & Waitresses	
Welders	

An analysis of the occupations listed suggests that four could be classified as professional, seventeen as skilled and semi-skilled, and two as unskilled occupations. It was assumed that vocational and technical education could prepare workers in the skilled and semi-skilled category. It was found that Missouri had one or more secondary vocational programs in fourteen of the seventeen shortage occupations identified in the skilled and semi-skilled category. Table V-1 shows the number of secondary programs in Missouri which correspond to the shortage occupations listed. There are also post-secondary vocational technical programs operating to prepare people such as Licensed Practical Nurses for occupations listed.

TABLE V-1

SECONDARY VOCATIONAL PROGRAMS IN SKILLED AND SEMI-SKILLED SHORTAGE OCCUPATIONS IN MISSOURI

Occupational Title	OE Code	Number of Programs
Accountants	14.0100	75
Auto Body Repairman and Auto Mechanics	17.0300	68
Carpenters	17.1000	68
Cooks	09.0703	8
Draftsmen	17.1300	31
Farm Equipment Mechanics	01.0300	136
Licensed Practical Nurses	(A post-secondary program)	
Machinists	17.2300	28
Maintenance Men	17.1100	4
Nurses Aide	07.0303	12
Salesmen	04.0000	115
Sewing Machine Operator	09.0202	0
Typists, Secretaries	14.0700	149
Waiters & Waitresses	17.2900	5
Welders	17.2300	28

B-3. An attempt was made, using Office of Education Code categories, to try to ascertain the degree to which vocational programs in Missouri provided training for occupational areas or clusters rather than for specific jobs. The directors in the Vocational Division of the State Department of Education were asked to indicate the extent to which the local programs under their direction were providing training for clusters of occupations rather than for specific jobs. The director of agriculture, business and office, distributive, and home economics

reported that nearly 100 per cent of the secondary programs prepared students for entry into a number of occupations related to the training program. The director responsible for cooperative industrial education reported that about 50 per cent of the programs lead to preparation for more than one job, while those responsible for the health, trades, and technical areas reported that only a small per cent of their programs at the secondary level prepared students for a variety of job opportunities. The majority of the post-secondary and adult programs in all service areas focused on preparation for a narrow range of occupations or a single occupation.

An examination of the Office of Education Program Code presented on page 17 of Part II of the State Plan would support the perception of the directors regarding the nature of secondary vocational education programs.

Placement data for 1969-70 were not available to use in determining the number of students completing the programs who were employed in the occupation or a related occupation for which they were trained.

B-4. It was difficult to ascertain the extent to which the vocational education program had served the full range of potential job opportunities within the state due to the fact that the data relative to manpower needs and employment opportunities for the state are difficult to interpret in terms of vocational programs. The fact that vocational offerings are available in all but two of the shortage occupations listed for the state would suggest that Missouri vocational programs do reflect the employment trends of the state.

Of the 462 school districts in Missouri, 219 provide guidance services with 163 qualifying for reimbursement under the Vocational Amendments of 1968. In Missouri there are 779 certified counselors. Of this number, 480 function in approved programs, 307 full-time and

173 part-time. There are 41 school districts approved as area schools in Missouri. Of this number, 16 have approved guidance programs. There are 22 counselors providing guidance services in the area vocational schools. There are 12 junior colleges, 11 of which have approved guidance programs.

The Vocational Guidance section of the State Department of Education makes available occupational information to the 779 counselors in high schools within the state. Emphasis is placed on career information and schools are encouraged to maintain vertical files of current career information. The extent to which this information reflects manpower needs is dependent upon the sources supplying the information to the schools. The student counselor ratio in approved programs is one counselor to 408 students, which is obviously too large to permit the most effective execution of the guidance and counseling functions. It would be difficult for the most conscientious counselor to personally work with each student in the matter of career planning; nevertheless, much is accomplished in some schools through group guidance practices and the maintenance of a career information center.

C. Recommendations

C-1. There is a need to increase the level of validity and reliability of data describing existing employment opportunities and projections for the next five years. Specifically, the terminology between the Standard Industrial Classification , the Directory of Occupational Titles, and the United States Office of Education Code must be better correlated so that more valid information is available for planning when using the Office of Education terminology. The USOE manual, "Vocational Education and Occupations," published in cooperation with the Department of Labor, should be utilized by both the Vocational

Division and the Division of Employment Security. The Division of Employment Security must be encouraged to supply data classified into specific job categories, eliminating as much as possible the "Not Elsewhere Classified" category, so that a more valid base can be obtained for the number employed and needed in each occupational area. A precise method should be employed to organize the data to correspond with the existing and projected areas of training which are to be developed for Section J. 1C of the Objectives Section, Part II of the State Plan. Special attention should be directed to obtaining more precise information regarding occupations in agriculture and home economics.

Until such time as the above procedures are refined to increase the validity and reliability of the data concerning job opportunities and projected employment needs in Missouri, the State Department of Education should be cautious in using the information obtained in making decisions related to program planning.

C-2. The Vocational Division, State Department of Education, should continue to encourage the development and expansion of programs in the areas of identified occupational shortages.

C-3. Missouri secondary school programs of vocational education emphasize training for a variety of jobs within an occupational area and should be encouraged to continue to develop and refine this approach to vocational education.

C-4. Effort must be maintained to determine more effectively the existing and emerging manpower needs of the state and the occupational opportunities available. As outlined in recommendation C-1 of this section, the Division of Employment Security and the State Department of Education must cooperate in resolving this problem. In addition, the State Department of Education should explore alternate methods of determining the emerging and continuing manpower needs of the state.

This latter point is vital to effective long range planning and evaluation.

The Guidance Section of the Vocational Division, Missouri State Department of Education is encouraged to continue to seek out and make available to all schools the information concerning current and projected opportunities for employment as well as training in Missouri, the region, and the nation. In addition, schools should be encouraged to become much more active in the location of employment for vocational students and graduates as well as in assessing the job adjustment of employed graduates. It is further recommended that the requirements for vocational guidance counselors include work experience outside of professional education and/or professional experiences related to vocational education. Intensive, inservice programs should be developed by the State Department of Education to provide greater awareness for all counselors of vocational-technical education and occupations and further, that special attention be given to counseling of minority groups.

GOAL VI

AN ASSESSMENT OF THE CONTINUOUS AND INTERRELATED PROCESS OF EVALUATION AND PROGRAM PLANNING

A. Items Evaluated

A-1. The existence of systematic evaluation practices at the local program level which provide the basis for program planning and development.

A-2. The existence of systematic evaluation practices at the state level which provide decision makers with information that can lead to changes in emphasis and program direction.

B. Findings/Conclusions

B-1. Available evidence indicates that local evaluation as a basis for program planning was largely informal and fragmented. Reports of students, programs, and funds as required by the State Department of Education, Vocational Division, constitute the majority of the attempts at local assessment. No evidence was obtained which would reveal a comprehensive review by local school districts of the extent to which the process and product outcomes established for the vocational program were being met.

In several secondary schools, the North Central Accrediting Association Re-evaluation procedures stimulated self-study and review of the entire comprehensive school program which included an appraisal of several vocational programs.

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B-2. A statewide system for evaluation and program planning did not exist in the State of Missouri; however, a plan was inaugurated for FY 1961 whereby the vocational program would be evaluated at least once every three years. (See Appendix D for statement regarding local program evaluation in Missouri for FY 1971.) The Vocational Division, State Department of Education engages in informal evaluation and planning activities in April and May as the annual "State Plan" is prepared. Unfortunately, data (especially of a product nature) are not available at that time to permit a thorough assessment of the extent to which the objectives of the statewide program of vocational education are being met. With some modification, Sections 4. and 5., Part II, and Section 2.0 to 2.13 of Part III, State Plan for Vocational Education submitted to the USOE by the Missouri State Department of Education would provide the basis for "goal statements" that could be answered in definitive terms. A mechanism has been established whereby follow-up studies of high school graduates can be made at periodic intervals. This procedure was utilized in 1968 to follow-up the graduates of 1966. The resulting data were shared with local districts. This procedure will continue to be employed on an annual basis.

C. Recommendations

C-1. Local districts should be encouraged to conduct a comprehensive evaluation of their vocational program's effectiveness on a three to five year cycle and that the results of this assessment be utilized in the planning and development of the vocational education program. Contiguous school districts should be encouraged to plan on the basis of a larger geographical area. Area considerations should also be taken into account as labor market needs and employment opportunities are assessed. As an initial step in this process, managers of local programs should prepare statements of expected program outcomes

that lend themselves to quantitative and qualitative appraisal.

Not only would the yield in terms of data from such a comprehensive appraisal be significant, but, in addition, the analytical process could contribute immeasurably to the insight of those involved in local evaluation.

In an effort to implement the preceding recommendation, it is further recommended that such a local evaluation be specified as a condition of the "local application" for federal and state funds as required by USOE Regulation 102.60. The implementation of this recommendation would fuse together the ongoing processes of planning and evaluation.

C-2. That a system be established for evaluation of vocational education in the State of Missouri and that such a system serve to coordinate local evaluation activities to insure that unwarranted duplication of effort will not occur, and that standardized data will be available for statewide evaluation. Such a system would provide for the establishment of (a) goal statements which are to provide direction for the program in terms of the desired outcomes it seeks; (b) a formalized data gathering mechanism which produces information about the process and the product of a program in terms of its goals whether through a special study or regular reporting; and (c) a clearly identified decision-making procedure (individuals or interacting group) which involves the use of available data in decision-making about program goals, activities directed toward these goals, and necessary program modifications. A suggested model may be found in publication number 58 titled, "A System for State Evaluation of Vocational Education," developed and distributed by the Center for Vocational and Technical Education, the Ohio State University, Columbus, Ohio.

It is further recommended that the position of Director, Vocational Program Planning and Evaluation, as specified in the

organization chart for the Vocational Division, State Department of Education, be filled and that the functions inherent in the position be carried out.

APPENDIX A

AN ANALYSIS OF THE WORK-STUDY PROGRAM IN SELECTED MISSOURI SCHOOLS

by

Francis O. Drake, Jr.

A Summary Report

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AN ANALYSIS OF THE WORK-STUDY PROGRAM IN SELECTED MISSOURI SCHOOLS

Summary

The purpose of this study was to describe some of the more important characteristics, operational features, and opinions held by school people and former program participants concerning the work-study program as it has been conducted in Missouri high schools under the provisions of the Vocational Education Act of 1963. In addition, appropriate portions of these data were analyzed to assess the extent to which this program had been conducted within the framework of legislative intent, as established through the published guidelines of the Missouri State Department of Education. More specifically, the study attempted to answer the following questions:

1. What are the general characteristics of work-study programs with respect to the size of the community, size of the school, and vocational services offered?

2. How are work-study trainees distributed with respect to size of the community, size of the school, type of vocational program, sex, age, and grade level in school?

3. What agencies are the employers of work-study trainees? What are the hours worked and wages received by work-study trainees?

4. To what extent are eligible schools with relatively high drop-out rates participating in the work-study program? Among the eligible schools, what are the expressed reasons for non-participation in the work-study program?

5. What supervisional and operational practices are followed by participating schools in conducting the work-study program? To what extent are these practices consistent with the state guidelines for work-study program operations?

6. What are the general characteristics of the work-study supervisor with regard to sex, school position, educational attainment, teaching and work experience, and supervisory compensation received?

7. What portion of the twelfth grade work-study trainees actually complete high school? What portion of the trainees, other than twelfth grade, remain in the program for a full year?

8. What are the post-training occupational and educational experiences of former work-study trainees? What is the relationship of the student work-study experience to: (a) the high school vocational program, and (b) jobs held at the time of the study?

9. What are the opinions of work-study supervisors and former work-study trainees regarding the success of the program?

Portions of the data used in the study were gathered from the files of the Missouri State Department of Education, Jefferson City, and through personal interviews which were conducted in 22 randomly selected public schools. In addition, two information forms were used in the study.

A data coding key was used to gather information on file at the Missouri State Department of Education for 132 different participating schools, involving a total of 3,854 work-study trainees for the school years of 1964-67. The data coding key was designed to gather information which would reveal the general description characteristics of statewide program operations, together with certain information about the trainees who had participated in the program. Information on file at the State Department of Education was also used to compute the drop-out rates for 305 eligible schools included in the study.

A stratified random sample, consisting of 22 participating Missouri schools, was selected and personal interviews were conducted in each to gather information dealing with the operational practices followed by these schools, together with information and opinions from those who had supervised the program.

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The information forms sent to former work-study trainees were designed to yield information concerning their occupational and educational placement, their opinions toward certain features of the program, together with information about their in-school vocational and work-study experiences. Out of 367 former trainees contacted, a total of 194, or 52.8 per cent, responded to the information forms.

The information forms sent to the administrators of non-participating schools were designed to supply information concerning the reasons why these eligible schools had not participated in the program through the 1964-67 school years. Of the 191 superintendents of non-participating schools, a total of 185, or 96.3 per cent, responded to the information form.

Summary of Findings

The work-study program had not gained widespread acceptance as a majority of 323 eligible Missouri schools had never participated in the program at the time of the study. However, 132 different participating schools enrolled a total of 3,854 work-study trainees from 1964 to 1967, and a majority had operated the program for two years.

The work-study program and those served by it have been located principally in rural Missouri. Over 70 per cent of all programs was operated by schools which were located in communities of fewer than 5,000 residents. Moreover, a majority of the programs was found in schools offering two or less vocational programs and having a school enrollment, in grades nine through 12, of less than 300 students. A majority of the trainees were enrolled in programs which were conducted in communities of less than 3,000 residents, as contrasted to 12 per cent of the trainees enrolled in schools which were located in metropolitan areas of the state. Trainees were most frequently found to be enrolled in schools with from 100 to 299 students.

Over three-fourths of all trainees were enrolled in two types of vocational programs: 44 and 33 per cent of all trainees were enrolled in business education and agriculture programs, respectively. A majority of the work-study trainees, whose mean age was 16.6 years, were enrolled in the twelfth grade, and were males. Schools were the principal employer of work-study trainees, as over 97 per cent of them were employees of their respective school districts.

Federal funding procedures caused local programs to start late in the fiscal year and necessitated a summertime work-study program. This, in addition to a wide variation in hours worked among participants, reduced the average total hours of work per trainee to 145 and 168 hours for two regular school years ending in 1966-67. The final wage rate received by trainees was slightly over $1.00 per hour, and the annual take-home pay averaged $145 and nearly $170 for the two regular school years.

For a majority of the administrators of non-participating schools, two reasons were important in the decision not to participate in the program. These were the budgetary problems of meeting the trainee salary-matching requirements of the program, and a lack of federal or state reimbursement for local supervisory personnel.

Of the 76 eligible Missouri schools having the highest drop-out rates in grades nine through 12, a majority did not participate in the work-study program.

Although state guidelines for program operations specify that schools should establish criteria and procedures for the selection of trainees, in a majority of the 22 schools where interviews were conducted, these procedures were not formally developed. Supervisors valued the assistance from vocational teachers and counselors over all other sources in the school and community when selecting financially needy students. A majority of the schools had not established family income limits for trainee selection, and none required information from the welfare office

to establish financial need.

When selecting trainees "capable of maintaining good standing," a majority of the supervisors designated a student's attitude and behavior as the most important selection factor while regarding grade point averages as unimportant.

Though the program was not regarded as an opportunity to provide planned, sequential work experience, 16 of 22 supervisors reported some attempt to coordinate the trainee work tasks with vocational instruction and found this easiest for business education trainees due to the substantial number of clerical work-study jobs that were created by the schools.

Once placed on the job under an immediate supervisor, trainees were visited infrequently or not at all by a majority of the supervisors.

A majority of the schools allowed some student work to be performed during regular school hours and 42 per cent of these permitted the work to be done entirely within regular school hours.

State guidelines for work-study program operations were ignored by a majority of the schools by failing to: develop program objectives, conduct periodic program evaluations, appoint work-study advisory committees, and execute written work agreements between the school and local agencies which had employed work-study trainees.

As specified in the state guidelines, work-study trainees were afforded the same counseling services available to all students in a majority of schools. All of the schools provided social security coverage for trainees, but a majority did not require accident insurance, though available.

Nearly 98 per cent of the twelfth grade trainees enrolled in the program in 1966-67 were graduated from their respective high schools, while 85 per cent of the trainees of less than twelfth grade level were retained in the program for the same school year.

In a majority of the schools, supervisory duties were assumed by males who held school administrative positions; nearly three-fourths of these individuals held master's degrees, and one-half had majored in educational administration. Thus, supervisory duties in a majority of the schools were assigned to non-vocational personnel, none of whom received compensation for duties performed. Supervisors were veteran educators, as 95 per cent had at least 10 years of experience, and slightly over 50 per cent had at least five years of experience aside from teaching.

A majority of the supervisors rated the overall success of the program as good; 86 per cent considered the program to be effective or better as a means of keeping vocational students in school. In this regard, salaries paid to trainees were rated as adequate by a majority of the supervisors.

A majority of the supervisors considered 15 hours of student work each week to be reasonable and recommended no change in this limitation. However, the maximum monthly salary limit should be increased, according to a majority of the supervisors, to eliminate the conflict between work-study and federal Wage and Hour regulations.

A majority of the supervisors indicated that the most serious problem limiting the effectiveness of the program was the erratic procedures followed in providing federal funds for the program. As a result, it was reasoned, program planning efficiency had been reduced.

At the time of the study, a majority of the former work-study trainees were employed fulltime; slightly less than one-fourth were fulltime students.

Eight-six per cent of the former trainees had been, at some time since leaving high school, employed with an average of 1.7 jobs held per former trainee. A majority had reported periods of unemployment with an average of nearly 20 unemployed weeks per former trainee.

Of the employed former trainees, a majority was employed in clerical and sales occupations and were females; slightly over 40 per

cent of the males were employed in the machine trades. Among the employed, 58 per cent had entered occupations for which they were trained, and 13 per cent had entered occupations which were related to their vocational training.

A majority of the work-study assignments of employed former trainees had been clerical jobs, and were held by business education enrollees.

Though a majority of all employed former trainees had obtained employment in occupations where the work tasks were unrelated to their previously held work-study jobs, a majority of the business education trainees had held work-study clerical jobs and were placed in occupations where the work tasks between the two were closely related.

Of the former trainees continuing their education, a majority was still enrolled in an educational program, nearly one-half of this group of former trainees had attended a four-year college or university and three-fourths were still so enrolled.

The job provided through the work-study program was the first steady work for 57 per cent of these former trainees, and the work experience was rated as valuable or better by four -fifths of the former trainees.

When considering the work-study salary as an aid in enabling needy students to remain in school, nearly 80 per cent of the former trainees rated the salary as adequate or better for this purpose.

A majority of the former work-study trainees reported the income of their parents to be less than $5,000 annually at the time they were participants in the program.

Over four -fifths of the former trainees reported that they would have graduated from high school without assistance from the work-study program. Of the 194 former trainees, a total of 190 reported that they were high school graduates.

From the former trainees' standpoint, the most frequently mentioned problem that limited the effectiveness of the program was the limited number of hours that trainees were allowed to work.

Conclusions

It is recognized that the work-study programs as conducted in other states may differ in a number of ways from the programs that have been implemented in Missouri. A state's program may vary with respect to the status of vocational program development along with the composition of participating schools, student participants, and the population density of the state. Additionally, the program may be altered by state administrative policies and practices which form the guidelines for work-study program operations. For these reasons, there is no claim that the findings and conclusions of this study have application to the work-study programs conducted in other states. However, to the extent that the data here reported are representative of the work-study program in Missouri, at the time of the investigation, the following conclusions may be drawn:

The assistance afforded by the work-study program has not been available on an equitable basis to financially needy vocational students in the state. Since nearly 60 per cent of the schools considered to be eligible had not conducted a work-study program up to 1967, it may be concluded that substantial numbers of financially needy vocational students have been denied the benefits of the program.

Since, among the participating schools, ~~over 70 per~~ cent of the work-study programs enrolling nearly 68 per cent of all trainees were conducted by schools located in communities of less than 5,000 residents, and since less than seven per cent of the programs enrolling 12 per cent of all trainees were located in the metropolitan areas of the state, it may be concluded that the work-study program has served rural vocational students, while metropolitan and, in particular, inner-city vocational students have been largely unserved by the program.

One intent of the work-study program was to provide schools with a resource to reduce school drop-out rates. In most schools the greatest incidence of school drop-outs occurs prior to the twelfth grade level, yet data here reported show a majority of the work-study trainees were enrolled in the twelfth grade and over four -fifths reported that they would have graduated from high school without assistance from the program. Therefore, this intent has not been fully met, and the program has not been an available school resource at the grade levels where the drop-out rates are the highest.

Since it was found that a majority of the schools had failed to establish formal criteria for trainee selection, develop program objectives, conduct periodic program evaluations, appoint work-study advisory committees, and execute written work agreements where appropriate, and since a majority of the work-study supervisors was already full-time administrators who lacked adequate time for program supervision, it may be concluded that schools have neglected or ignored these areas of the state guidelines and regulations for work-study program operations.

Though a majority of the work-study trainees came from low-income families, a majority had obtained employment after graduating from high school; and of these, a majority were employed in an occupation for which training had been given. Thus, it would appear that work-study trainees as a group represent a normal risk for occupational placement when compared to other secondary vocational graduates.

From the ratings and opinions given by the supervisors and former trainees, it would appear that the work-study program has been worthwhile for a majority of those most intimately involved with it.

Although data here reported suggest the relationship of the work-study experience to vocational instruction and subsequent occupational placement is most likely incidental, a majority of the trainees obtained their first regular work experience through the program in the somewhat sheltered environment of the school. Thus, trainees were

provided with the resemblant values of a labor force job and were assisted in the transition from school to the world of work.

Recommendations

On the basis of the findings and conclusions of the study, the following recommendations are made:

Positive efforts should be made by appropriate Missouri State Department of Education staff members and the administrators and vocational educators in non-participating schools to provide the benefits of the work-study program to the financially needy vocational students attending these schools.

The highest priorities for future work-study program development should focus on the needs of inner-city youths. Suitable financial incentives should be provided to schools serving these youths, and vigorous efforts should be made to provide the necessary financial assistance to encourage them to remain in school to prepare for employment.

State Department of Education officials and vocational educators in local schools should explore the possibilities of developing vocational special needs classes, coupled with the work-study program, to extend these services to the ninth grade level in an attempt to maximize the holding power of the school and reduce drop-out rates.

The state guidelines and regulations for work-study program operations should be reviewed and revised where appropriate, with special attention given to providing more specific procedures for trainee selection.

Consideration should be given by appropriate officials to reimburse the local supervisory costs of the program in an attempt to purchase supervisory time to be devoted to the program, and to remove this obstacle for non-participating schools.

State Department of Education officials who provide administrative leadership for the program should be apprised of the findings of this

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study and evaluate future work-study program operations on the basis of these findings.

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APPENDIX B

FACTORS AFFECTING THE PARTICIPATION OF SECONDARY STUDENTS IN VOCATIONAL EDUCATION IN THE COLUMBIA AREA VOCATIONAL-TECHNICAL SCHOOL

by

Don Alexandra Rice

A Summary Report

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FACTORS AFFECTING THE PARTICIPATION OF SECONDARY STUDENTS IN VOCATIONAL EDUCATION IN THE COLUMBIA AREA VOCATIONAL-TECHNICAL SCHOOL

Summary

The purpose of this study was to identify the factors affecting the participation of secondary students in the vocational education programs in the Columbia Area Vocational-Technical School. More specifically, an attempt was made to answer the following questions:

1. What do Superintendents of Schools and School Board Presidents consider to be the factors affecting the participation of secondary students in the Columbia Area Vocational-Technical School, what is their opinion of the area school program, and what suggestions do they have for augmenting enrollments in the area school?

2. How do school board members, professional school people, including principals, counselors, and teachers, parents of high school youth, and students themselves perceive vocational education as offered at the Columbia Area Vocational-Technical School and what suggestions do they have for augmenting enrollments in the area school?

Data for the study were obtained by two methods. First an interview schedule was administered to the ten Superintendents of Schools and the ten School Board Presidents whose school districts were encompassed within a twenty-five mile radius circle of Columbia, Missouri, referred to herein as secondary schools. Secondly, an information form was administered to 222 eleventh grade students enrolled in the secondary schools, 192 of their parents, 137 professional school people, including principals, counselors, and teachers employed by the secondary school districts, and 43 school board members of the same districts.

Summary of Major Findings

The interview schedule administered to the Superintendents and School Board Presidents was developed around known problems of the area school and submitted to a panel of judges to be critiqued for possible improvements. The schedule was then revised and administered to several persons knowledgeable in secondary school administration for final refinement. Thirty minutes were required to conduct each of the final interviews.

The interviews revealed that most of the Superintendents of Schools and School Board Presidents were in their second, third, or fourth year of service in that position, but were not very familiar with the Columbia Area Vocational-Technical School.

One-half of the Superintendents and School Board Presidents indicated that cost was definitely a factor in their decision not to send students to the area school in 1968-69. However, the majority of the two groups expressed the opinion that funds would be available to cover the cost of tuition and transportation if students were interested in attending the area school this coming fall, 1969.

The tuition of $197.00 per student, per year was acceptable to a majority of the Superintendents and School Board Presidents, but fifty per cent indicated that the tuition should be paid by the State Department of Education or the Federal Government.

Transportation of students to and from the area school was found to be a major factor in the decisions of secondary schools to send or not to send students to the area school. They indicated that their four primary transportation problems were: (1) availability of funds for transportation, (2) distance to be traveled, (3) availability of buses, and (4) time spent by students in transit.

Sixty-five per cent of the Superintendents and School Board Presidents were not actively involved in planning and organizing the

Columbia Area Vocational-Technical School. However, they indicated that prior to the opening of the school, they should have been consulted on the following matters: (1) survey of student interests, (2) class scheduling and organization, (3) course objectives, and (4) financial planning.

The interviews indicated that the area school should have distributed more wide-spread public information, had closer school board cooperation, better coordination of course scheduling, and more parent and teacher orientation in order to ensure that the secondary schools would participate in the area school program.

Although sixty per cent of the Superintendents and School Board Presidents were satisfied with the types of courses offered in the area school, over three-fourths of them were either not satisfied or not familiar with the schedule of classes provided or the number of students apportioned their school to send to the area school.

There was some indication prior to the study that the loss of students from the secondary schools to the area school would disrupt the balance of classes in the secondary schools to a considerable extent. This was not found to be the case, however, for two-thirds of the interviewees indicated that this was not much of a problem.

Approximately one-half of the interviewees were of the opinion that either the regular secondary school or an area school incorporated in a high school was the most attractive source of vocational education among parents and students.

Parents in the secondary school districts showed little interest in their students attending the Columbia Area Vocational-Technical School. In explaining why parents hold this attitude toward the area school, twenty per cent of the Superintendents and School Board Presidents expressed the opinion that parents were primarily interested in college preparatory programs for their children. However, fifty-five per cent indicated that parents held this attitude because they were misinformed concerning the

nature and purpose of the area school program.

The interviewees suggested seventeen different things that might be done to augment enrollments in the Columbia Area Vocational-Technical School over the coming years. The suggestions mentioned most often are as follows: (1) the area school should provide more information about its programs and operations to students, parents, school administrators, school board members, and the general public, (2) counselors from the area school should make periodic visits to the secondary schools to disseminate information about the area school, (3) some means of promotion should be instigated by the area school to "sell" Superintendents and School Board members on the value of vocational education, (4) the area school should offer more post-secondary occupational education and adult evening classes, and (5) the area school should provide transportation to and from the area school for all secondary school students desiring to attend.

All four of the groups—students, parents, professional school people, and school board members—held favorable attitudes toward vocational education as revealed by the mean attitude scores, which ranged from 84 for parents—the most favorable group—to 97 for students—the least favorable group.

A statistical comparison of the mean attitude scores of the four groups, using a one-way classification analysis of variance, revealed a significant difference. Therefore, the null hypothesis stating that no significant difference exists between the mean attitude scores of the four groups was rejected.

The Newman-Keuls test of differences between all pairs of means revealed that the attitudes of parents and professional school people included in the study were significantly more favorable toward vocational education as offered at the Columbia Area Vocational-Technical School than the attitudes of students and school board members.

Almost one-half of the students and parents had not heard of the Columbia Area Vocational-Technical School prior to this study. Of those who had heard of the area school, professional school people had heard most often from their colleagues, school board members from school administrators, students from their teachers, and parents from students in the program and newspaper publicity.

The vast majority of the participants had not taken formal course work in vocational education.

Over one-half of the parents and forty per cent of the school board members had no formal education beyond high school, while seventy per cent of the professional school people had completed college work beyond the four year college degree.

Students, parents, professional school people, and school board members agreed that enrollments in the area school would probably increase if: (1) more information about the area school were given to students, parents, and guidance counselors, (2) a wider range of course offerings were provided, (3) a wider range of class schedules were provided, (4) better means of transportation were available, and (5) students could be employed immediately upon graduation.

Conclusions

The following conclusions are based on the assumption that the samples of students, parents, professional school people, and school board members were representative of the total populations concerned and that data collected and opinions expressed were accurate and valid. It is further assumed that the scores made on the attitude scale were indicative of each person's real attitude toward vocational education as offered at the Columbia Area Vocational-Technical School.

1. The lack of participation of secondary school students in the Columbia Area Vocational-Technical School program may have been

strongly influenced by the following things: (a) the majority of the secondary school districts were not sufficiently involved in planning and organizing the area school to encourage their early participation in the area school program, (b) parents living within the secondary school districts showed little interest in students attending the area school because they were uninformed about the nature and purposes of its programs, (c) students, professional school people, school board members, superintendents, and school board presidents were not well informed concerning the objectives and operational procedures of the area school, and (d) transportation of students to and from the area school has been a major problem.

2. The loss of students from the secondary schools to the area school has not been a serious problem.

3. Enrollments in the Columbia Area Vocational-Technical School would probably increase provided the area school could: (a) provide more information for students, parents, school administrators, and school board members about its programs, operational procedures, and the success of its graduates, (b) offer a wider range of course offerings, (c) offer a wider range of class schedules, (d) provide better means of transportation than are now available, and (e) convince the superintendents and school board members of the secondary schools of the worth of vocational education at the high school level.

4. Students, parents, professional school people, and school board members hold favorable attitudes toward vocational education as offered in the Columbia Area Vocational-Technical School, and those of the professional school prople and parents are significantly more favorable than those held by students and school board members.

Recommendations

In view of the findings of this study and the conclusions reached, the following recommendations are made:

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The Columbia Area Vocational-Technical School should:

1. Improve its public relations program to the point that students, parents, professional school people, school administrators, and school board members of the secondary school districts are thoroughly informed about the purposes of the area school, its program of studies, its operational procedures, and the success of its graduates.

2. Seek the early and active involvement of the secondary school administrators concerning all area school decisions which affect participation of secondary school students in the area school program.

3. Provide planning and consultant assistance to the secondary schools to assist them in overcoming financial and transportation problems evolving from participation of secondary students in the area school program.

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APPENDIX C

THE RELATIONSHIP OF ENROLLMENT SIZE OF AREA VOCATIONAL-TECHNICAL SCHOOLS IN MISSOURI TO PER STUDENT EXPENDITURES FOR VOCATIONAL EDUCATION

by

Frank H. Gioshi

A Summary Report

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THE RELATIONSHIP OF ENROLLMENT SIZE OF AREA VOCATIONAL-TECHNICAL SCHOOLS IN MISSOURI TO PER STUDENT EXPENDITURES FOR VOCATIONAL EDUCATION

Summary

This study was conducted for the primary purpose of ascertaining whether "economies of scale" exist for the public area vocational-technical schools. This was, in effect, an attempt to estimate the net relationship between the enrollment size of an area vocational-technical school and the expenditures per student.

Specifically, the study attempted to answer the following questions:

1. What are the expenditures per student for
   a. Selected courses of instruction in trade and industry?
   b. Each curriculum?
   c. Total school program?
2. What is the relationship between size of area vocational-technical school and current expenditures per student?
3. What is the relationship between size of an area vocational-technical school and current expenditures per student holding constant the linear effects of the following variables:
   a. Tax levy?
   b. Assessed valuation per student?
   c. Teacher student ratio?
   d. Number of classes?
   e. Average teacher salaries?

This inquiry was conducted in the state of Missouri directed only at shared-time vocational-technical schools having permanent

separate plant facilities, exclusive of the community college, and in operation as of the fiscal year 1968-69. The analysis was further confined to the regular day vocational-technical program offered to full-time high school day students on the secondary level exclusive of all MDTA programs and other specialized short-term programs.

Of the seventeen schools which met the above provisions, one declined to participate in the study. This left a population of sixteen area vocational-technical schools.

Before the study could be undertaken, it was necessary to develop an information form to yield data regarding the financial expenditures and program characteristics of the area vocational-technical schools. This was accomplished by an extensive review of the literature and by informal interviews with financial specialists. The form was utilized as a guide by the investigator when interviewing the different information sources and the sixteen area vocational-technical schools concerning financial expenditures.

Graphic arts was the highest cost trade and industry course in operation with a weighted mean total cost per student of $745.18, followed by machine shop at $667.50 and carpentry at $653.35. Excluding courses which were offered only once, auto mechanics was the lowest cost course with a weighted mean total cost per student of $519.42.

Vocational agriculture was the highest cost curriculum in all area schools which offered agriculture with a weighted mean total cost per student of $934.48. Distributive education was the lowest cost curriculum with a weighted mean total cost per student of $397.71.

The range of the average total cost per student for the area school programs was $464.52 to $735.77. The programs weighted mean of the average current and total cost per student were $541.37 and $544.88 respectively.

A parabolic equation was used to investigate the relationship between size and cost for the fifteen area schools (Schools A through O).

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The optimum school enrollment size was 398.2 students at a minimum average expenditure per student of $404.63. When the enrollment size was increased from 162 to 398.2 students, there was a decrease of $126.69 average expenditure per student. There was an increase of $79.17 per student when the enrollment size increased from 398.2 to 585 students.

Because there were many determinants of school expenditures, a step-wise multiple regression model was utilized in addition to the parabolic regression equation. Holding constant the means of average teacher's salary, tax levy, and number of classes, the optimum school enrollment size was found to be 487.9 students at an average cost per student of $423.77. The step-wise multiple regression revealed enrollment to be the best single predictor of average current expenditures per student. Enrollment, enrollment squared, average teacher's salary, tax levy, and number of classes were independent variables statistically significant in the regression equation. They accounted for about 81 per cent of the variance in average current operating expenditures per student among the fifteen area vocational-technical schools (Schools A through O).

Visual assessment of the data and results of the statistical analysis confirmed the existence of economies of scale up to an optimum enrollment size. Diseconomies of scale prevailed when enrollment size exceeded the optimum.

Conclusions

It must be emphasized that policy makers and advisors of vocational-technical education attempting to make a program analysis solely on the basis of cost data must be cautious in their interpretations. Any evaluation must consider the benefits accruing from vocational-technical education as well as costs. However, cost data serves as an index for further investigation of high costs for any given course or curriculum. The reader is reminded that the conclusions drawn from the findings of

this study are subject to the limitations set forth in Chapter I.

Repeatedly, the single most common factor found contributing to expenditures per student per year of a given course or curriculum was the number of students enrolled. Other definite contributing factors to high operating costs were the kinds and amounts of equipment utilized and administrative costs.

Instructional costs were perhaps the most constant current cost item in that the teacher's salary, a major make-up of this cost, was rather consistent for the area schools. It appeared that if enrollment could be increased in various classes or curricula, it would not necessarily increase salaries proportionally and thus reduce average expenditures per student.

The theoretical constructs on which this study was based do have implications in public area vocational-technical schools in the state of Missouri. The evidence consistently showed that area vocational-technical schools experienced "economies of scale." The optimum scale, when expenditures were minimized, varied from 398.2 (parabola regression) to 487.9 (step-wise regression) students. The concept that a "diseconomies of scale" arises as size increases beyond the optimum found some support.

Recommendations

In view of the findings and conclusions of this study the following recommendations are made:

1. The area vocational-technical schools should start keeping adequate financial accounts as well as records that provide information relative to the total operation of the area school. This means that the schools should keep complete records of cost data using a consistent and meaningful procedure. Data should be kept for the operation of specific courses, curricula, and total programs. This also applies to equipment inventories which should be kept current (annual inventory) with all pert-

inent information listed.

2. Policy makers and advisors, in ascertaining the feasibility of vocational school planning, should be cognizant of the apparent existence of "economies of scale" that is associated with providing vocational-technical education.

3. Vocational-technical administrators should intermittently review the costs of operating vocational-technical programs in an effort to identify inconsistencies that warrant further attention.

4. Administrators for vocational-technical programs should consider the cost items as one of the important factors in the decision-making process.

APPENDIX D

LOCAL EVALUATION OF VOCATIONAL PROGRAMS IN MISSOURI

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EVALUATING PROGRAMS

A. EVALUATING SECONDARY, POST SECONDARY, AND ADULT OCCUPATIONAL PROGRAMS

1. What provisions in the State Plan are made for evaluating programs?

   Section 1.5, Program Evaluation, states:

   "In addition to a continuing self-evaluation by local staff of programs operated in local schools, a continuing evaluation will be conducted by State staff by a review of the program and review of records and reports submitted to the State office. Special attention will be given to placement and follow-up of graduates of preparatory programs.

   Area vocational schools and other schools operating broad programs in vocational education will be reviewed by a team evaluation at least once each three years. The evaluation will be made by members of the State staff, representatives of teacher education institutions, and other consultants."

2. What is a broad program in vocational education?

   Schools which have a vocational offering in at least four of the areas of Agriculture Education, Distributive Education, Health Occupations Education, Home Economics Education, Business and Office Education, Technical Education, and Vocational Industrial Education will be considered to have broad programs in vocational education.

3. What is the evaluation process?

   The complete evaluation process consists of four phases.

   Phase one incorporates statistical and financial information taken from reports submitted to the State Vocational Division. Such information as enrollments, follow-ups, projections, and funding criteria will be summarized by the State Vocational Division Evaluation Committee and submitted to the Visiting Committee to be used in phase three.

Phase two involves the completion of the evaluative questionnaires by the local district. These questionnaires will relate the local organizational and operational information to the Visiting Committee to be used in phase three.

Phase three is a visitation by an appointed committee to observe, discuss, and interpret the information and activities concerning the total vocational programs. A preliminary report will be submitted to the chairman of the State Vocational Division Evaluation Committee at the end of the visitation.

Phase four is the submission of a final report from the State Vocational Division Evaluation Committee to the local school district indicating strengths and areas of concern.

4. Who serves on the Evaluation Committee? What are their duties?

The Vocational Division Evaluation Committee will be composed of representatives from each section of the State Vocational Division. The chairman of the evaluation committee will be appointed by the State Director of Vocational Education.

This committee shall be responsible for scheduling evaluations, approving the visitation committee chairman, collecting information for phase one, and issuing the final reports. The chairman of this committee shall transmit this information to a local representative.

The evaluation committee and a local district representative will outline a time schedule for completion of the questionnaire, visitation activities, and issuing the final report.

5. Who serves on the Visitation Committee? What are their duties?

The chairman of the Visitation Committee will be recommended by the State Vocational Division Evaluation Committee and approved by the local school district prior to the selection of the Visitation Committee.

The duties of the Visitation Committee chairman shall include helping in the selection of the members of the Visitation Committee and directing the activities of the committee during the visitation period. The chairman is responsible for summarizing and submitting the preliminary report and the completed questionnaires to the chairman of the State Vocational Division Evaluation Committee.

The Visitation Committee will be composed of members of the State Vocational Division staff, representatives of teacher training institutions, and other consultants.

Members of the Visitation Committee are agreed upon by the chairman of the State Vocational Division Evaluation Committee, the chairman of the Visitation Committee, and a local school district representative.

The Visitation Committee will be responsible for phase three of the evaluation process.

6. What are the local school district's responsibilities during this evaluation process?

The local school district's activities during the evaluation process will be scheduling the evaluation activities, approving a visitation chairman, assisting in the selection of members of the Visitation Committee, completing the questionnaire, reviewing and considering the findings in the final report.

7. Who issues the final report?

The State Vocational Division Evaluation Committee reviews the preliminary report of the Visitation Committee and issues a final statement to the local school district. This statement will include strengths and areas of concern as reported by the Visitation Committee. Based on the findings of this report the State Vocational Division may initiate procedures for improvement or termination.

8. How are schools with a limited vocational offering evaluated?

Schools which have three or fewer vocational offerings should complete those questionnaires in phase two which are applicable. The vocational programs will be reviewed periodically by staff members of the State Vocational Division.

B. QUESTIONS ON EVALUATING DISADVANTAGED AND HANDICAPPED, RESEARCH TRAINING, EXEMPLARY, RESIDENTIAL, COOPERATIVE, AND WORK-STUDY PROGRAMS SHOULD BE REFERRED TO THE APPROPRIATE DIRECTOR.

C. EVALUATING SECONDARY, POST SECONDARY, AND ADULT CONSUMER AND HOMEMAKING PROGRAMS.

The same procedures will be used to evaluate Consumer and Homemaking programs as are used to evaluate occupational programs in Questions 1 through 8 above.

VT 012 330
Harrison, Bennett
Public Service Jobs for Urban Ghetto Residents. Reference File No. 3.

National Civil Service League, Washington, D.C.
Department of Housing and Urban Development, Washington, D.C.
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ABSTRACT - Almost 20 percent of all ghetto residents have serious employment problems. Many more live in poverty despite the presence of one or more wage-earners. This study estimates that public employment of the ghetto worker may return 400 to 1,200 percent on the investment over the following 6 years. The report concludes that on both economic and moral grounds, racial and economic discrimination in public employment must be ended. A policy of public employment of the disadvantaged is a good social and economic investment. (BH)

VT 012 330

ED0 54390

Reference File No. 3

Public Service Jobs for Urban Ghetto Residents

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Population growth and demands for public services mean that one out of four new jobs in the United States is in the public service. The U.S. Bureau of the Census has reported that between October, 1967 and October, 1968, the number of civilian public employees in state and local governments increased from 8.9 to 9.4 millions.

It is doubtful that many of the one-half million new public service jobs went to the disadvantaged.

This issue of GOOD GOVERNMENT is the first in a series of studies the National Civil Service League will publish as part of the League's new project—Public Employment and the Disadvantaged. Funding for the project comes from a grant from the Office of Economic Opportunity and the U.S. Department of Labor, plus a contract with the Department of Housing and Urban Development.

Bennett Harrison, in this study, points out the fact that nearly two out of every five persons in the urban ghetto have some kind of serious employment problem. Quantifiable social benefits can be measured in the value of the extra Gross National Product produced by the newly trained worker. Harrison predicts that each new public service worker may be expected to contribute between $29,000 and $36,000 to the national economy between now and 1976. When Harrison compares the potential benefits with the estimated costs, he finds that a dollar invested now in a public service worker in the ghetto may return from $4.23 to as much as $18.00 in extra GNP over the next six years.

A policy of public employment of the disadvantaged represents a sound social and economic investment—we can no longer afford the waste of productive resources which the under-utilization of ghetto manpower represents, nor can we sustain the immorality of racial and economic discrimination in public employment.

Milton G. Miller
Deputy Director

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PUBLIC SERVICE JOBS FOR URBAN GHETTO RESIDENTS

by Bennett Harrison

I. *Introduction*

There are at least seven million men and women in America who are labor force participants and yet who are poor. In the congested ghetto areas of our central cities, even the *most* stable families—those with both parents present and with the male head working full-time—are unable to earn more than about $82 a week in the market-place. Most earn considerably less.

For many years, we have operated elaborate social welfare programs which are often founded on the misguided principle that the poor are incapable of the rational management of their lives, and therefore require services in kind in addition to (if not in lieu of) money income. Where cash transfers are made, the urban poor have often been forced to submit to humiliating and degrading administrative procedures and "consultations." At the same time, those capable of working find that they are unable to earn enough to remove their families from the welfare rolls. As we shall see, the large majority of the urban poor who are able to work *do* work, a fact which the "conventional wisdom" simply refuses to accept. But the jobs to which they have access are of poor quality and pay low wages. And the compensatory welfare payments and programs made available to them are incapable of raising their family incomes even as high as the barely adequate minimum budgets recommended by the federal government.

The urban poor thus find themselves enclosed in the most vicious of all circles. As Camus wrote of Sisyphus, "There is no more dreadful punishment than futile and hopeless labor." Recently, however, concerned citizens—professionals and laymen alike—have begun to question the fundamental validity of our urban poverty programs. Out of these discussions, there appear to be emerging two simple but nonetheless important propositions: *an incomes policy ought to distribute money rather than services,* and *an employment policy ought to develop jobs as well as aspirations.* Too many ghetto housewives have been advised for too long on the "proper" composition of the family budget, while the size of that budget remains grossly inadequate. And far too many ghetto workers have been recruited and trained for jobs that disappear like a will-o'-the-wisp after the federal subsidies run out, or after "civic-minded" private employers encounter the season's first frost.

The National Civil Service League has undertaken the important task of stimulating public employment of the disadvantaged under merit principles at state and local levels. There is a precedent for such an anti-poverty strategy. The federal civil service has for several years pursued an active policy of developing aide and technician occupations within federal agencies. According to the 1969 *Manpower Report of the President* (p. 103), more than 100,000 workers—nearly 10% of the total federal white-collar labor force—are paraprofessional aides or technicians in the sciences, engineering, medicine and education.

The case for a local public service job development program for the poor is based not only on the income requirements of the poor themselves, but also and more fundamentally on the growing needs of *all* the residents of urban areas for expanded public services:

> . . . there is a need for more workers in what has been called "public service employment." Unfortunately, this need has been obscured by the use of such terms as "government as employer of *last* resort," which implies that such employment should be advocated and provided only *after* private enterprise has failed to employ everyone; that these jobs with government agencies are only temporary, pending the rise in demand for workers in private enterprise; and that such jobs are not very desirable for the individual or useful and worth while to the community.
>
> But government is more than an employer: more accurately, its function is to provide services to citizens—such as education, health protection, national defense, park and recreation facilities, waste disposal, water services, construction and maintenance of highways and other transportation facilities, police and fire protection, etc.
>
> In living up to these and other obligations, the government obviously employs persons in jobs which are vital to the functioning of the society and the economy. The main point here is that *the need for the services to be provided is the underlying justification for public service employment.*
>
> . . . The present level of services in all these categories is inadequate to meet public needs; an expansion of services would provide more jobs. Furthermore, it can be argued that these public services facilitate growth in the private sector, and that if the latter is to prosper, it requires an "infrastructure" of the public service facilities, provided by public service employees.[1]

In the following pages, we will examine in detail the case for a local public service job development program. For the present, we shall concentrate on programs addressed to urban ghetto residents, for the simple reason that the pressure which is building in these areas is rapidly approaching critical mass and desperately requires relief.

We shall start by examining the past, present, and most likely future course of the growth in demand for urban public services and the "derived demand" for public service workers. We may then turn to the "supply side" of the problem and consider the ghetto labor force as a potential source of supply of public service workers. At this point we should remind ourselves that such a program as advocated here will require a commitment from local officials to abolish the discriminatory hiring and wage practices presently found in many government agencies.

Finally, we will develop a preliminary sketch of the costs and the potential benefits of a public service job development program. This section will focus on two models—one at the state and one at the national level—which have already been in operation for several years.

II. *The Demand for Public Services in Urban Areas and the Derived Demand for Public Service Workers*

The Gross National Product represents the value of all the goods and services actually produced in the economy. Figure 1 shows the post-war growth patterns of real GNP and its principal components.[2] Clearly the demands for goods and services have grown at much the same rate—about 3.9% per year.

In order to produce this output, private and public enterprises and agencies must purchase resources or "inputs," the most important of which is certainly labor. And here we encounter a dramatic contrast. Between 1953 and 1963, manufacturing employment actually *fell* by better than 4%, while among the principal components of the service sector—business services, medical and health services, and state and local government—employment increased over the same period by 131%, 73%, and 77% respectively![3]

This remarkable phenomenon, which lies at the roots of many aspects of the current "urban crisis," is explained by rapid post-war technological progress which has introduced a panoply of labor-saving production processes into the goods-producing sector of the American economy. The service industries—requiring as they do a high degree of personal contact with consumers and an amount of record-handling which grows faster and faster

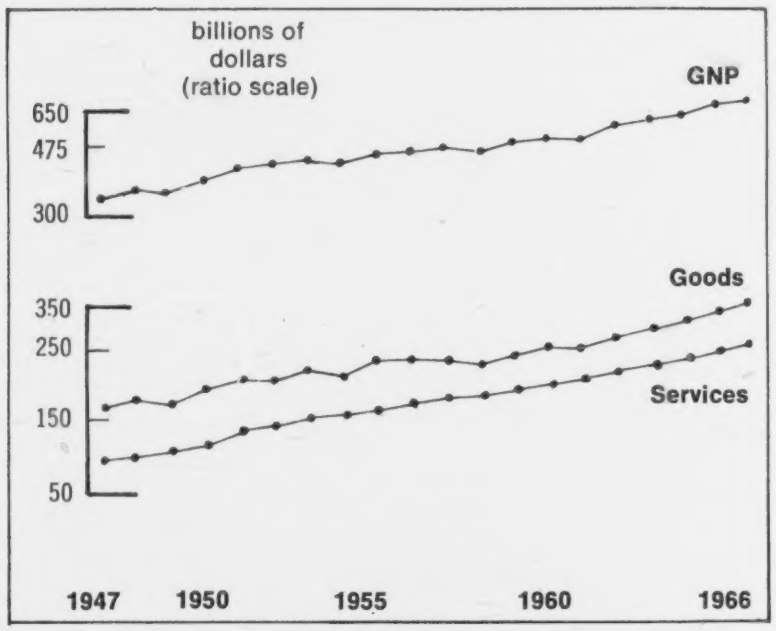

Figure 1 **Growth of U.S. Output by Type of Product: 1947-1966**

as the population to be serviced expands—continue to employ labor-*using* "techniques of production." As we shall see in a moment, there is every expectation that this contrast will grow stronger during the last third of the 20th century.

These developments have been especially pronounced in the cities.[4] Figure 2 displays the growth patterns of employment in New York City since 1950. In terms of absolute numbers of jobs added to the city's economy, local government has been the most important of the service-producing sectors. Between 1958 and 1967, local governments provided nearly 100,000 new jobs for New York's workers. This was nearly twice the number generated by the next "best" sector, business services. During the same period, New York City lost nearly 160,000 manufacturing jobs.[5]

Service employment is now the principal source of jobs in all of the nation's cities, and an increasingly important source of incomes. And of the various sectors producing these urban services, government is quantitatively the most important of all. Table 1 shows the percentage contribution of both total services and government to overall 1967 employment in 12 large metropolitan areas. The table also illustrates the direct impact of this growth in government services on the residents' personal incomes since 1950. Notice that the orders of magnitude of these indicators of the primacy of public employment do not differ significantly, even though the 12 urban areas have been selected from all regions of the United States.

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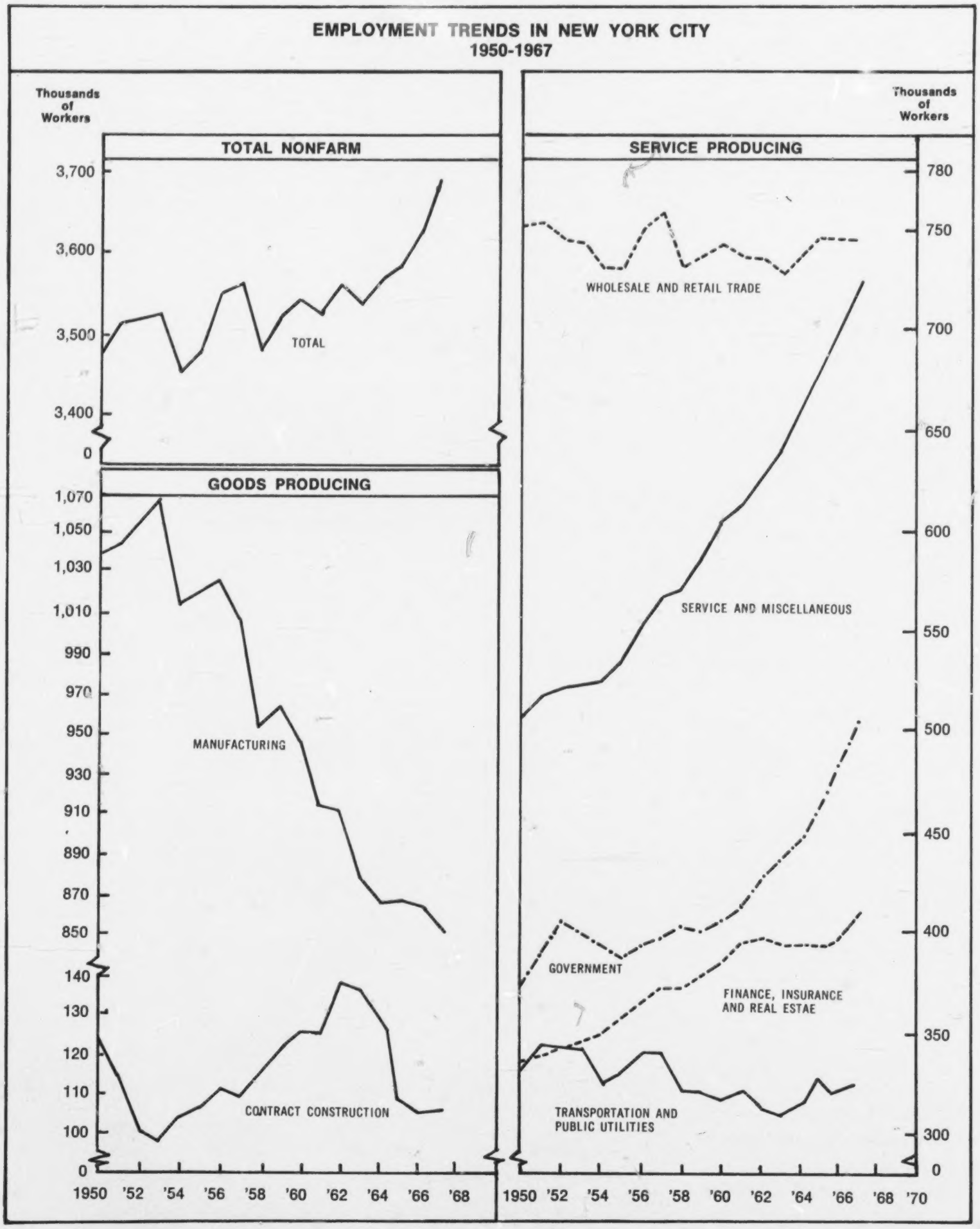

Source: Bureau of Labor Statistics, U.S. Department of Labor, Middle Atlantic Regional Report Number 10, *Changing Patterns of Employment, Income, and Living Standards in New York City*, June, 1968.

Figure 2

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Table 1

The Relative Contribution of Service-Producing Industries to Income and Employment in 12 Selected Urban Areas

	SERVICES AS PERCENT OF TOTAL 1967 EMPLOYMENT [a]		WAGES AND SALARIES EARNED IN GOVERNMENT AS PERCENT OF TOTAL PERSONAL INCOME [b]	
	All Services	Government	1950	1962
Baltimore, Maryland	66.3	16.9	11.16	13.81
Birmingham, Alabama	63.5	12.7	5.12	7.49
Boston, Massachusetts	n.a.	14.8	9.88	10.90
Cleveland, Ohio	57.4	12.4	3.88	5.11
Columbus, Ohio	69.7	21.8	9.81	14.39
Hartford, Connecticut	n.a.	11.2	5.18	6.74
Nashville, Tennessee	70.6	17.9	8.68	10.21
New York, New York	68.1	13.8	7.28	8.88
Philadelphia, Pennsylvania	61.5	14.3	7.06	10.27
Pittsburgh, Pennsylvania	59.9	11.8	4.04	6.58
Portland, Oregon	n.a.	17.0	7.91	10.50
Providence, Rhode Island	n.a	13.3	6.29	9.86

[a] Juan de Torres, *Economic Dimensions of Major Metropolitan Areas*, National Industrial Conference Board, Technical Paper Number 18, 1968, table 8. Data are from the March, 1967 *Current Population Survey* of the U.S. Department of Commerce.

[b] Robert E. Graham and Edwin J. Coleman, "Personal Income in Metropolitan Areas: A New Series," *Survey of Current Business*, Office of Business Economics, U.S. Department of Commerce, May, 1967, table 3.

Table 2

Representative Salary Ranges in Selected Public Service Occupations in 12 Metropolitan Areas: January, 1969 [a]

DOLLARS PER MONTH

	OCCUPATIONS							
	Typist	Account Clerk	Keypunch Operator	Computer Operator	Recreation Leader	Engineering Aide	Clinical Lab Technician	Nursing Assistant
Atlanta	355-438	457-563	386-476	497-612	476-587	370-457	———	———
Boston	329-422	476-630	357-459	456-600	———	405-524	422-548	446-550
Chicago	385-467	404-491	404-491	540-656	445-540	445-540	491-596	367-445
Cleveland	338-484	407-556	338-484	467-645	($6/hr-$11/hr)	407-558	———	———
Detroit	442-457	598-639	488-532	733-791	669-721	576-604	681-730	570-574
Houston	234-399	444-668	234-399	392-601	234-399	496-733	———	———
Newark	300-375	325-417	392-467	———	———	650-742	392-458	———
New Orleans	281-358	325-415	310-395	415-530	———	———	395-505	358-458
New York	363-480	383-511	363-480	500-666	625-774	429-549	429-549	454-544
Philadelphia	394-438	481-583	392-473	521-633	591-721	463-560	501-608	417-503
St. Louis	364-442	442-537	382-464	512-622	401-487	720-875	442-537	299-364
San Francisco	400-488	488-593	476-578	578-703	653-795	———	721-876	476-578

Source: Public Personnel Association, *Pay Rates In The Public Service*, January 1969

[a] Average of county, municipal and special district jobs

Table 3

Entry-level and Five-year Wage and Salary Benchmarks in Selected Occupations in Baltimore and Washington, D. C. —November, 1968 [a]

Occupation	BALTIMORE CITY GOVERNMENT		WASHINGTON CITY GOVERNMENT	
	Entry Wage	After 5 Years	Entry Wage	After 5 Years
Account clerk	$4321	$5469	$5145	$5829
Telephone operator	4321	5469	——	——
Clerk typist	4525	5743	4600	5214
Computer operator	6637	7991	6981	7913
Computer programmer	9621	11137	10203	11563
Keypunch operator	4741	5743	4600	5214
Teacher's aide	($1.59/hr)	($1.97/hr)	($2.47/hr)	($2.80/hr)
Engineering aide	4525	5469	4600	5214
Library aide	4321	4741	4600	5214
Sanitation worker	($2.40/hr)	($2.62/hr)	($2.54/hr)	($2.78/hr)
Auto mechanic	($3.31/hr)	($3.65/hr)	($3.37/hr)	($3.73/hr)

Source: Local Government Personnel Association, *Washington-Baltimore Metropolitan Area Wage and Fringe Benefit Survey*, November, 1968.

[a] average wages in municipal government positions

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Who are the employers in this large and growing market for urban public service workers? We have already seen that, among the three broad levels of government (federal, state, and local), the latter has been numerically the most significant in terms of new jobs created. "Local" government includes a whole host of jurisdictions, from counties and municipalities (including the city itself) to townships and "special districts" (such as local school districts). The 1950's was the period of most rapid growth in the *number* of such governments; by 1957, there were more than 18,000 among the nation's metropolitan areas, each an individual employer offering many different kinds of jobs to local residents. Figure 3 shows the distribution of local governments by type in six large urban centers in 1957, and gives us some additional impression of the diversity in this new labor market.

And what of the jobs themselves? Table 2 contains a listing of selected jobs in various local government agencies in 12 metropolitan areas in January, 1969, together with current average salary ranges. For two other cities (Baltimore and Washington, D. C.), we have tabulated the mean salary increases which public employees in these two municipal governments currently receive by the end of five years of service (see Table 3). The jobs run the gamut from *account clerk* and *typist*—whose duties are more or less well known—to more unusual and innovative positions such as *recreation leader* (responsible for organizing playground and recreation center activities), *nursing assistant, engineering aide* (performing field surveys, making simple computations and drawings, and maintaining survey equipment), and *teacher's aide.*

Compare these salary ranges with the median estimated monthly wage incomes earned by a sample of workers in ten urban ghettos who were interviewed in November, 1966 by the U.S. Department of Labor: [6]

Ghetto	MEDIAN MONTHLY WAGE EARNINGS OF WORKERS IN HOUSEHOLDS WITH: Male Head	Female Head
Roxbury (Boston)	$324	$240
Central Harlem (N.Y.C.)	300	264
East Harlem (N.Y.C.)	288	220
Bedford-Stuyvesant (N.Y.C.)	320	268
North Philadelphia	284	188
North Side (St. Louis)	296	200
Slums of San Antonio	236	140
Mission-Fillmore (San Francisco)	328	272
Salt River Bed (Phoenix)	256	160
Slums of New Orleans	264	140

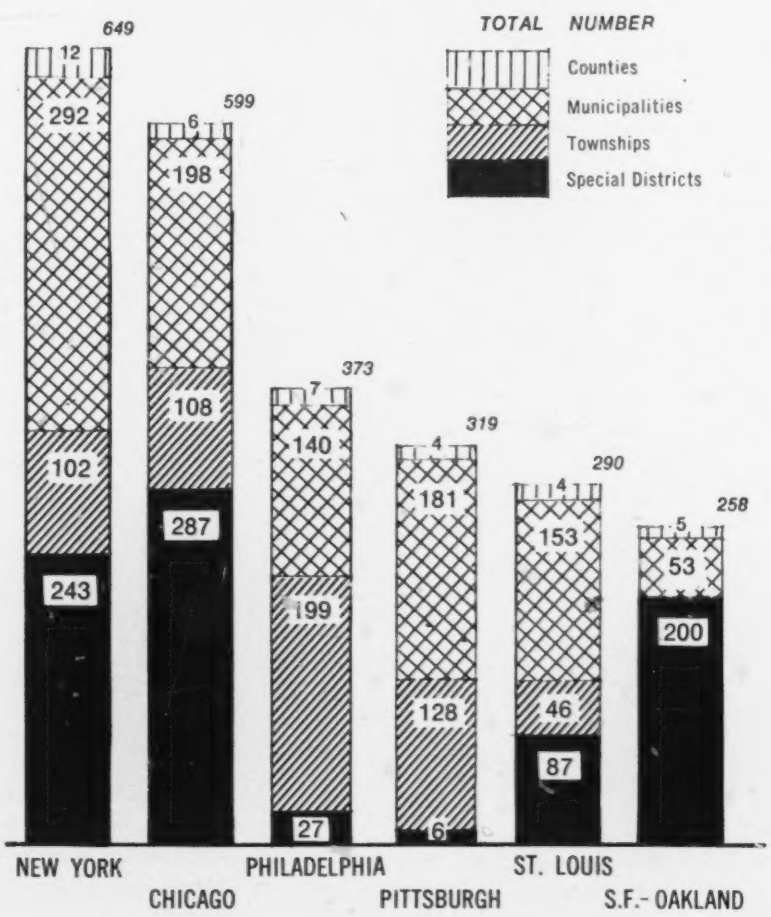
Are the trends which we have been reviewing expected to continue into the future? The answer is an unqualified "yes." The technological changes since World War II appear to have developed an internal dynamic which insures continued innovative generation of labor-saving industrial processes. Expanding leisure time and increasing personal incomes will in turn be translated into effective demand for an increasingly larger and more varied number of service-producing jobs.[7] Indeed, some economists refer to the emerging system as the "post-industrial economy."

The U.S. Department of Labor, for example, expects an increase of 12.4 million jobs in the service-producing industries between 1965 and 1975, as against 2.7 million jobs in the goods-producing industries. Government alone is expected to contribute nearly a third of the new service jobs.[8]

In the spring of 1968, the National Urban Coalition solicited from the mayors of 50 large cities (populations of 100,000 or more) information on public service job needs in their municipal agencies.[9] The Coalition asked the mayors to estimate the numbers of *additional* personnel needed to improve the delivery of such urban public services as antipollution enforcement, education, health, traffic control, housing inspection, police, fire, recreation, urban renewal (including Model Cities), sanitation, welfare, and general administration, assuming that the usual budgetary constraints were somehow relaxed (e.g., by tax transfers from the federal government). The mayors were then asked how many of these new jobs could be filled by people without technical or professional training, particularly those from the "inner city."

From a sample of 34 completed questionnaires, Dr. Harold L. Sheppard of the W. E. Upjohn Institute has projected the potential new municipal job demands of the 130 American cities with populations of at least 100,000.

METROPOLITAN AREAS CONTAIN A MULTITUDE OF LOCAL GOVERNMENTS



SOURCE: Census of Governments, 1957

Figure 3

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Tables 4 and 5 tabulate these projected demands by urban function. We may conclude that there are at least 140,000 public service jobs in the governments of just our *largest* cities which could be filled *now* by ghetto residents. Moreover, this is clearly a *minimum* estimate. Dr. Sheppard reminds us that the projection covers only the very largest cities, only the municipal agencies of these cities, and only those urban functions which have already been institutionalized. In fact, "not only do we have a *backlog* of unmet public service needs: there is also a vast amount of *unanticipated and unplanned* needs for which little preparation has been made." [10]

The most comprehensive manpower projections undertaken in consideration of explicit social development goals are those generated by the National Planning Association for the U.S. Department of Labor's Manpower Administration. According to NPA, "the fields for which rapid [employment] growth is projected tend to be associated with the pursuit of four goals—education, health, research and development, and transportation." [11] All

Projection of Additional Public Service Job Possibilities in 130 Cities With Population of 100,000 or More, by Population Size

Table 4

1968

Function or program	Total (130 Cities)	POPULATION SIZE 100,000-250,000 (80 cities)	250,000-750,000 (40 cities)	750,000 or more (10 cities)
Total	*279,415*	*100,144*	*74,316*	*104,955*
Antipollution enforcement	1,748	1,072	368	308
Education	84,598	33,944	27,896	22,758
General administration	13,940	5,952	3,064	4,924
Health and hospitals	34,534	12,368	11,920	10,246
Highway and/or traffic	9,786	4,512	3,456	1,818
Housing codes and inspection	5,199	968	1,544	2,687
Library	5,619	2,232	1,804	1,583
Police	37,408	10,016	8,992	18,400
Fire	14,994	7,664	3,348	3,982
Recreation and parks	18,896	7,296	3,800	7,800
Urban renewal (or rehabilitation), Including Model Cities	12,198	7,440	1,944	2,814
Sanitation	13,586	4,160	2,416	7,010
Welfare	26,909	2,520	3,764	20,625

Projection of Additional Nonprofessional Public Service Job Possibilities in 130 Cities With Population of 100,000 or More, by Population Size

Table 5

1968

Function of program	Total (130 Cities)	POPULATION SIZE 100,000-250,000 (80 cities)	250,000-750,000 (40 cities)	750,000 or more (10 cities)
Total	*141,144*	*44,920*	*40,580*	*55,644*
Antipollution enforcement	900	568	232	100
Education	39,134	10,704	15,000	13,430
General administration	5,313	2,864	1,236	1,213
Health and hospitals	18,790	6,120	6,596	6,074
Highway and/or traffic	7,179	3,608	2,168	1,403
Housing codes and inspection	1,473	440	576	457
Library	3,159	1,176	908	1,075
Police	11,616	2,360	3,916	5,340
Fire	5,390	2,720	1,648	1,022
Recreation and parks	14,359	5,696	2,900	5,763
Urban renewal (or rehabilitation), including Model Cities	7,800	5,304	1,104	1,392
Sanitation	7,534	2,816	1,868	2,850
Welfare	18,497	544	2,428	15,525

Source: Harold L. Sheppard, *The Nature of the Job Problem and the Role of New Public Service Employment* (Kalamazoo, Michigan: W. E. Upjohn Institute, January 1969), pp. 24-25.

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are social goals toward whose attainment the public sector will certainly play a leading role. What kinds of occupations are associated with these "growth industries" of the future? NPA's list of occupations for which projected demand is expected to increase by at least a third between now and 1975 include: personnel and labor relations workers; social, welfare, and recreation workers; technicians; cashiers; office machine operators; secretaries, stenographers and typists; stock clerks; engineering aides; hospital attendants; and practical nurses and nurses' aides.[12]

Table 6 shows the proportion of new jobs which NPA expects to be located within the public sector, distributed by broad occupational category. In relative terms, the fastest growing category will probably be professional and technical employment, which may be expected to provide a significant number of new jobs for urban *males*. In absolute terms, the most important category will continue to be clerical workers, largely a *female* occupation.

Table 6

Recent and Projected Proportions of Total U.S. Employment Located in the Public Sector, by Occupation

Occupation	% OF TOTAL WITH JOBS IN THE PUBLIC SECTOR		
	1964	1970[a]	1975[a]
Professional, Technical and Kindred	7.2	8.6	9.5
Managers & Officals	5.2	5.4	5.5
Clerical	13.2	13.4	13.5
Craftsmen & Foremen	3.2	3.5	3.7
Operatives	0.9	0.9	1.0
Other Service Workers	10.4	11.5	11.9

Source: Leonard Lecht, *Manpower Requirements for National Objectives in the 1970's* (Washington, D. C.: National Planning Association, Center for Priority Analysis, February 1968), pp. 292, 294, 298.

[a] Projections assume that GNP will grow at an average annual rate of 4.5% between 1964 and 1975.

Even without a conscious, planned effort at expanding government employment opportunities for minority workers, the public sector will inevitably become a more important source of jobs for them. Simple "straight-line" extrapolation of past nonwhite employment trends yields the following projections of demand for nonwhite workers, distributed over those occupations which we have already predicted will be among those in greatest demand in the next decade: [13]

Occupation	1964 (thousands)	1975 (thousands)	Percentage Change
Professional and technical	488	789	62.0
Personnel and labor relations	3	5	67.0
Social, Welfare, and recreation	33	59	79.0
Medical technicians	21	34	62.0
Cashiers	34	54	59.0
Office machine operators	33	52	58.0
Secretaries, stenos, typists	108	233	116.0
Hospital attendants	147	292	99.0

In the sections that follow, we shall explore the feasibility, costs and potential benefits of deliberately *increasing* this public demand for nonwhite workers—especially those clustered in the ghettos of our central cities—through public service job development programming. The overwhelming evidence of the materials examined above points to this as a sensible strategy for integrating ghetto workers into the urban labor force.

III. *The Ghetto Labor Force: A Potential Source of Supply of Public Service Workers*

In the last several years, Americans have been made increasingly aware of the existence and extent of poverty within their midst.[14] We have recently learned that the large majority of the poor who are able to work *do* work. This, however, is a "discovery" which the "conventional wisdom" simply refuses to accept.

In 1966, there were 2.3 million nonworking heads of "poor" families in this country, i.e., families receiving less than about $3300 a year in income. But half of these were 65 years of age or older, 63% of the remainder were women, and 72% of the remaining 450,000 male household heads were either ill, disabled, or in school. The total number of working-age males who were in the labor force but who did not work at all in 1966—both household heads and unrelated individuals—was probably not more than 86,000, a very small number.[15]

By contrast, about 1.7 milion heads of poor households and 1.2 million poor unrelated individuals were involuntary part-time workers in 1966. About 1.1 million of these were males under 65. Moreover, there were about 2.4 million family heads and 540,000 unrelated individuals who earned incomes under the poverty threshhold in 1966 *even though they worked full-time.* Indeed, 45% of all poor families in 1966 had two or more wage-earners! In other words, in 1966, *close to six million men and women who sought full-time work and found at least some employment were poor nevertheless.*[16]

This is the national perspective. The employment problem in the urban ghettos is considerably worse. Table 7 summarizes the author's preliminary calculations from the Department of Labor's 1966 Urban Employment Survey (see footnote 6). The "sub-employment rate" is an index designed to measure the situation of the very large number of workers who *do* work, but hold marginal jobs, are involuntarily part-time employed, or earn poverty wages.

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Table 7

Income, Unemployment and Sub-Employment In Ten Urban Ghettos

Ghetto and City	Unemployment Rates Ghetto [a]	Unemployment Rates SMSA	Ghetto Subemployment Rate [a]	Median Individual Weekly Wage [a]	Median Annual Family Income [a]	BLS Minimum Adequate Family Budget [b]
Roxbury (Boston)	6.5	2.9 [a]	24.2	$ 74	$ 4224	$ 6251
Central Harlem (N.Y.C.)	8.3	3.7 [a]	28.6	73	3907	6021
East Harlem (N.Y.C.)	9.1		33.1	67	364[illegible]	
Bedford-Stuyvesant (N.Y.C.)	6.3		27.6	73	4736	
North Philadelphia	9.1	3.7 [a]	34.2	65	3392	5898
North Side (St. Louis)	12.5	4.4 [a]	38.9	66	3544	6002
Slums of San Antonio	7.8	4.2 [b]	47.4	55	2876	n.a.
Mission Fillmore (San Francisco)	11.4	5.4 [a]	24.6	74	4200	6571
Salt River Bed (Phoenix)	12.5	3.3 [b]	41.7	57	2520	n.a.
Slums of New Orleans	9.5	3.3 [b]	45.3	58	3045	n.a.

Source: See footnote 6
[a] November, 1966
[b] March, 1967

Of particular interest is a comparison among the last three columns of Table 7. In every case, the wages earned by ghetto workers during the survey week in November 1966, (even for families with multiple wage-earners), fall far short of the levels of income needed to maintain a barely adequate budget for an urban family of four, as estimated by the Bureau of Labor Statistics.[17] Even after welfare and other non-work incomes have been added in (column 5), there is still an average deficit of well over $2500 a year below a minimum budget at which the family is assumed to live in rented quarters, own an eight-year-old automobile, and consume a diet consisting largely of dried beans.

The ghetto labor force clearly requires *good jobs* paying *adequate wages.* Programs intended to absorb the so-called "hard-core unemployed" into private industry are undoubtedly important components of an overall urban development strategy, but they are far too few in number and small in scale to score more than a small impact.[18] Moreover, as we have just seen, the heart of "The Problem" is *not* among the unemployed, but rather among those who do in fact work for a living but who fail to receive a living wage. Training programs oriented primarily toward preparing blacks, Puerto Ricans, Mexican-Americans and poor whites for industrial jobs are both inadequate and potentially dangerous, given the trends in goods-producing versus service-producing industrial growth which we examined earlier. And not only are such jobs of declining relative importance. We have also found them to be located far from the ghetto, relative to core city public service jobs. Thus far, experiments with planned "reverse commuting" to provide ghetto workers with subsidized transportation out to suburban industrial plants have met with a uniform lack of success.[19] (This does not, of course, mean that such experiments should be discontinued.)

The Nixon Administration is said to be considering offering tax incentives to firms prepared to build branch plants *inside* the urban ghettos. Quite apart from the very real risk of confrontation with ghetto leaders over the issue of local control of such facilities, there is substantial evidence that most firms' *location* decisions are relatively insensitive to tax concessions. Where such incentives have been successful in bringing new plants into depressed areas in the past, the firms which have been so attracted have tended to be marginal and of little benefit to the community, in terms of wage generation or anything else. Finally, in a period of possible tax reform, there is increasing opposition in Congress to creating additional tax "loopholes" which may be politically difficult to close later.[20]

It would seem to follow that, if ghetto workers are to find good jobs at accessible locations and paying adequate wages, they will have increasingly to look for these jobs in the public sectors of their respective cities.[21]

Can the ghetto labor force be recruited for employment in the public service? The potential supply of labor to any particular market will depend on the previous work experience of the labor force, the existence of competing uses of their time, prevailing wage rates, institutional constraints, and so forth. If the jobs entail the performance of unfamiliar functions, then workers' attitudes about training programs will surely enter into their labor supply decision.

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We are now in a position to address at least a few of these considerations. Experience and attitudes about on-the-job training (OJT) of some 18,000 labor force participants in the ten urban ghettos surveyed in 1966 are tabulated in Table 8. The workers in this sample range in age from 14 to 71. In every area, the large majority of those now in the labor force have already had some work experience, with the highest percentages reported in Central Harlem (almost entirely black) and the lowest in the slums of San Antonio (largely Mexican-American). About a fifth to a quarter of the workers have been or are currently employed in white collar or craft occupations, in jobs where they have probably performed tasks similar to those associated with the public service jobs whose development we are advocating. At a minimum, therefore, something like three-quarters to four-fifths of the ghetto labor force will have to be trained for new job roles. From Table 8, we see that most ghetto workers are prepared to accept such training (provided, of course, that it is associated with a *real* and not an illusory job).

There is now some evidence that the age structure of the populations of at least the older urban ghettos is becoming progressively more bimodal, with a preponderance of teenagers and persons over 50 years of age (especially the former).[22] In his study of teenage labor markets in 75 metropolitan areas, Edward Kalachek corroborated an earlier finding by William G. Bowen and T. A. Finegan that an increase in the teenage proportion of the population tends to be positively associated with the teenage unemployment rate. Kalachek explains this by the "back-of-the-queue" hypothesis: employers generally prefer adult to teenage labor, so that "a higher teenage population is associated with more teenagers being grouped toward the back of the hiring queue, where they remain unemployed until supplies of available adult workers are depleted."[23] Thus, even if there were no racial discrimination against minority teenagers, the recorded increase in the teenage proportion of the ghetto population leads us to expect to find a growing number of teens looking for work and being unable to find it. A new public service job program should be especially attractive to these young workers.

Another special category of ghetto workers (actual or potential) which can hopefully be attracted to such a program are the so-called "welfare mothers":

> Welfare mothers, especially mothers of school age children, may be able to work full or part time. Even mothers of pre-school children may be able to accept employment if supervision is available for the children. A recent study of New York City's [Aid to Families with Dependent Children] cases found that 80 percent of the mothers on welfare have had some employment experience, while 70 percent would prefer employment to staying home. It would seem that there is a willingness and an ability by welfare mothers to work.[24]

Toward bringing this group into the public work force, it may be necessary to append a child day care center project to the overall program. Such a project could, of course, confer indirect benefits upon private urban employers as well, since the availability of such centers would undoubtedly increase the general female labor supply.

In fact, with the terms of the 1967 amendments to the Social Security Act beginning to be communicated to the welfare population by various citizens' organizations, and with Secretary of Health, Education, and Welfare Robert Finch advocating an even further-reaching "Family Security Plan" with extensive built-in work incentives, an increasing supply of ghetto labor should be soon forthcoming.[25]

While the absolute numbers of ghetto welfare recipients who begin to search for work may turn out to be a good deal smaller than many have thought (more on this below), it would be at least expedient to develop a sufficient number of new urban jobs to absorb those who do offer their labor for sale as a result of these welfare changes.

In summary, ghetto workers badly *need* the higher quality employment which a public service job development program can provide. And there is every reason to expect that they would be *available* for placement and training in such new public jobs. Probably the greatest obstacle to meaningful public employment of ghetto residents will not be a lack of interest or ability among the latter, but rather the presence of racial discrimination in public hiring practices. It is to that unpleasant record we now turn.

Table 8

Job Experience and Attitudes Toward Training Among 18,345 Workers in Ten Urban Ghettos: November, 1966

Ghetto and City	OF THOSE UNEMPLOYED DURING THE SURVEY WEEK: % never worked	% previously employed as white collar or craftsman	% willing to take OJT	% currently employed as white collar or craftsman
Roxbury (Boston)	14.8	23.0	79.3	30.0
Central Harlem (N.Y.C.)	10.6	23.4	76.5	23.0
East Harlem (N.Y.C.)	17.7	20.2	75.5	21.5
Bedford-Stuyvesant (N.Y.C.)	23.0	15.1	83.6	27.5
North Philadelphia	22.5	17.4	76.7	19.7
North Side (St. Louis)	21.7	7.9	81.3	19.2
San Antonio	27.9	21.1	75.2	25.7
Mission-Fillmore (San Francisco)	16.2	32.3	76.3	37.7
Salt River Bed (Phoenix)	20.7	12.3	80.3	15.0
New Orleans	19.9	19.7	80.1	19.1

Source: See footnote 6

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IV. *Discrimination as an Obstacle to Meaningful Public Employment of Ghetto Residents*

Recently, the U.S. Civil Rights Commission completed a survey of racial employment patterns in 628 public jurisdictions in seven major metropolitan areas.[26] Not surprisingly, "more than half of the Negro workers in State and local government were found to be employed by central city governments." [27]

The Commission further found that minority group workers usually hold the menial jobs of government. They are its street cleaners, trash collectors, janitors, hospital orderlies, elevator operators, and watchmen. Few achieve white-collar status. Those who do usually become clerks, typists, or low grade technical personnel in hospitals and related health activities.

Where blacks *were* found in white-collar jobs, the distribution was almost invariably skewed toward those requiring minimal contact with white clientele. Thus, "in both the North and the South . . . Negroes were most likely to hold white collar jobs in health and welfare and least likely to hold them in financial administration and general control." [28] Indeed,[29]

> . . . the director of finance for the city of Baton Rouge, when asked if he would hire a Negro certified as qualified by his city's civil service commission, replied: "Would you steal a million dollars?"

The Commission found this maldistribution of public service jobs in every city studied. The technical functions of a clerical worker, for example, are highly independent of any specific government agency's mission. "Yet, in Detroit, Negroes filled 80 percent of the clerical jobs in welfare compared to 30 percent of the clerical jobs in general government." And in Memphis, blacks held 33% of the clerical positions in public health but only 1% of the clerical jobs in public utilities! [30] "Generally, departments which conduct much of their business with the Negro community, employ larger numbers of Negroes." [31]

As compared with other workers, blacks were relatively more highly concentrated in the semi-skilled and unskilled jobs of government. Table 9 shows the percentage distribution of black and "all other" (almost entirely white) employees by occupation and function for each of four central cities (excluding employees of the educational system). By far the largest proportion of black public service workers are engaged as laborers for community development agencies and public utilities. On the other hand, the nonblack workers are distributed far more evenly among the various occupations and functions. Note the *extremely* small proportion of blacks employed in public safety or as uniformed police, never much more than 5% of all black public employees. This in cities with very large black populations and highly strained police-community relations.

Table 9

Percent Distribution of Black and "All Other" Central City Public Employment by Occupation and Function: March 1967[a]

	ATLANTA		HOUSTON		MEMPHIS		BATON ROUGE	
	Black	All Other	Black	All Other[b]	Black	All Other	Black	All Other
Occupations	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Officials & Managers	0	1.6	1.2	4.6	0.3	7.2	0	5.8
Professional & Technical	0.9	9.3	1.9	11.2	9.5	15.3	1.5	13.5
Office & Clerical	0.7	10.0	2.6	14.4	3.2	14.3	0	15.2
Craftsmen & Operatives	12.6	29.7	19.1	14.2	4.6	20.5	24.5	19.3
Laborers	69.8	4.9	60.8	2.6	53.9	1.3	64.8	5.4
Uniformed Police	3.9	18.4	3.0	20.4	1.0	12.6	3.4	16.6
Uniformed Corrections	0.3	0.9	0	0.2	0.4	0	—	—
Uniformed Fire	5.3	18.7	2.9	20.6	0.3	16.7	2.4	19.5
Civilian Public Safety	1.5	3.2	2.2	8.4	3.9	7.0	0.3	3.5
Other Service	5.0	3.3	6.4	3.3	22.9	5.2	3.1	1.2
Functions	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Financial Admin. & Control	0.6	7.4	0.8	10.2	0.8	4.7	0	19.8
Community Development	30.2	23.4	44.6	27.9	14.0	8.7	66.4	21.6
Public Welfare	—	—	—	—	—	—	—	—
Police Protection	5.1	20.7	5.0	27.8	4.0	17.7	3.4	19.8
Corrections	0.3	1.2	0	0.3	1.2	1.5	—	—
Fire Protection	5.6	19.3	3.0	21.7	0.5	17.1	2.8	19.8
Health, Hospitals	—	—	4.2	5.3	31.9	17.4	0	0.1
Public Utilities	53.7	17.6	37.9	1.9	47.6	32.9	20.5	8.8
Other	4.6	10.5	4.5	5.0	—	—	7.0	10.1

Source: U.S. Civil Rights Commission

[a] does not include employees in education

[b] Mexican-Americans are not included

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Table 10

Entry Level Salary Scales of Negro and White Public Service Workers in San Francisco City and County: October, 1965

SELECTED OCCUPATIONS AND FUNCTIONS

	Semi-Professional	Professional	General Service	Service-Promotional	Building Services	Clerical	Horticultural
				dollars per month			
Board of Education							
Percent Black				17.8	43.0		22.7
Modal Black Salary				$451-500	$451-500		$651-700
Modal White Salary				$501-550	$451-500		$651-700
Juvenile Court							
Percent Black		22.0			57.1		
Modal Black Salary		$551-600			$401-450		
Modal White Salary		$751-800			$501-550		
Non-Uniformed Police							
Percent Black					47.4	6.5	
Modal Black Salary					$451-500	$351-400	
Modal White Salary					$451-500	$401-500	
Public Health							
Percent Black	46.9		78.6	76.2	75.5	11.4	
Modal Black Salary	$401-450		$401-450	$451-500	$401-450	$351-400	
Modal White Salary	$801-850		$401-450	$451-500	$401-450	$451-500	
Public Utilities							
Percent Black					65.3		
Modal Black Salary					$451-500		
Modal White Salary					$501-550		
Recreation and Parks							
Percent Black		31.6					29.1
Modal Black Salary		$601-650					$451-500
Modal White Salary		$601-650					$551-600

Source: Human Rights Commisson of San Francisco, *Racial and Ethnic Employment Pattern Survey of the City and County of San Francisco Governments*, October, 1965, courtesy of the U.S. Civil Rights Commission.

Table 10 demonstrates even more vividly the extent to which public personnel officials treat black and white workers separately. There, we see the modal *entry-level* monthly salary ranges for a selected set of San Francisco public service jobs, recorded in 1965. Each of the selected positions is one in which the percentage of black workers is relatively high. In several of these jobs, blacks even hold the majority of the post. Yet the salaries paid to incoming whites are higher than those paid to incoming blacks in eight of the 15 cases shown! The gap in modal entry-level salary ranges from zero to as much as $450 per month. The mean difference between black and white entry-level salaries among the eight categories where a positive difference was recorded is about $135 monthly.

This sobering examination of racial discrimination in local public employment reminds us of a critical constraint on the job development program advocated by the National Civil Service League. Unless state and local public personnel officials are prepared to relax this constraint, the benefits from a public service job development program for ghetto residents will at best be sharply reduced. At worst, the entire program might be of no benefit whatsoever.[32]

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V. *The Structure and Costs of A Public Service Job Development Program*

We have now reached that point in our survey where it becomes necessary to define more precisely just what kind of job program we want.

Essentially, there are two competing (although not mutually exclusive) strategies or "models" for the definition of new public service jobs. The first involves "breaking down existing professional or skilled jobs and generally separating out the simpler tasks. The second is a developmental approach starting with the definition of public and/or technological needs, and followed by the design of tasks to meet those needs." [33]

Each of these strategies has been implemented recently, the former at the national level and the latter in New Jersey. While there may be other examples of public service jobs programs operating around the country, these are the two with which we are most familiar. Moreover, the contrast between these two programs is sufficiently sharp to enable the reader to develop his own preliminary impressions about the relative merits of the "job spinoff" versus the "job development" strategies. Thus, the following discussion is intended to be suggestive rather than critical. In particular, it does not constitute a formal evaluation of either sample program.

The "job spinoff" strategy was institutionalized in a 1966 amendment to the Economic Opportunity Act introduced by Rep. James H. Scheuer (D-NY), and generally known as the "New Careers" Program. Originated and developed by Dr. Frank Riessman and his associates at the New Careers Development Center of New York University,

> The New Careers Program aims to serve two objectives simultaneously—to relieve shortages of professional personnel in human service activities and, in so doing, to meet the need of the unemployed and underemployed for meaningful jobs with career-ladder possibilities. The program prepares disadvantaged adults for paraprofessional jobs in public and private nonprofit agencies in such critically undermanned fields as health, education, welfare, neighborhood redevelopment, and public safety. To a greater extent than other [training] programs . . . this one includes classroom training, either before or along with on-the-job training. The agencies providing the training guarantee jobs for enrollees upon its completion.[34]

During fiscal 1967, the "Scheuer New Careers Program" was funded at $33 million, to be distributed by the Department of Labor to "any state or local agency or private organization to pay all or part of the costs of adult work training and supportive services." During calendar 1968, some 6500 persons were enrolled in New Careers projects around the country.

At the request of the Department of Labor, AVCO Economic Systems Corporation undertook a detailed evaluation of New Careers projects in 11 cities. AVCO's interviews were conducted over the period 11/67-6/68. The corporation's teams of experts found the same general organizational structure in each city they visited (Figure 4, a flow chart for the Houston project, is quite representative). A New Careers agency directed the recruitment of adult ghetto workers (mostly female heads of households aged 26-35), arranged for them to receive basic prevocational training, and helped to place them in various "user agencies" in the local city government, where they received on-the-job training, with the promise (not always realized) of a permanent job in the agency attendant upon the successful completion of training. Various supportive services from dental care to transportation subsidies were occasionally provided by charitable organizations in the community. In most of the projects, part of the trainee's week was spent off the job in a classroom setting, sometimes at the local state university.[35]

AVCO's conclusions about these 11 New Careers projects were quite negative. There was a critical shortage of counsellors; the trainee-to-counsellor ratio varied from a manageable 17 in Burlington, Vermont to an impossibly high 201 in Minneapolis. Many of the promised services, especially child day care centers, were never provided.

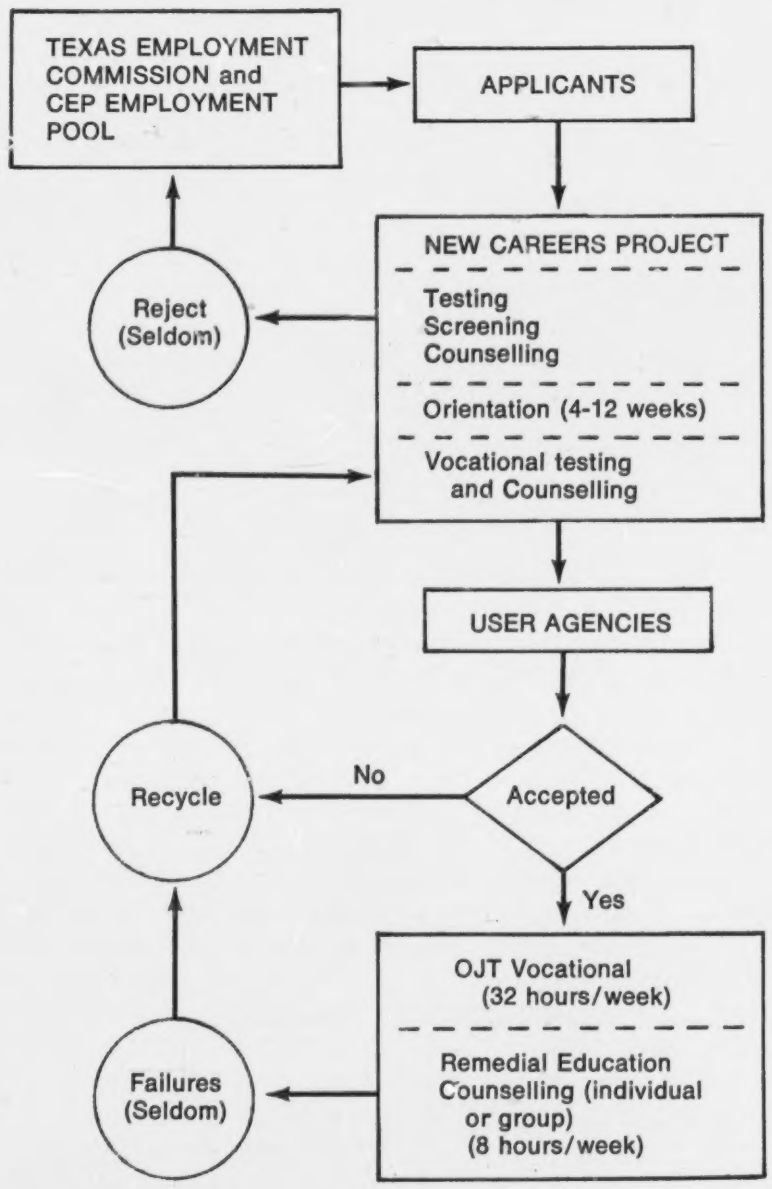

Figure 4
Flow Chart of Enrollees in Houston, Texas New Careers Project

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Table 11

Total and Average Operating Budgets for 11 New Careers Projects, 1967/68

Project	Total Budget FY 1968	Planned Enrollment Capacity	Expected Unit Cost	Enrollment on May 1, 1968	Realized Unit Cost	Capacity Utilization —%—	Unit Cost Overrun
Burlington	$ 231,820	50	$4636	50	$4636	100.0	0
Columbus	1,127,000	226	4986	153	7366	67.7	$2380
East St. Louis	667,970	135	4948	111	6018	82.2	1070
Harrisburg	1,490,270	360	4139	327	4557	90.8	418
Houston	1,101,360	250	4405	218	5052	87.2	647
Huntington	288,180	68	4237	52	5541	76.5	1304
Miami	561,940	130	4323	88	6385	67.7	2062
Minneapolis	1,502,680	207	7259	201	7476	97.1	167
Newark	1,158,633	250	4634	67	6937	66.8	2303
Paterson	531,000	120	4425	69	7695	57.5	3270
Providence	459,600	97	4738	85	5407	87.6	669

Source: AVCO, Volume I, p. 29.
mean realized unit cost=$6097
mean unit cost overrun=$1295

But more important than any of the foregoing is AVCO's evaluation of the *quality* of the jobs: [36]

> . . . the agencies look on their enrollees as merely "free" labor, a kind of "adult" Neighborhood Youth Corps. Far too many of the agencies (especially the smaller agencies) offer only "dead end" jobs.

This is the chief risk in pursuing the strategy of spinning off "subprofessional" jobs from existing professional positions. If the jobs thus created do not fill legitimate personnel needs of the user agencies, then there is a real danger that the new income streams generated by the development program may eventually dry up. Are "careers" such as "hospital pharmacy aide," "patrolman aide," "safety patrol aide," and "housing project patrol aide" [37] really *careers?*

Equally risky and objectionable to many critics of this strategy is its explicit identification of the trainees as a group apart. The "New Careerists" are given special training, special supportive services, and even special job titles. For the poor, this may perpetuate their sense of inferiority, an attitude which public programs should do everything within their power to dissipate. Moreover, from the point of view of the regular (largely white) public labor force, this special treatment of the ghetto poor may engender discontent which could lead to serious labor relations problems later.

By May 31, 1968—nearly nine months after the inception of the program—the 11 projects evaluated by AVCO had managed to graduate only 338 of the 2,635 ghetto residents who had been enrolled, a throughput of about 14%.[38] By contrast, 726 trainees (or over a fourth of those enrolled) had dropped out of the program altogether by Memorial Day, 1968. Moreover, the costs during the first year of the program were quite high. Table 11 displays the principal items for the set of 11 projects. *Planned* unit costs were reasonably high to begin with, ranging from a low of $4139 per trainee per year in Harrisburg to $7259/trainee/year in Minneapolis.

Under actual operating conditions, however, only the Burlington project was able to recruit *and hold* a sufficient number of the "disadvantaged" to be able to operate at full capacity. The other ten projects all operated with some excess capacity, the opportunity costs of which—when translated into realized unit cost figures—are revealed to have been quite expensive indeed. Realized unit costs ranged from $4557/trainee/year in Harrisburg to $7695/trainee/year in Paterson, New Jersey; the mean was $6097 (or about $508 per trainee per month). Paterson's unit cost overrun attributable to excess capacity was more than $3000; the mean overrun among all 11 cities was almost $1300.

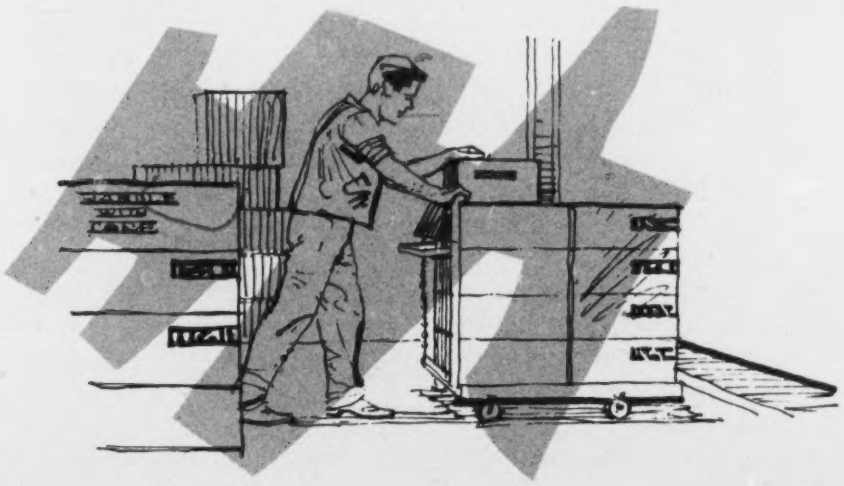

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Table 12

New Careers Budget for Calendar 1968 U.S. Department of Labor

Average enrollment=6,455 persons

Item	Total Cost	Percentage	Average Cost
Wages and fringe benefits	$18,193,481	66.7	$2819
Supportive services, including transportation and day care centers	1,840,314	6.7	285
Recruitment	45,174	0.2	7
Counselling, training, supervision, remedial education and other staff activities	2,420,053	8.9	375
Job development, placement, referral and follow-up	437,045	1.6	68
Administrative and other overhead	4,319,344	15.9	669
	$27,255,411	100.0	$4223

Table 12 exhibits the costs for the entire nationwide program for calendar 1968 (6,455 trainees). Given the AVCO analysis, we are entitled to suspect that the Department of Labor's overall unit cost figure of $4223/trainee/year is perhaps a *target* rather than a statistic.

A working "model" employing the second job development strategy is provided by the example of the New Jersey Public Employment Career Development Program. Quite unlike the New Careers approach, the New Jersey experiment brings the poor "into the mainstream of public employment, rather than being segregated into certain categories of jobs reserved only for them." [39] Moreover, it operates within the state's civil service structure. Indeed, its most important long-run contribution may well be the development of creative change in civil service procedures and requirements as they affect the poor in New Jersey.

The Career Development Program is currently operated as an integral part of the New Jersey Department of Civil Service, and is directed by Richard C. Darling. It began, however, as a project of the New Jersey Office of Economic Opportunity, under the direction of Frederick A. Schenk. Initially, a team of career development specialists was assigned to the chief personnel officers in the various state agencies. These specialists reported to their respective agency heads but were to a large extent responsible (and responsive) to the Program director. Their role in the strategy was a central one, for it was their job to identify personnel needs in the various agencies as they arose, to analyze entry and promotional requirements of various job classes, to design modifications of existing job specifications, to create new job titles, and to recommend new entry requirements—all within the corpus of the civil service system. Thus, the Public Employment Career Development Program was designed to act not only as a special employment service or broker for the poor, but to "help to create the openings it [was] trying to fill." [40]

The Program's achievements since its inception in the fall of 1966 have been many. More than 2,000 job specifications have been reviewed and over 183 job titles either revised or added to accommodate the skills and education of the poor. The apprentice painter civil service exam is now given in Spanish as well as in English, opening up for the first time in New Jersey public employment for Puerto Rican and other Spanish-speaking residents. In 200 cases (for example, with the state Department of Transportation), a far more relevant and less restrictive work performance test has been substituted for the written test. Together with the state Departments of Civil Service, Labor and Industry, and Education, the career development staff has set up two clerical training centers for the poor. Finally, as of February, 1968, the Program had placed 301 slum and migrant workers into state civil service jobs.[11]

But probably the most significant of all the Program's achievements has been the agreement with the state Civil Service Commission to eliminate formal education requirements for certain jobs, substituting in their place "an ability to read, write, and follow directions." Specially-designed civil service exams offered in core city areas such as Newark's Central Ward are another innovation directly resulting from the Career Development Program's activities. And throughout the Program, the fundamental principle is never lost sight of: "we identified areas where the agencies themselves had the greatest needs and addressed our service capabilities in this direction." [42]

Mr. Schenk firmly believes that the resources exist for transforming *existing* state institutions into functional components of a public service job program that could ultimately absorb as many as 120,000 additional workers into the state civil service system. As director, he took great pains to articulate his experiment with the various activities of MDT offices, the Neighborhood Youth Corps, and—most important of all—the local CAP's, whose credibility *inside* the ghetto is quite possibly the War on Poverty's greatest victory.

Even the ostensibly mundane business of advertising and administering the civil service exam is turned to good use. For the clerical trainee exam, Schenk hired some "dudes" to recommend a set of examination sites located in the ghetto. Some 900 people showed up for the examination held in a school in Newark's Central Ward, more from that neighborhood than had participated before. The examination monitors also came from the local population.

Together with his preference for working with (although hardly within) existing structures, Schenk insists that the poor ought not be singled out for special attention once they occupy permanent public service jobs. The Career Development Program recently opened up 17 maintenance and construction apprenticeships to ghetto applicants. The names assigned to these new jobs are instructive:

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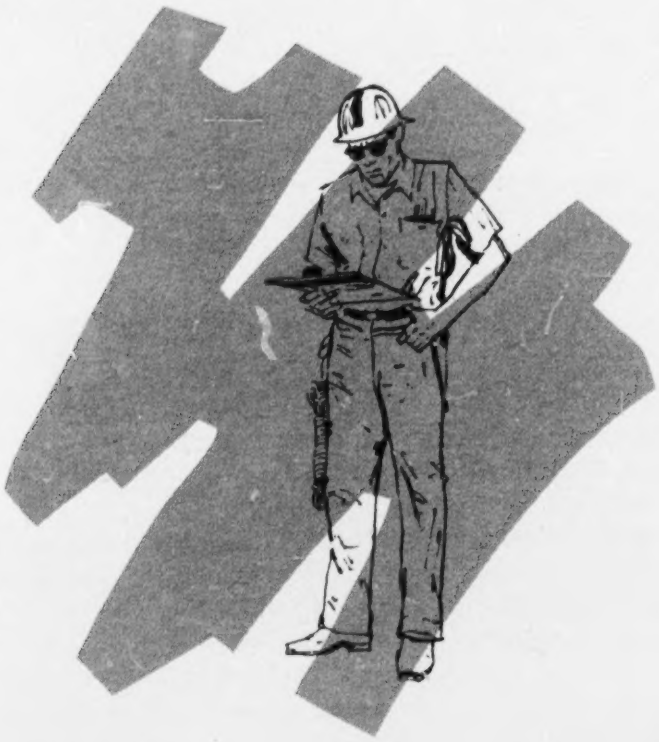
"carpenter," "electrician," "machinist," "plumber," and so forth. In a similar spirit, Schenk advocates training and frequent promotions for regular as well as for disadvantaged workers. This is not only a question of morale; a career "ladder" for the poor leads nowhere if the middle "rungs" are not at least periodically accessible, i.e., vacant.

The New Jersey Career Development Program has no formal provision for providing supportive services to its clients. The justification offered (if indeed it is not just a rationalization of the usual budget constraint) is that services are essentially fringe benefits. To commit the Program to the provision of such services would in Schenk's opinion sensitize the unions, and set in motion a bargaining process which could have an ultimately undesirable impact on the poor themselves.

The New Jersey Public Employment Career Development Program is operated, of course, on a considerably more modest scale than is the New Careers Program. Complete *ex post* cost figures are currently available for only one "job title," the *clerical trainee* project. In this project, the trainee learns typing, shorthand, and filing. "The opportunity is thus provided for permanent employment in government, satisfying our manpower need on the one hand and providing badly needed jobs on the other." [43] So far it has been possible to accept only 50 persons (49 of them female) for enrollment in this particular project.[44]



The first set of costs incurred were those associated with program design (or what the staff refers to as "Idea Costs"). Fundamentally, these included the costs of job title and examination modification, and overall project preplanning, which took place over the period of April to October, 1967.

Salaries of four career development specialists	$ 7,400
Clerical staff	3,000
Executive advice	1,000
Subtotal	$11,400

The first civil service exam under the new system was held on Saturday, October 7, 1967 at seven centers throughout the state. A total of 4,376 persons applied for the exam,[45] of whom 2,810 appeared and 1,166 passed. All of the latter were placed on the Civil Service Clerical Trainee Employment List. Of these, 50 were selected for training at the Trenton Center, performing actual daily work tasks for the state government along with other regular workers. Three classes, each of six months' duration, were conducted.

The "pre-employment costs" associated with administering the exam and arranging for subsequent placement were:

Personnel	$6,150
Materials	465
Administrative Overhead	890
Subtotal	$7,505

Finally, the costs of training 50 persons had to be incurred. Since all training was performed on the job, the staff refers to these as "post-employment costs." Supervisory cost is valued at approximately two half days per week of time released from normal supervisory duties, or $336 per trainee per six-month course:

Personnel		
Supervisory (see text)	$16,800	
Instructors	10,937	
Clerical Trainee salaries/6 mo. @ $1,684	84,000	
Office staff	4,222	$115,959
Materials		1,775
Fixed Cost and Other Overhead		$ 17,100
Subtotal		$134,834

Summarizing these costs, we have:

Program Design Costs	$ 10,400
Pre-Employment Costs	7,505
Post-Employment Costs	134,834
Total Cost	$152,739

It remains now to estimate the costs per trainee. Clearly, the first and third components should be allocated over the 50 persons who actually received training. For the second component, however, 1,166 people (i.e., all those who passed the exam) received services which would otherwise not have been forthcoming in the absence of the Program. Consequently, it is appropriate to estimate the average annual costs per trainee of the New Jersey Clerical Trainee Program at:

$$\frac{10,400}{50} + \frac{7,505}{1,166} + \frac{134,834}{50} = \$2,915$$

This now appears to be a remarkably low estimate, relative not only to the New Careers data assessed earlier but also to most of the figures emerging from other programs such as Job Corps (around $8,000—but including a large travel component) and the JOBS Program of the National Alliance of Businessmen ($4-5,000).

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With these two ongoing programs as examples, how, then, shall we "cost out" a public service job development program for residents of the urban ghetto? Most of the training given to these new workers has been and will probably continue to be of a "general" nature. That is, the skills learned are more or less readily transferable from one job and one employer to another. There are many economists who believe that the costs of this kind of training program should be estimated by the extra *earnings* foregone by workers during their training, i.e., by the difference between the trainee's earnings under the program and the wages which he could have earned in some alternative employment, *without* training. This approach assumes that the trainee will be paid a wage which is net of most of the costs of training him. In other words, a program providing general training is assumed to make the worker pay for his own training, since presumably he can take the new "bundle of skills" invested in his person to other employers. Thus, he could earn a relatively higher *present* wage by foregoing training and accepting employment elsewhere.[46]

In our examples—and generally in a policy of public employment for the disadvantaged—these assumptions are not satisfied. Whether or not an implicit subsidy is involved (and probably it is), the New Careers and the New Jersey Career Development trainees generally receive the regular entry-level wages prevailing in the agencies to which they are assigned. Even more important, it is questionable whether the trainees would be able to find *any* alternative employment, let alone jobs paying higher wages (see the discussion on pp. 4, 5 above). Indeed, the explicit objective of a public service job development program is to provide jobs for those who are out of work or only marginally employed. Such programs are *not* designed to compete with other public and private employers for those workers who are already successful.

Therefore, at this introductory stage of the National Civil Service League's investigation of these issues, it seems advisable to employ the more traditional concept of program cost: the administrative budget. In these terms, it appears that a public service job development program can probably "deliver" a trainee within the period of a year or less for an average cost of between 3 and $7,000.

VI. *The Benefits From a Public Service Job Development Program*

The major quantifiable social benefit from a public job program is the present value of the *extra* GNP contributed over some future period of time by the newly trained worker.[47] From Commerce Department data on GNP contributed by government workers and on total employment in all governments (in America) for the period 1946-1965,[48] we may project the future level of GNP per public employee to any given future year, with the additional manpower being supplied by ghetto residents.[49] For our purposes, we shall assume that a jobs program implemented in 1969/70 will enable its graduates to contribute extra GNP at the projected rate up until 1975, after which prediction is not feasible since new technologies in service delivery may by that time require the worker to undergo retraining. Figure 5 shows the historical and projected rates at which public service workers contribute to GNP. The shaded band which we have established around the

locus of projections serves to allow for the inevitable uncertainty involved in predicting the shape of any future event from previous experience.

These future returns to the social investment of job training must now be *discounted back* to the present, in order to make them directly comparable to the costs which are, after all, born in the present and not in the future. By discounting, we mean that all decision makers have some relative preference for present as against future income, some subjective notion about the relative urgency of receiving income now rather than later. Economists call this "discounting the future," and the rate of interest which expresses this "feeling" in quantitative terms is called the "rate of time preference." Formally, the present value of a current investment which yields returns R in future years 1, 2, . . . , n is equal to

$$\frac{R_1}{(1+r)^1} + \frac{R_2}{(1+r)^2} + \ldots + \frac{R_n}{(1+r)^n}$$

where r is the rate of discount. Obviously, the larger the value of r we select as an expression of our "rate of time preference" or "feeling about the future," the smaller will be the present value of the investment.

In private industry, or in the long-range budgeting decisions of an individual family, it is both natural and sensible that a relatively *high* rate of interest be used to discount future expected income. For the individual, a dollar earned today *is* worth a good deal more than a dollar which may be earned next year, not only due to inflationary phenomena, but because of the risk that next year's dollar may never actually materialize! For governments, however, the situation is altogether different. The government will certainly be here a year from now—or ten years from now—to collect on its current investment. The risk of default is less than for the private decision maker. The very size of the national economy makes it possible for the government to absorb the remaining risks without jeopardizing its "credit."

Thus, in discounting future contributions of new workers to GNP, we will use alternative interest rates: 4%, 6%, and 8%. The upper rate is probably relatively more appropriate to private than to public decision makers, while the converse is true for the lower rate. Moreover,

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in making the GNP-projections themselves, we will make varying assumptions about the magnitude of the contribution per new worker. In terms of the shaded band in Figure 5, expected extra GNP per new public employee in each of the years 1970-75 will be assumed to take on the values associated with the lower limit, the midpoint, and then the upper limit of the band, each in turn. It will be convenient to refer to these as the "pessimistic," "neutral," and "optimistic" projections respectively.

The results for each of the nine possible estimates of the present value of the extra GNP per worker expected during the period 1970-75 are shown below. These estimates are:

Projected Contribution to GNP

		Pessimistic	Neutral	Optimistic
Rate of Time Preference	4%	$33,642.70	$34,961.10	$36,279.50
	6%	$31,511.30	$32,748.10	$33,984.80
	8%	$29,581.50	$30,744.10	$31,906.80

Thus, the program may have a payoff of from about $29,600 to $36,300. These numbers represent the 1969 value of the extra GNP which each new public service worker may be expected to contribute to the national economy over the next six years.

There are several potentially important *indirect benefits* which a public jobs program has the potential for generating. While we will not attempt to assign any quantitative dimensions to these benefits in the present paper, they deserve to be mentioned briefly.

In Part II above, we alluded to the post-war out-migration of manufacturing and wholesale plants from the central cities to their suburban "rings." However, as Herbert Bienstock, Middle Atlantic Regional Director for the Bureau of Labor Statistics, has observed for at least one large American city: [50]

> Emphasis on overall manufacturing employment trends has tended to obscure the fact that a substantial proportion of the "manufacturing" workers in New York City are indeed a part of the City's important office worker force. N.Y.C. is a headquarters city and few would argue that the retention of headquarters offices is not a matter of crucial concern to its economic health.
>
> . . . in contrast to the general . . . flight of jobs and industry from N.Y.C. . . . the data—at least for the manufacturing sector—indicate that . . . on balance jobs in N.Y.C. administrative offices of manufacturing companies increased by 3,600 during the period from 1962 to 1967, rising to some 82,000 in the latter year.

If New York's experience is at all a barometer of general urban trends in this particular respect, then there is an important potential "sidewise linkage" between the public and private sectors in the cities. Previously unemployed or subemployed ghetto residents may be given on-the-job training in local government offices, after which they may eventually move into basically similar positions in the administrative offices of the city's private firms. In this way, a public service job development program is potentially

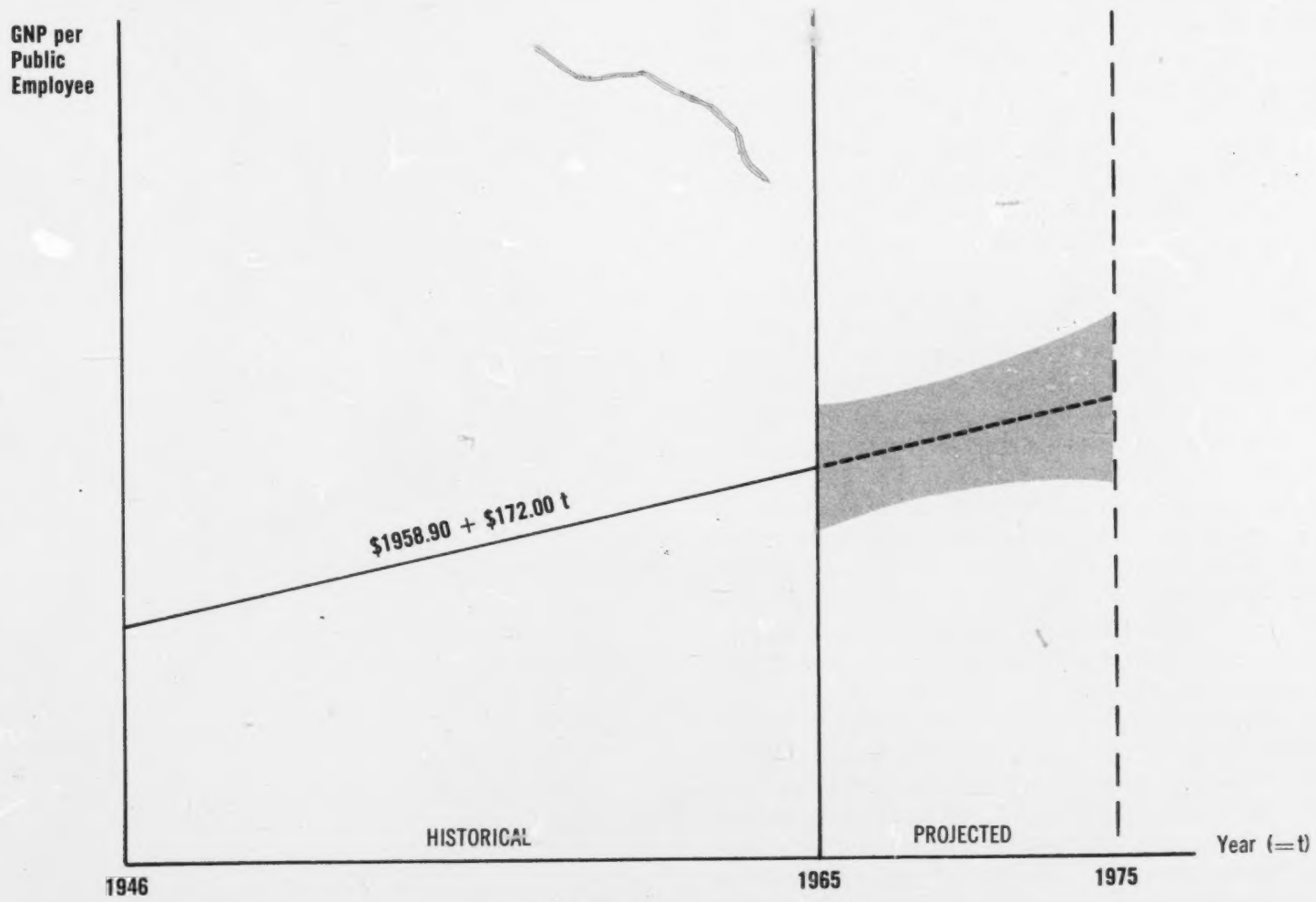

Figure 5

capable of generating important external benefits for the *private* employers in the urban economy by performing outreach, placement and training functions on their behalf.

A second and much-discussed indirect benefit of a jobs program is the potential reduction in public welfare costs which might result from previous welfare recipients moving "from the relief roll to the payroll." It is hard to say how large these potential savings are likely to be. New York City's Department of Social Services, for example, estimates that only 9% of that city's adult welfare population is employable.[51] It would probably be a good idea not to expect much relief here, and certainly not tax relief. The incomes of the ghetto poor are so low already that it may be necessary for some time to continue several different income supplement and jobs programs simultaneously. This is the price we must pay for so many years of neglect.

VII. *Summary and Conclusions*

We have estimated the present value of the *direct* social benefits from a public service job development program to be between $29,600 and $36,300 per new worker employed, and the costs of training him to be $3,000-$7,000. The limiting benefit-cost ratios are thus:

$$\frac{\$29{,}600}{\$\ 7{,}000} = \$4.23 \qquad \frac{\$36{,}300}{\$\ 3{,}000} = \$12.10$$

In other words, considering only the direct impact of a public jobs program on GNP over the next five years, a dollar invested now in a new worker from the urban ghetto may return anywhere from $4.23 to as much as $12.10 in extra GNP.

On these "efficiency" grounds, the policy would seem to represent a *sound* social investment. That it is also a *desirable* investment there can no longer be any doubt. We have seen that the urban economy is rapidly generating increased demands for public services which cannot be met by the existing labor force alone. We can, in other words, no longer afford the waste of productive resources which the underutilization of ghetto labor represents.

Yet, after all the data have been analyzed and all the computations performed, perhaps the strongest argument for a public service job development program is a bluntly political one. In the United States, no improvement in the black man's access to the legal and material benefits of full citizenship has even taken place without the support—indeed, without the initiative—of government. There is not the slightest indication that the private sector is going to be any more willing in the future than it has been in the past to actively seek black Americans as co-workers, neighbors, or employees. Thus, if the provision of jobs for ghetto residents is not accepted as a public responsibility, their intolerable employment status will probably remain essentially unchanged.

Nearly 100 years ago, the nation found itself confronted with a major political crisis. A newly emerging industrial economy required an entirely new breed of public professionals to manage its growth. The old spoils system was incapable of supplying the new kind of specialized, educated, permanent personnel demanded by the new system. At this critical juncture in American history, it was the National Civil Service League which, more than any other body, helped to institute the merit examination system, thereby enabling the American economy to realize its potential.

Now the nation is again in crisis. The economy is faced with an acute shortage of labor. The cities that propagate our culture are deteriorating more and more rapidly, largely because of our discriminatory practices in housing and employment. And the younger and stronger members of that race against whom we have practiced *apartheid* and worse for more than 300 years have told us—bluntly, passionately, and violently—that they will no longer accept these arrangements.

It is appropriate that the National Civil Service League should be the organization to once again identify and commit itself to supporting a public policy designed to help resolve a political crisis. As with the earlier policy innovation, so the present one—public employment of the disadvantaged under merit principles—is proferred as a strategy for enabling American society to prepare itself for entry upon a new age. In the post-industrial era, no nation—even the wealthiest—will be able to afford the luxury of a predilection as internally divisive and debilitating as racism.

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Footnotes

[1] Harold L. Sheppard, *The Nature of the Job Problem and the Role of New Public Service Employment* (Kalamazoo, Michigan: W. E. Upjohn Institute, January, 1969), pp. 19-20.

[2] Data points are from: National Industrial Conference Board, *Economic Almanac, 1967-68,* (New York: Macmillan, 1967), p. 121. Figures are in constant 1958 dollars.

[3] Harold L. Sheppard and Herbert E. Striner, *Civil Rights, Employment, and the Social Status of American Negroes* (Kalamazoo, Michigan: W. E. Upjohn Institute, 1966), pp. 77-78. These are "full-time equivalents" computed by Striner.

[4] The traditional sources of jobs for new immigrants to the cities have been those manufacturing and wholesaling industries which most intensively employ blue-collar workers. Since World War II, the substitution of horizontal-space-intensive for vertical-space-intensive techniques of production and freight handling have induced firms to move from the older central cities out to their suburban rings, where land assembly is both cheaper and easier. This decentralization of goods-producing industry is facilitated by and in turn reinforces the increased substitution of private for public transportation—yet another technological change which has had a major impact on modern urban life. The historical record of "suburbanization," and its implications for black workers whose residence is still effectively restricted to the urban core, are discussed in: John F. Kain, "The Distribution of Jobs and Industry," in *The Metropolitan Enigma,* ed. James Q. Wilson (Cambridge: Harvard University Press, 1968); John F. Kain, "Housing Segregation, Negro Employment, and Metropolitan Decentralization," *Quarterly Journal of Economics,* May 1968; John R. Meyer, John F. Kain, and Martin Wohl, *The Urban Transportation Problem* (Cambridge: Harvard University Press, 1965); Dorothy K. Newman, "The Decentralization of Jobs," *Monthly Labor Review,* May 1967; Thomas Vietorisz and Bennett Harrison, *The Economic Development of Harlem* (New York: Frederick A. Praeger, forthcoming), especially Chapter 6.

[5] Bureau of Labor Statistics, U.S. Department of Labor, Middle Atlantic Regional Report No. 10, *Changing Patterns of Employment, Income, and Living Standards in New York City,* June 1968, Tables 2 and 3.

[6] U.S. Department of Labor, *1966 Urban Employment Survey,* unpublished data files, author's calculations. The Harlem component of this ten-city survey (whose sample size was over 37,000 ghetto residents) is analyzed in Vietorisz and Harrison, *The Economic Development of Harlem, op. cit.,* Chapter 1. The entire sample is examined in some detail in Bennett Harrison, *Studies in the Structure of the Ghetto Economy* (Ph.D. dissertation, Department of Economics, University of Pennsylvania), in preparation.

[7] See the various reports of the National Commission on Technology, Automation and Economic Progress. These have been condensed and summarized in *Automation and Economic Progress,* eds. Howard R. Bowen and Garth Mangum (Englewood Cliffs, New Jersey: Prentice-Hall, 1967).

[8] U.S. Department of Labor, *Manpower Report of the President,* 1967, Table E-9.

[9] Harold L. Sheppard, *The Nature of the Job Problem . . . op. cit.,* pp. 22-28.

[10] *Ibid.,* p. 28.

[11] Leonard Lecht, *Manpower Requirements for National Objectives in the 1970's* (Washington, D. C.: National Planning Association, Center for Priority Analysis, February, 1968), p. 75.

[12] *Ibid.,* Table 3-3.

[13] *Ibid.,* Lecht's Table 12. Assumes an average annual percentage growth rate of GNP between 1964 and 1975 of 4.5%. Numbers are extrapolated from the 1950 and 1960 census and 1964/65 Current Population Survey data.

[14] The recent public recognition and discussion of poverty can probably be traced to President John F. Kennedy's "discovery" of Michael Harrington's *The Other America* (Baltimore: Penguin Books, 1962).

[15] Sheppard, *The Nature of the Job Problem . . . op. cit.,* pp. 1-2.

[16] *Ibid.,* pp. 2-4 The nonwhite poor made an even greater effort in 1966 to improve their family incomes than did the white poor. Sixty-three percent of nonwhite families headed by a male had two or more wage earners, compared with only 39% of similar white families. The percentages for female headed families were 55% and 38% respectively.

[17] Bureau of Labor Statistics, U.S. Department of Labor, *Three Standards of Living for an Urban Family of Four Persons: Spring 1967* (Washington D. C.: Superintendent of Documents, 1967), Bulletin 1570-5.

[18] Sheppard, *The Nature of the Job Problem . . . op. cit.,* pp. 17-19; Samuel M. Burt and Herbert E. Striner, *Toward Greater Industry and Government Involvement in Manpower Development* (Kalamazoo, Michigan: W. E. Upjohn Institute, September 1968).
After a little over a year of activity, the National Alliance of Businessmen had managed to place some 118,411 workers in member corporations with subsidies from the Department of Labor's MA-3 program; Jean White, "Business Needs Help in Aiding Ghettos," *The Washington Post,* Sunday, January 12, 1969, p. E4. By March of this year, the total had risen only to about 125,000 workers, distributed among some 12,500 companies for an average of only ten new workers per company; *Business Week,* March 8, 1969, p. 62. Ghetto workers are traditionally the "last hired but the first fired" in private labor markets. Thus, by the middle of March, the Ford Motor Company was announcing the closing of two special hiring centers in central Detroit and the layoff of several hundred newly hired workers from the ghetto; *Business Week,* March 22, 1969, p. 41.

[19] Carol S. Greenwald and Richard Syron "Increasing Job Opportunities in Boston's Urban Core," *New England Economic Review,* Federal Reserve Bank of Boston, January-February, 1969, pp. 30-40. See especially the discussion on pp. 34ff. A detailed investigation of urban transportation strategy from the point of view of the ghetto (including reverse commuting) is found in *Transportation Needs of the Poor,* ed. Oscar Ornati (New York: Frederick A. Praeger, forthcoming).

[20] William Cris Lewis, "Tax Concessions and Industrial Location: A Review," *Reviews in Urban Economics,* Fall, 1968, pp. 29-45. See also the final report of the National Commission on Urban Problems (Sen. Paul H. Douglas, Chairman), released 14 December, 1968. The most highly publicized of the "branch plants" has been Aerojet-General's tent-manufacturing facility established in Watts in 1966. By May of this year, however, and despite Labor and Defense Department subsidies and contracts totalling well over $2 million, the project had lost "several hundred thousand dollars" and employment had been cut back from 500 to 300 ghetto workers. John Herbers, "Economic Development of Blighted Inner-City Areas is Running Into Snags," *New York Times,* May 4, 1969.

[21] Indigenous ghetto economic development may be a different matter altogether. The number of "inside jobs" created by local community corporations through the instrumentality of new businesses and cooperatives would of course be necessarily small. Nevertheless, they could be an exceedingly important piece of the overall mosaic, generating a catalytic effect on the community. Such efforts could easily be designed to articulate with a public job development program, for example with the ghetto development corporation providing the outreach and recruitment functions for government personnel administrators. Most important of all, young black activists in the ghetto *want* ghetto economic development. See Bennett Harrison,

"A Pilot Project in Economic Development Planning for American Urban Slums," *International Development Review*, March 1968; Thomas Vietorisz and Bennett Harrison, *The Economic Development of Harlem, op. cit.*

[22] Andrea Beller, "Demographic Trends," in: Development Planning Workshop, Harlem Development Project, *The Economy of Harlem* (New York: Columbia University, September 15, 1968), volume I, p. 20; and Bennett Harrison, "The Distribution and Scale of Commercial Activity in the Urban Ghetto," in *Studies in the Structure of the Ghetto Economy . . . op. cit.*, appendix III.

[23] Edward Kalachek, "Determinants of Teenage Employment," *Journal of Human Resources*, Winter, 1969, p. 17.

[24] William A. Johnson and Robert Rosenkranz, "Public Assistance," in *Cities in Trouble: An Agenda for Urban Research*, ed. Anthony H. Pascal (Santa Monica: The RAND Corporation, August, 1968), RM-5603-RC, p. 98.

[25] In N.Y.C., for example, the new regulations replace the old "100% tax" on earned income with a modest incentive arrangement according to which the welfare recipient may retain the first $85 earned per month and 30% of the balance, without jeopardizing his or her welfare payment.

[26] *For All the People . . . By All the People*, 1969 (forthcoming). The cities surveyed were: San Francisco-Oakland, Philadelphia, Detroit, Atlanta, Houston, Memphis, and Baton Rouge. Data are for the payroll period including March 12, 1967.

[27] *Ibid.*, Chapter I, p. 5.

[28] *Ibid.*, I, 2.

[29] *Ibid.*, I, 3.

[30] *Ibid.*, I, 2.

[31] *Ibid.*, I, 15.

[32] As disenchanting as the performance of the local public sector may be, it is still superior to the performance of the *private* sector as an employer of black workers, at least in the cities studied by the U.S. Civil Rights Commission and the U.S. Equal Employment Opportunity Commission in 1966 and 1967:

	BLACKS AS PERCENT OF:			
S.M.S.A.	Population	State and Local Employment	Federal Employment	Private Employment
San Fran.-Oakland	8.6	12.7	20.4	8.0
Philadelphia	15.5	30.6	25.1	12.2
Detroit	14.9	29.5	30.6	14.8
Atlanta	22.8	24.5	21.2	15.2
Houston	19.5	18.7	20.3	11.8
Memphis	37.9	38.6	27.2	25.5
Baton Rouge	31.7	7.3	n.a.	17.4

Source: U.S. Civil Rights Commission, *op. cit.*, I, 4.

[33] Sidney A. Fine, *Guidelines for the Design of New Careers* (Kalamazoo, Michigan: W. E. Upjohn Institute, September, 1967), pp. 13-14.

[34] U.S. Department of Labor, *Manpower Report of the President*, January, 1969, p. 102.

[35] Division of Research and Evaluation, AVCO Economic Systems Corporation, *Pilot Evaluation of Selected New Careers Projects*, U.S. Department of Labor, Manpower Administration, Office of Manpower Policy, Economic Opportunity Act Contract #61-7-002-09, 2 volumes, submitted August, 1968.

[36] AVCO, Volume I, p. 27.

[37] U.S. Department of Labor, Manpower Administration, *New Careers: Position Descriptions—A Sourcebook for Trainers*, University Research Corporation, 1967.

[38] AVCO, *op. cit.*, p. 32.

[39] Judith G. Benjamin, "Civil Service and the Poor: Some New Developments," July, 1967, mimeographed, pp. 26-27.

[40] *Ibid.*, p. 18.

[41] Department of Community Affairs, New Jersey Office of Economic Opportunity, *Public Employment Career Development Program*, Trenton, various documents, dated 1967-1969.

[42] *Ibid.*

[43] *Ibid.*

[44] *Ibid.* There is, of course, no way of knowing to what extent if any the New Careers Program also tended to practice "creaming."

[45] We have no figures on the cost of outreach, although Schenk has indicated that considerable attention was given to this program element.

[46] T. W. Schultz, "Investment in Human Capital," *American Economic Review*, March, 1961; Gary S. Becker, "Investment in Human Capital: A Theoretical Analysis," *Journal of Political Economy*, October, 1962 (supplement); Jacob Mincer, "On-the-Job Training: Costs, Returns, and Some Implications," *Ibid.*

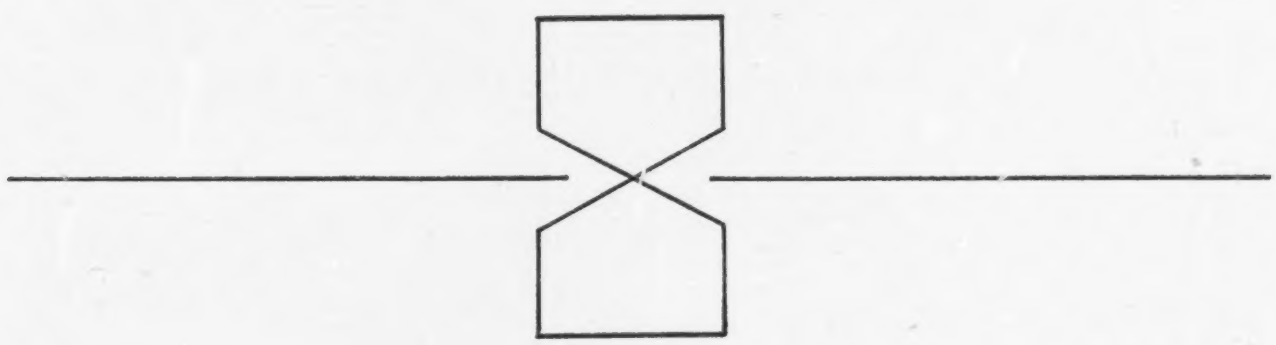
[47] Because of the accounting conventions of the Department of Commerce, this will also equal the *extra* wage incomes earned by the new workers, i.e., the difference between their wages in the new public service jobs (after training) and their wages in previous private or public employment (if any).

[48] Office of Business Economics, U.S. Department of Commerce, *The National Income and Product Accounts of the United States, 1929-1965*, 1966, Tables 1.7 and 6.4. Figures are in constant 1957-59 dollars.

[49] This procedure requires that we make two key assumptions:
(a) full employment of "non-poor" labor so that if the disadvantaged worker were *not* trained and placed, the economy would have to forego the incremental GNP that he is capable of producing.
(b) the necessary complementary capital (equipment and all other resources) will in fact be available. Predicting the future contribution to GNP of disadvantaged workers by reference to the benchmark of *all* public service workers' previous contribution critically depends upon the former being given "equal access" to the capital—human and material—which permitted the latter to "produce."

[50] Bureau of Labor Statistics, *Employment, Income and Living Standards . . . op. cit.*, pp. 11-12.

[51] Johnson and Rosenkranz, *op. cit.*



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The Effectiveness of an Experimental Program on Instructors' Ratings of Selected On-the-Job Activities.

Kentucky Research Coordinating Unit, Lexington.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Dec70 25p.; Paper presented at the Annual Convention of the American Vocational Association (New Orleans, La., Dec. 7, 1970).

DESCRIPTORS - *LEARNING ACTIVITIES; *WORK EXPERIENCE; *EDUCATIONAL BENEFITS; *PROGRAM EFFECTIVENESS; *PROGRAM IMPROVEMENT; COOPERATIVE EDUCATION; RATING SCALES; VOCATIONAL EDUCATION; VOCATIONAL AGRICULTURE TEACHERS

ABSTRACT - A group of randomly selected high school instructors participated in an experimental program composed of six units of instruction which included structured occupational experiences acquainting them with certain job activities in agricultural firms. Prior to the termination of the program the experimental group was asked to rank their activities in order of benefit received. A control group ranked the same activities using the same rating scale. In accordance with the hypothesis, significant differences at the .05 level were found on five items of the inventory. This study also compared the difference in rank order assigned by the two groups to determine which activities were rated most beneficial for students placed in agricultural farms. It was concluded that the experimental educational program did have an effect on the instructor's evaluation of what activities were most beneficial for students. (JS)

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THE EFFECTIVENESS OF AN EXPERIMENTAL PROGRAM ON INSTRUCTORS' RATINGS OF SELECTED ON-THE-JOB ACTIVITIES

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Paper Presented at the
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Program on Research in Vocational Education

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THE EFFECTIVENESS OF AN EXPERIMENTAL PROGRAM ON INSTRUCTORS' RATINGS OF SELECTED ON-THE-JOB ACTIVITIES

Background

The problem of providing quality instruction and occupational experience for students enrolled in agricultural occupations courses in secondary schools is of concern to many high school instructors of agricultural occupations. In his role of providing a comprehensive educational program, the instructor of agricultural occupations must be concerned not only with his instructional program in the classroom, but also with the supervised, occupational experiences which the students receive during their on-the-job training. Most instructors prepare adequately for classroom instruction. However, how much preparation and planning is made regarding the on-the-job experiences in which the students enrolled in occupational work-education programs might have an opportunity to participate? What activities are judged by high school instructors of agricultural occupations to be most beneficial for students to perform while employed in occupational work-education programs in agricultural firms? Furthermore, what is the effect of an experimental educational program* on the instructors' evaluation of certain activities in which students placed in agricultural firms might have an opportunity to participate?

---

*An intensive four-week program involving structured, on-the-job, occupational experiences in agricultural firms plus related classroom instruction regarding the implications of these experiences for teaching agricultural occupations at the high school level.

Problem

The problem was twofold. Part I of the study was performed to determine the effect of the experimental educational program on the instructors' evaluation of certain activities in which students placed in agricultural firms might have an opportunity to participate. Part II of the study was conducted to compare the difference in rank order assigned by the experimental group and the control group to certain activities in which students placed in agricultural firms might have an opportunity to participate. Instructors in the experimental group, those who participated in the experimental educational program, and instructors in the control group, those who did not enroll in the program, rated the activities according to the benefit they would be to students enrolled in occupational work-education programs in agricultural firms.

Dependent Variable

The dependent variable in Part I of the study was the mean scores received by the instructors in the experimental and control groups on an inventory designed to ascertain the instructors' evaluation of certain activities in which pupils placed in agricultural firms might have an opportunity to participate. Each item on the inventory suggested an activity which a student enrolled in an occupational work-education program might be asked to perform while performing his job in an agricultural firm. Activities included in the inventory were chosen after perusal of curriculum materials related to the on-the-job activities of students placed in agricultural firms. Differences between the mean ratings of the experimental group and the control group on each activity were analyzed by the pooled variance t-test.

The rankings by the experimental and the control groups on each item of the inventory are compared in Part II of the study.

Independent Variable

The independent variable in the study was an intensive four-week experimental educational program involving structured occupational experiences in agricultural firms plus related instruction in the classroom. The eleven high school instructors enrolled in the program who composed the experimental group spent Tuesday, Wednesday, Thursday, and Friday mornings working in agricultural firms and obtaining structured occupational work experiences. On these same days during the four-week experimental program, the instructors spent two hours per day of classroom instruction in the Agricultural Education Division, University of Illinois. The classroom instruction phase of the experimental program consisted of resolving how the structured occupational experiences received by the instructors could be reflected most effectively in their teaching plans and in their teaching.

In addition to the structured occupational experiences, the instructors in the experimental group also obtained a variety of unstructured experiences in agricultural firms in their local communities on Saturdays and Mondays. These unstructured experiences (1) served to supplement the structured, on-the-job, experiences which they received and (2) provided them with experiences in other agricultural firms.

The structured, on-the-job, occupational work experiences in agricultural firms provided quality, up-to-date, occupational work experiences for the instructors enrolled in the experimental educational program. Experiences were designed to provide instructors with realistic insights into the

organization, management, and operation of agricultural firms and to help instructors to teach more effectively those knowledges, skills and attitudes required by students seeking entry into non-farm agricultural occupations.

The classroom phase of the experimental program provided the instructors an opportunity to discuss, share and intellectualize their occupational experiences in terms of educational objectives and to generalize them to other agricultural occupations. In addition, the classroom phase of the experimental program was designed to help instructors organize teaching programs and plans for instruction in non-farm agricultural occupations. In summation, the experimental program was designed to help instructors modernize their high school programs of agricultural occupations.

Design

The following design was used in the study:

R	X	0	(High School Instructors--Experimental)
		0	(High School Instructors--Control)

Randomly selected, members of the experimental group completed the experimental educational program while the control group did not enroll or complete the program. Observations of both groups were made after the completion of the experimental program.

Population

Letters with invitations to apply for admission to the experimental educational program were sent to experienced Illinois high school instructors of agricultural occupations who, according to the Illinois State Board of Vocational Education and Rehabilitation, were conducting occupational work-

education programs in agricultural firms. The letters were sent to 184 high school instructors of agricultural occupations. The letter contained materials explaining the importance of the experimental program.

The population for the study consisted of Illinois high school instructors of agricultural occupations who applied to enroll in the program. Twenty-two high school instructors submitted applications to enroll. From the high school population applying, two independent random samples of eleven high school instructors were selected, using a table of random numbers. One group of eleven instructors was designated by lot as the experimental group while the other group was designated as the control group. The persons selected for the experimental group were permitted to enroll and completed the experimental program. The control group did not receive any organized inservice education, instruction or occupational experience during the study.

Procedure

The experimental group enrolled in the experimental educational program. The experimental program was composed of six units of instruction. The first unit served as an orientation for the experimental group. In this session the objectives of the experimental program were covered, the manner of conducting the program was defined and the expected outcomes were discussed. The instructors were also informed regarding their responsibilities for obtaining structured, on-the-job, occupational experiences in agricultural firms and their responsibilities regarding the classroom phase of the experimental program.

The second unit of instruction focused on acquainting the instructors with the agricultural firm in which they were to obtain their structured, on-the-job, occupational experience. The unit provided instructors with suggestions

for becoming acquainted with the total scope of the agricultural firm, the line and staff organization of the firm, and the personnel in the firm with whom they would be working. The orientation to the agricultural firm was accomplished by the instructors during the first day of the experimental program.

The next four units of instruction were concerned with the processes involved in moving products from agricultural firms to the customers. One unit was taught in each of the four weeks that the experimental program was conducted. Units on knowing the products and services of agricultural firms, knowing present and potential customers, promoting the agricultural firm and its products and services, and marketing the products and services of agricultural firms were taught during each of the four weeks of the experimental program respectively. Instruction in the classroom for all the units was based upon the structured, on-the-job, occupational experiences obtained by the instructors in the agricultural firms in which they were placed.

On the evening prior to the termination of the experimental program, the experimental group of instructors participated in a testing session. The instructors enrolled completed an inventory designed to assess the value of certain activities in which students placed in agricultural firms might have an opportunity to participate. The inventory consisted of a deck of sixty cards, each containing a statement of an activity which students participating in occupational work-education programs might have an opportunity to perform. Each instructor was asked to rate the activity listed on each card according to the benefit he felt this activity would be to students placed in agricultural firms for occupational work experience.

The instructors were then asked to sort the sixty cards into ten piles, placing six cards in each pile, in order from most beneficial to least beneficial. The piles were scored on a ten point scale, from ten points for the most beneficial activities down to one point for the least beneficial activities. The six activities listed on the cards in the pile deemed most beneficial received ten points. The six activities listed on the cards in the pile deemed least beneficial for students received one point. Other activities received points along the scale between ten and one.

The eleven high school instructors in the control group, those instructors who applied but were not selected by random to enroll in the experimental program, also completed the inventory. The inventory was administered individually to the members of the control group, in their high school classrooms, by the writer. The inventory was administered to the control groups within two weeks after the experimental program was completed. The results were then scored and analyzed.

Hypothesis

The hypothesis formulated for the study was: High school instructors completing the experimental program should have significantly different mean scores on each item of the inventory used than do high school instructors not completing the experimental program. The null hypothesis tested was $M_1 = M_2$.

Presentation and Analysis of Data

Data in Table 1 show the mean scores of the experimental and control groups on each item of the inventory used. The value of the pooled variance t-test and the t probabilities for each item on the inventory are also shown.

Table I. Difference in Mean Scores on an Inventory[1] of Eleven High School Instructors in the Experimental Group and Eleven High School Instructors in the Control Group

Inventory Statements	Mean Scores: High School Experimental N=11	Mean Scores: High School Control N=11	t-Ratio	Level of Significance[2]
1. Develop good telephone procedures	5.82	8.36	-2.64	0.01**
2. Help customers analyze weaknesses in their operations	2.73	3.82	-1.26	0.22
3. Use and/or test agricultural products sold by the firm	4.27	5.18	-0.79	0.44
4. Determine the costs and benefits of using available advertising media	5.91	5.55	+0.38	0.70
5. Demonstrate agricultural products to customers	6.45	7,45	-0.87	0.34
6. Become familiar with the negotiable instruments used in purchasing agricultural products	4.36	3.55	+0.81	0.43
7. Discuss with management personnel how knowledge of agricultural products relates to selling records of salesmen	6.36	4.64	+1.59	0.13
8. Discuss with management personnel the ways in which the prices of agricultural services are determined	7.09	7.00	+0.09	0.93
9. Write sales slips for agricultural products sold	8.00	7.82	+0.19	0.85
10. Calculate mark-up and margin for agricultural products sold in the firm	6.64	6.64	0.00	1.00

Table I. (Cont'd)

Inventory Statements	Mean Scores: High School Experimental N=11	Mean Scores: High School Control N=11	t-Ratio	Level of Significance[2]
11. Become familiar with facilities on customers' farms	3.45	3.36	+0.09	0.92
12. Observe how management personnel handle a problem employee	5.27	5.09	+0.12	0.90
13. Keep inventory records of agricultural products	4.91	3.36	-1.37	0.18
14. Discuss with management personnel the type of displays, layouts and facilities which the agricultural firm uses to display its products	5.18	4.82	+0.36	0.71
15. Handle customer complaints on agriculture	5.63	6.27	-.055	0.58
16. Become familiar with the laws pertaining to selling agricultural products	6.36	4.91	+1.43	0.16
17. Read technical reports, test data and other information for agricultural products sold	5.91	6.09	-0.14	0.89
18. Provide price information on agricultural products to potential customers	4.64	5.55	-2.05	0.05*
19. Become familiar with negotiable instruments used in selling agricultural products	6.82	5.73	+1.04	0.31
20. Inventory agricultural products sold by the firm	5.73	6.09	-0.29	0.77
21. List the responsibilities management has for insurance, retirement and other benefits of the workers	4.45	4.82	-0.31	0.76

Table I. (Cont'd)

Inventory Statements	Mean Scores: High School Experimental N=11	Mean Scores: High School Control N=11	t-Ratio	Level of Significance[2]
22. Plan a work schedule for employees in the agricultural firm	2.36	3.55	-1.20	0.25
23. Help customers with problems that relate to the use of agricultural products sold by the firm	5.18	7.27	-2.03	0.05*
24. Discuss with management personnel types of negotiable instruments used in selling agricultural products	5.45	5.09	+0.29	0.77
25. Discuss with management personnel the ways in which the prices of agricultural products are determined	6.55	6.36	+0.18	0.86
26. Discuss with management personnel the procedure for extending credit to customers	5.36	6.00	-0.66	0.51
27. List the overhead operating costs of the agricultural firm	5.00	4.18	+0.84	0.41
28. Analyze a farmer's credit potential	3.45	5.45	-1.90	0.07
29. Sell agricultural products to customers	7.64	8.09	-0.38	0.70
30. Discuss with management personnel the relationship between inventory and profit	5.72	3.63	+1.95	0.06
31. Understand and distributor's obligation to the agricultural firm	4.82	3.00	+1.65	0.11

Table I. (Cont'd)

Inventory Statements	Mean Scores: High School Experimental N=11	Mean Scores: High School Control N=11	t-Ratio	Level of Significance[2]
32. Make up the payroll for the employees in an agricultural firm	1.55	1.91	-0.78	0.44
33. Identify the characteristics of present and potential customers of the agricultural firm	8.09	5.27	+2.75	0.01**
34. Discuss with management personnel the types of instruments used in purchasing agricultural products	5.36	4.09	+1.16	0.26
35. Become familiar with the accounting system of the agricultural firm	6.09	4.45	+1.53	0.14
36. Stock shelf displays	3.55	4.82	-0.97	0.34
37. Estimate the cost of providing agricultural services for customers	4.55	4.45	+0.08	0.94
38. Discuss with management personnel how arrangements are made for agricultural products to be transported into the firm.	5.00	3.73	+1.36	0.19
39. Display agriculutral products to attract the attention of customers	6.18	7.18	-1.12	0.27
40. Discuss with management personnel the number and kinds of agricultural products which the firm markets	7.91	5.18	+2.12	0.04*

Table I. (Cont'd)

Inventory Statements	Mean Scores: High School Experimental N=11	Mean Scores: High School Control N=11	t-Ratio	Level of Significance[2]
41. Develop an effective sales presentation for a particular agricultural product	7.91	8.00	-0.10	0.91
42. Discuss with management personnel how agricultural products are transported into the firm	4.82	3.36	+1.75	0.09
43. Learn the importance of keeping accurate records of agricultural products sold	6.91	7.82	-0.92	0.37
44. Understand the importance of following the manufacturer's instructions	6.36	6.91	-0.43	0.67
45. Understand the salesman's obligation to the customer	7.27	8.27	-1.48	0.16
46. Discuss with management personnel the ways in which employees obtain new technical skills	4.64	4.45	+0.19	0.85
47. Become familiar with the agricultural products sold in the agricultural firm	9.45	8.18	+1.39	0.19
48. Plan the vacation schedule of employees in the firm	1.18	1.36	-0.55	0.59
49. Discuss with management personnel the practices and procedures which the firm uses in warehousing its products	3.36	3.18	+0.18	0.86
50. Project the volume of sales of an agricultural product for next year	5.00	4.18	+0.78	0.44
51. Discuss approved techniques of agricultural salesmanship with management personnel	7.64	8.00	-0.47	0.64

Table I. (Cont'd)

Inventory Statements	Mean Scores: High School Experimental N=11	Mean Scores: High School Control N=11	t-Ratio	Level of Significance[2]
52. File records and reports used in the agricultural firm	5.36	6.27	-0.75	0.46
53. Discuss with management personnel and outline the hiring procedures of the agricultural firms	4.82	6.63	+0.17	0.86
54. Check agricultural products coming into the firm against the invoice	4.36	5.45	-0.87	0.39
55. Make accurate deliveries of agricultural products to customers	6.36	6.27	+0.07	0.95
56. Discuss with management personnel how the decision to add a new line of agricultural products is made	4.09	3.64	+0.38	0.71
57. Mark agricultural products for sale	4.00	4.73	-0.49	0.62
58. Prepare window and shelf displays	6.45	7.27	-0.95	0.35
59. Understand the importance of following safety precautions in the agricultural firm	8.27	7.18	+1.24	0.23
60. Order agricultural products to be sold by the firm	5.91	6.09	-0.16	0.87

[1] The inventory was designed to ascertain the instructors' evaluation of certain activities in which students placed in agricultural firms might have an opportunity to participate.

[2] Two tailed test of significance

* Significant at the .05 level.

** Significant at the .01 level.

The research hypothesis stated that high school instructors completing the experimental program should have significantly different mean scores on each item of the inventory used than do high school instructors not completing the experimental program. The null hypothesis tested was that there is no significant difference between the mean scores of the experimental and control groups on each item of the inventory.

In accordance with the research hypothesis, significant differences at the .05 level were found on five items on the inventory. The control group rated items 1, 18, and 23 significantly higher than the experimental group. The experimental group, those enrolled in the experimental educational program, rated items 33 and 40 significantly higher than did the control group. No other significant differences between the means of the experimental and control groups were found at the .05 level based upon the analysis of the data.

The analysis of item number one indicated that members of the control group felt that it was more important that students placed in agricultural firms "develop good telephone procedures" than did instructors of the experimental group. The instructors in the experimental group, after obtaining actual experience in the agricultural firm, may have realized that other activities are more important for students than developing good telephone procedures. The difference between the mean scores of the two groups on item one was significant at the .01 level.

According to the analysis of item 18, instructors in the control group rated the activity "provide price information on agricultural products to customers" significantly higher than did instructors in the experimental group. After experience in the firm, members of the experimental group may

have concluded that providing information other than price information constitutes an important program of activities for students placed in agricultural firms. The differences between the mean scores of experimental and control groups on item 18 was significant at the .05 level.

The activity listed in item 23 was "help customers with problems that relate to the use of agricultural products sold by the firm." As shown by the data in Table I, the mean score of the control group on this item was significantly higher than the mean score of the experimental group. The difference was significant at the .05 level.

The analysis of item 33 showed that the instructors in the experimental group thought that to "identify the characteristics of present and potential customers of agricultural firms" was a more important activity for students obtaining occupational work experience in agricultural firms than did instructors in the control group. This difference was significant at the .01 level. This difference may be attributed to the effect which the unit taught during the second week of the experimental program had on the instructors in the experimental group. The unit was entitled "Knowing present and potential customers."

According to the analysis of item 40 instructors in the experimental group rated the activity "Discuss with management personnel the number and kinds of agricultural products which the firm markets" significantly higher than did instructors in the control group. The difference was significant at the .05 level. As with item 33, the higher mean score on item 40 by the experimental group may be attributed to the unit taught during the first week of the experimental program. The unit taught during the first week of the

experiment program focused on "Knowing the products and services of agricultural firms."

Although differences between the mean scores of the experimental and the control groups were found on other items on the inventory used, these differences were not significant at the .05 level. This finding may have resulted because experienced instructors who were currently conducting occupational work-education programs in agricultural firms composed the population for the study. The items are presented in Table I.

Part II of the study was conducted to compare the difference in rank order assigned by the experimental group and the control group to certain activities in which students placed in agricultural firms might have an opportunity to participate. The study was also conducted to determine, according to instructors' ratings, which activities were rated most beneficial for students placed in agricultural firms.

Data in Table 2 show the rankings of each statement by the high school experimental and control groups. The difference between the rankings for each statement is also presented. As shown by the data, of the nine activities ranked highest by the control group, six were also ranked highest by the experimental group. The instructors in both experimental group and control group ranked the following activities as being most beneficial for their students:

--Sell agricultural products to customers

--Understand the salesman's obligation to the customer

--Become familiar with the agricultural products sold in the agricultural firm

--Develop an effective sales presentation for a particular agricultural product

Table 2. Difference in Rank Order Assigned by the Experimental Group and the Control Group to Certain Activities in Which Students Placed in Agricultural Firms Might Have an Opportunity to Participate

Statements	Ranking		
	High School Control Group	High School Experimental Group	Difference
Sell agricultural products to customers	1.0	7.5	- 6.5
Develop good telephone procedures	2.0	25.5	-23.5
Understand the salesman's obligation to the customer	3.0	9.0	- 6.0
Become familiar with the agricultural products sold in the agricultural firm	4.0	1.0	+ 3.0
Develop an effective sales presentation for a particular agricultural product	5.5	5.5	0.0
Discuss approved techniques of agricultural salesmanship with management personnel	5.5	7.5	- 2.0
Write sales slips for agricultural products sold	7.5	4.0	+ 3.5
Learn the importance of keeping accurate records of agricultural products sold	7.5	11.0	- 3.5
Demonstrate agricultural products to customers	9.0	16.5	- 7.5
Prepare window and shelf displays	10.5	16.5	- 6.0
Help customers with problems that relate to the use of agricultural products sold by the firm	10.5	34.5	-24.0
Understand the importance of following safety precautions in the agricultural firm	12.5	2.0	+10.5
Display agricultural products to attract the attention of customers	12.5	21.0	- 8.5

Statements	Ranking High School Control Group	Ranking High School Experimental Group	Difference
Discuss with management personnel the ways in which the prices of agricultural services are determined	14.0	10.0	+ 4.0
Understand the importance of following the manufacturer's instructions	15.0	19.0	- 4.0
Calculate mark-up and margin for agricultural products sold in the firm	16.0	13.5	+ 2.5
Provide price information on agricultural products to potential customers	17.0	45.5	-28.5
Discuss with management personnel the ways in which the prices of agricultural products are determined	18.5	15.0	+ 3.5
Keep inventory records of agricultural products	18.5	41.5	-23.0
Make accurate deliveries of agricultural products to customers	21.0	19.0	+ 2.0
Handle customer complaints on agricultural products sold	21.0	28.0	- 7.0
File records and reports used in the agricultural firm	21.0	31.0	-10.0
Read technical reports, test data and other information for agricultural products sold	24.0	23.5	+ 0.5
Order agricultural products to be sold by the firm	24.0	25.5	- 1.5
Inventory agricultural products sold by the firm	24.0	36.5	-12.5
Discuss with management personnel the procedure for extending credit to customers	26.0	31.0	- 5.0
Become familiar with negotiable instruments used in selling agricultural products	27.0	12.0	+15.0

Statements	Ranking		
	High School Control Group	High School Experimental Group	Difference
Determine the costs and benefits of using available advertising media	28.0	23.5	+ 4.5
Check agricultural products coming into the firm against the invoice	29.5	48.0	-18.5
Analyze a farmer's credit potential	29.5	54.5	-25.0
Identify the characteristics of present and potential customers of the agricultural firm	31.0	3.0	+28.0
Discuss with management personnel the number and kinds of agricultural products which the firm markets	32.5	5.5	+27.0
Use and/or test agricultural products sold by the firm	32.5	49.0	-16.5
Discuss with management personnel types of negotiable instruments used in selling agricultural products	34.5	29.0	+ 5.5
Observe how management personnel handle a problem employee	34.5	33.0	+ 1.5
Become familiar with the laws pertaining to selling agricultural products	36.0	19.0	+17.0
Discuss with management personnel the type of displays, layouts and facilities which the agricultural firm uses to display its products	38.0	34.5	+ 3.5
List the responsibilities management has for insurance, retirement and other benefits of the workers	38.0	36.5	+ 1.5
Stock shelf displays	38.0	53.0	-15.0
Mark agricultural products for sale	40.0	52.0	-12.0
Discuss with management personnel how knowledge of agricultural products related to selling records of salesmen	41.5	13.5	+28.0

Statements	Ranking		
	High School Control Group	High School Experimental Group	Difference
Discuss with management personnel and outline the hiring procedures of the agricultural firm	41.5	43.5	- 2.0
Become familiar with the accounting system of the agricultural firm	44.0	22.0	+22.0
Discuss with management personnel the ways in which employees obtain new technical skills	44.0	45.5	- 1.5
Estimate the cost of providing agricultural services for customers	44.0	47.0	- 3.0
List the overhead operating costs of the agricultural firm	46.5	39.0	+ 7.5
Project the volume of sales of an agricultural product for next year	46.5	39.0	+ 7.5
Discuss with management personnel the types of instruments used in purchasing agricultural products	48.0	31.0	+17.0
Help customers analyze weaknesses in their operations	49.0	57.0	- 8.0
Discuss with management personnel how arrangements are made for agricultural products to be transported into the firm	50.5	39.0	+11.5
Discuss with management personnel how the decision to add a new line of agricultural products is made	50.5	50.5	0.0
Discuss with management personnel the relationship between inventory and profit	52.0	27.0	+25.0
Become familiar with the negotiable instruments used in purchasing agricultural products	53.5	50.5	+ 3.0
Plan a work schedule for employees in the agricultural firm	53.5	58.0	- 4.5

Statement	Ranking		
	High School Control Group	High School Experimental Group	Difference
Discuss with management personnel how agricultural products are transported into the firm	55.5	41.5	+14.0
Become familiar with facilities on customers' farms	55.5	54.5	+ 1.0
Discuss with management personnel the practices and procedures which the firm uses in warehousing its products	57.0	5 .0	+ 1.0
Understand the distributor's obligation to the agricultural firm	58.0	43.5	+14.5
Make up the payroll for the employees in an agricultural firm	59.0	59.0	0.0
Plan the vacation schedule of employees in the firm	60.0	60.0	0.0

--Discuss approved techniques of agricultural salesmanship with management personnel

--Write sales slips for agricultural products sold

In addition to the six activities listed above, the control group included the following activities in the top nine:

--Develop good telephone procedures

--Learn the importance of keeping accurate records of agricultural products sold

--Demonstrate agricultural products to customers.

The experimental group, unlike the control group, ranked the following activities in the first nine:

--Understand the importance of following safety precautions in the agricultural firm

--Identify the characteristics of present and potential customers of the agricultural firm

--Discuss with management personnel the number and kinds of agricultural products which the firm markets

No differences were found between the rankings of the experimental group and the control group on four statements. Agreement in ranking was reached on the benefit of the following activities:

--Develop an effective sales presentation for a particular agricultural product

--Discuss with management personnel how the decision to add a new line of agricultural products is made

--Make up the payroll for the employees in an agricultural firm

--Plan the vacation schedule of employees in the firm

It might be noted that the last two statements, "make up the payroll" and "plan a vacation schedule" were ranked as being the least benefit for students placed in agricultural firms. The rankings by the experimental group and the control group of other statements on the inventory are presented in Table 2.

Conclusions and Recommendations

In summary, it was concluded that the experimental educational program did have an effect on the instructors evaluation of what activities were most beneficial for students to accomplish in agricultural firms. Significant differences at the .05 level between the mean scores of the experimental group and the mean scores of the control group were found on five items of the inventory used. Other differences, not significant at the .05 level, were found between the experimental group and the control group.

It was also concluded that the inventory used was useful in determining what activities are most beneficial for students to perform while employed in occupational work-education programs in agricultural firms. Instructors in both the experimental and the control groups identified several activities as being most beneficial for students to perform. In addition, differences between the rankings of the activities by the experimental and control groups were also identified.

Another conclusion was that the experimental educational program did provide the instructors enrolled with a more realistic knowledge of agricultural firms. The occupational experiences of the instructors will benefit the teachers in conducting their supervised agricultural experience programs and in planning their classroom teaching activities.

The recommendations, based upon the observations made by the writer during the study and the statistical findings of the study, are:

1. Instructors of agricultural occupations should continue to enroll in programs exemplified by the experimental educational program to obtain

current experiences in agricultural firms, to discuss the implications of the experiences for teaching agricultural occupations, and to plan realistic and relevant activities for students placed in agricultural firms to accomplish.

2. Studies should be conducted to determine the benefit for students activities other than those selected for this study.

3. Students and employers, in addition to the instructors, should evaluate the activities used in the study so that a comparison of the ratings or rankings can be made and the most important activities for students to perform can be identified.

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ABSTRACT - To evaluate the second year of the Group Guidance Program in Houston, Texas, data were collected for the 1969-70 school year at two participating area high schools, one of which was mainly white, and the other black. Participating students and control groups provided data in several forms: (1) Multiple-choice questionnaires were used to evaluate knowledge of the world of work, (2) a Likert-type opinion survey was used to determine attitudes toward work and social mobility, and (3) Structured interviews measured participants' perception of program impact. Differences between pre- and post-program measures were evaluated for significance with a t-test. The report concludes that: (1) The program increased participants' knowledge of the world of work, (2) Participation in the program did not influence the already favorable attitudes toward work and social mobility, and (3) The program in general, and classroom discussions and case conferences in particular, were quite favorably received. (BH)

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GROUP GUIDANCE PROGRAM:
AN EVALUATION OF THE SECOND YEAR IN HOUSTON

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INTRODUCTION

This report contains the evaluation of the second year of the Group Guidance Program in Houston, Texas. The Center for Human Resources of the University of Houston, under sub-contract to the Houston Vocational Guidance Service, has completed an analysis of data collected during the second year of the project, September, 1969-June, 1970. This analysis was concerned with three areas that were felt to be related to the program:

1) Knowledge of the World of Work;
2) Attitudes Toward Education and Social Mobility;
3) Participants' Perceptions of the Program's Impact.

Two Group Guidance Project high schools in the Houston area were the sites of the data collection for the second-year evaluation. The length of the program was 18 weeks in both schools. In order to overcome the difficulties in data collection that occurred during the first year, all data were collected by the Center for Human Resources staff. A detailed analysis is presented in this report.

PROCEDURES

The Sample

Two schools, W. G. Smiley and Jack Yates, served as the experimental schools for the second-year evaluation of the program. The student body from Smiley High School was mainly white, while the Yates student body was composed of black students. The measuring instruments were administered to participants (seniors) in the Group Guidance Program and to a control group of senior students in both schools. In addition, juniors in both schools who were participating in the Vocational Guidance Service counseling program were also administered the research instruments. These students will participate as seniors in the Group Guidance Program next year as well.

The Instruments

(1) Information Measure. A 61-item multiple-choice questionnaire developed by the research staff of the Center for Human Resources served as a measure of the participants' knowledge of the world of work. In addition, the questionnaire also contained an employment application form for the subjects to complete. This instrument will be referred to as the Information Measure.

Several aspects about the development of this instrument deserve some comment. Initially, it was decided that the basic format of last year's Information Measure was not satisfactory; the subjects exhibited an unwillingness to complete the open-ended items. Thus this year's instrument utilized a multiple-choice format.

Secondly, the Group Guidance Program counselors participated in the development of the questionnaire. The first draft of the Information Measure was developed by the research staff of the Center for Human Resources. The instrument was designed to be congruent with the second-year curriculum. The initial draft of the questionnaire was then discussed with the counselors. Revisions were made on the basis of their comments.

Thirdly, the counselors also participated in the development of the scoring key for the Information Measure. Each member of the research staff of the Center for Human Resources developed a survey key individually. Then the three members of the research staff met in a group in order to achieve consensus on the scoring key. Each of the two counselors developed a scoring key. The two counselors met with a member of the research staff and discussed points of disagreement. It must be noted that there was a very high degree of agreement between the two counselors. The final scoring key was based on the consensus scoring key of the counselors and on the consensus scoring key of the research staff. It is felt that the final scoring key reflected a reasonable consensus between the two groups.

Finally, the Information Measure was pretested on 12 subjects who were enrolled in the Job Opportunities for Youth (JOY) Program in Houston. Since these subjects' educational level was no higher than the tenth grade, they represented a conservative estimate of the time required to complete the Information Measure. All subjects were able to complete the questionnaire within 25 minutes. Thus this instrument could easily be completed within a single class period.

(2) Attitude Measure. A 30-item Likert-type opinion survey, developed by Dr. Joseph E. Champagne in South Carolina in 1964, served as a measure of attitudes toward work and social mobility. This instrument is a shortened version of the 45-item opinion survey used in last year's evaluation. In order to insure that the respondents would be able to complete the opinion survey and the Information Measure within a single class period, the scale measuring attitude toward education was eliminated. Thus this year's opinion survey consisted of 15 items measuring attitude toward work and 15 items measuring attitude toward social mobility. The scoring key for the opinion survey had been developed previously. This instrument will be referred to as the Attitude Measure.

The Information Measure and the Attitude Measure were stapled together in order to avoid difficulties in their administration. A copy of the Group Guidance Project Questionnaire (Information and Attitude Measures) is contained in Appendix A.

(3) Structured Interview. A 29-item structured interview developed by the research staff of the Center for Human Resources served as a measure of the participants' perceptions of the program's impact. This instrument is a slightly revised version of last year's structured interview. The actual interview lasts about 25 minutes and is concerned with the future plans of the participants, the participants' evaluation of the effectiveness of the Group Guidance Program, the content of the program, the participants' attitude toward the evaluation instruments, the impact of the counselor, and the role played by teachers and school officials. A copy of the interview schedule is contained in Appendix B.

Data Collection

The data were collected during the 1969-1970 school year at each of the two high schools. The pre-program measures were obtained during the fall of 1969. The post-program measures for Yates High School were obtained during the winter of 1970. Because mid-semester examinations at Smiley High School caused the program to be delayed for several weeks, the post-program measures for that school were obtained during the spring of 1970. The information measure and the attitude measure served as the pre-program measures. At the conclusion of each program these instruments were again administered in order to provide post-program measures. These instruments were administered to participants and to control students in both schools by the Center for Human Resources research staff. Juniors who were participating in the Vocational Guidance Service counseling program were administered the pre-program measures only. These students were to be remeasured as seniors when participating in the senior program.

The structured interviews were administered to a random sample of 10 percent of the participant population in each school. The interviews were conducted in each high school by the research staff of the Center for Human Resources. The interviews at Yates High School were obtained during the winter of 1969, near the closing of the program. The interviews for Smiley High School were obtained during the spring of 1969, after the closing of the program. During the interviews, responses were not suggested to the students.

Data Analysis

The differences between the means of the pre-program and the post-program measures for the participant and for the control students were computed. The significance of these differences was evaluated by a *t* test. The score distributions for the participant and control students were examined in order to determine any differential effects that would be masked by the conventional *t* test. In addition, several subgroups of participant and control students were compared in order to determine the effects of several moderator variables. For the structured interviews, response frequencies were tabulated.

ANALYSIS OF RESULTS

Structured Interviews

The structured interviews were analyzed according to response frequencies for each of the various alternatives. Since only participants in the Group Guidance Program were interviewed, the responses of the various schools can be compared in order to determine any differential effects of the program. The response frequencies are listed in the parentheses following each response category.

(1) Smiley High School. Eleven students --six males and five females-- were interviewed. With regard to future plans, eight students planned to work upon graduation from high school, and three students planned to enter college. Seven of the 11 students had made their future plans before they entered the Group Guidance Program. Influences upon these students' future plans before their senior year included: nobody (4), parents (2), personal research (2), relatives other than parents (1), clergymen (1), and distributive education (1). Influences upon future plans during the senior year included: nobody (5), Vocational Guidance Service counselor (2), friends (1), teachers (1), high school guidance counselor (1), and part-time jobs (1). Responses to the question concerning the influence of the Group Guidance Program on future plans included: clarification of future vocational goals (5), caused the student to decide to work instead of entering college (3), no influence (2), and caused the student to enter college instead of working (1).

Seven students rated the program as very beneficial, three rated it as somewhat beneficial, and one felt it was of no value.

With regard to how the program helped them the following responses were mentioned: completing a job application form (4), interview behavior (3), evaluating an occupation (1), showing what factors an employer considers when he is hiring (1), making up my mind (1), and no help (1). The students liked the following aspects of the program: classroom discussions (7), case conferences (3), and everything (1). All 11 students mentioned 'nothing' in response to what was disliked about the program.

Two of the 11 students mentioned that members of personnel staffs of local companies participated as guest speakers. Responses to the question concerning frequency of use of visual aids included: never (9), very rarely (1), and infrequently (1). All 11 students answered 'no' to the question concerning the expenditure of too much time on any topic or topics. Only two students felt that too little time was spent on any topic or topics: job applications (1) and interviews (1).

Seven students felt the length of the research questionnaire was fine, but four students felt it was too long. Nine students felt that the questions were easy to understand, but two students felt the questions were too difficult. All 11 students felt they had enough time to complete the questionnaire. With regard to difficulties with the questionnaire, ambiguous wording of the questions was mentioned seven times, but four students said that it presented no difficulty. Six students described themselves as serious and concerned while completing the questionnaire, three students felt it was 'just something to do', and two students were not sure.

All 11 students described the counselor's preparation as very good and his attitude as one of being serious and concerned about the course. Responses to the question concerning the way(s) in which the counselor was most effective included: discussions (5), case conferences (2), role playing (1), giving practical experience in test taking and in completing job application forms (1), individual counseling (1), and 'all ways' (1). The following responses were made to the question concerning the way(s) in which the counselor was least effective: none (3), short of time (2), discussions (1), use of films and visual aids (1), giving practical experience in test taking and in completing job application forms (1), no interview with police (1), field trips (1), and not offering much to girls (1). Ten students described the counselor as very effective, and one student described him as somewhat effective.

All 11 students were volunteers for the program. Responses to the question concerning who first told them about the program included: teacher (8), Vocational Guidance Service Counselor (2), and high school guidance counselor (1). Eight students said they were told that the program would help them to find a job and three students said they were told that the course would benefit them. All 11 students were able to attend class without outside interference from teachers or school officials. Four of the 11 students felt that many classes were cancelled by school officials. Three of these students felt the cancellations were due to nine-week examinations, and one student was not sure of the reason for the cancellations of class.

(2) Yates High School. Ten students --five males and five females-- were interviewed. With regard to future plans, nine students planned to enter college after graduation from high school, and one student planned to enter the military service. All 10 students had made their future plans before they entered the Group Guidance Program. Influences upon these students' future plans before their senior year included: parents (4), relatives other than parents (3), high school guidance counselor (2), personal research (2), friends (1), teachers (1), and 'myself' (1). Influences upon future plans during the senior year included: high school guidance counselor (5), Vocational Guidance Service counselor (4), parents (3), nobody (2), relatives other than parents (1), friends (1), teachers (1), and personal research (1). Seven students felt the Group Guidance Program had no influence on their future plans, one student felt the program helped to clarify his future vocational choice, one student felt it helped him in deciding which college to attend, and one student felt it reinforced his vocational choice.

Seven students rated the program as very beneficial, and three students felt it was somewhat beneficial. With regard to how the program helped them, the following responses were mentioned: completing a job application form (5), interview behavior (5), test taking (4), showing what factors an employer considers when he is hiring (3), pointing out new employment opportunities (2), developing a good resume (2), and showing how to look for a job properly (1). The students liked the following aspects of the program: case conferences (6), classroom discussions (5), role playing (1), practice in test taking and in completing job application forms

(1), and nothing (1). Aspects of the program that were disliked included: nothing (7), certain students talking too much (1), group decision-making problems (1), and shortness of time (1).

All 10 students said that guest speakers did not participate in any classes. Six students replied that films and visual aids were used very rarely, and four students said they were never used. All 10 students answered 'no' to the question concerning the expenditure of too much time on any topic or topics. Only one student felt that too little time was spent on any topic or topics--testing (1).

Eight students felt the length of the research questionnaire was fine, and two students could not remember. Eight students felt the questions were easy to understand, one felt they were too difficult, and one student could not remember. Eight students felt that they had enough time to complete the research questionnaire, and two students could not remember. With regard to difficulties with the questionnaire, seven students said it presented no difficulty, two students could not remember, and one student thought the format was confusing. It might be worth noting that seven Smiley students mentioned that the questionnaire was worded ambiguously. The Smiley students were interviewed after the post-program measures were administered, but the Yates students were interviewed slightly before the post-program measures were administered. Possibly, this may explain the differences in the responses between the two schools. Seven students described themselves as serious and concerned while completing the questionnaire, two could not remember, and one student had other things on his mind at the time.

All ten students described the counselors' preparation as very good and their general attitude as one of being serious and concerned about the course. Responses to the question concerning the way(s) in which the counselors were most effective included: discussions (5), role playing (1), giving advice (1), letting students participate (1), most ways (1), and none (1). The following responses were made to the question concerning the way(s) in which the counselors were least effective: none (9) and letting some students talk too much (1). Nine students described the counselors as very effective, and one student felt they were somewhat effective.

Nine of the 10 students said they did <u>not</u> volunteer for the program. Responses to the question concerning who first told them about the program included: teachers (8) and Vocational Guidance Service counselor (2). Responses to the question concerning what they were told about the program included: the course would benefit them (4), counselors would come (2), Vocational Guidance Service would tell them about companies and looking for jobs (1), it would help them to find a job (1), nothing (1), and could not remember (1). Nine of the 10 students felt they were able to attend class without outside interference from teachers or school officials. All 10 students said that classes were not often interrupted by teachers or school officials. Finally, all 10 students replied 'no' to the question concerning the cancellation of many classes by teachers or school officials.

Summary of Structured Interviews

A total of 21 participants in the Group Guidance Program in two high schools were interviewed. In general, these interviews indicated that the students were very favorable to the program. With regard to the influence of the program on future plans, the main impact was through the clarification of future vocational goals and helping many to realize that direct labor force entry may be more realistic than college entrance. Some of the interviewees felt that the program did not influence their future plans, but it must be remembered that 80 percent of those interviewed had made their future plans before entering the Group Guidance Program.

Two-thirds of the interviewees rated the program as very beneficial. The most frequently mentioned ways in which the program helped the interviewees included completing a job application form and learning proper interview behavior. Classroom discussions and case conferences were the most popular aspects of the program. Over 80 percent of the interviewees replied that they disliked nothing about the program. All interviewees described the counselors' preparation as very good and the counselors' attitude as being serious and concerned about the program. About 50 percent of the interviewees felt that the counselors were most effective in the use of discussions, and about 60 percent of those interviewed felt that the counselors were least effective in no ways. Finally, over 90 percent of the respondents described the counselors as being very effective in conducting the program.

It is concluded from these interviews that the program is perceived by students as beneficial and properly conducted. The

amount of enthusiasm for the program was noted to be very high in all of those interviewed. It is clear that the students both enjoyed the program and felt that they were helped considerably.

Information Measure*

Fifty-seven of the 61 items in the Information Measure were scored on a four-point scale. Items 1F, 2E, 2K, and 5C were scored on a three-point scale. All unanswered items were given a score of two which is a neutral score. The employment application form section of the instrument was scored on the basis of neatness, thoroughness and accuracy. The neatness scores ranged from one to four points; the thoroughness and accuracy scores ranged from zero to four points. Thus it was possible for the total score for the Information Measure to range from a minimum of 62 to a maximum of 252.

The Information Measure means for the seniors who received this instrument twice in a pre and post test sequence appear in Table 1. In examining Table 1 it can be seen that there was high agreement between the participant and non-participant pre-program measures as would be expected. The participant and non-participant groups were also analyzed on the basis of sex, prior job experience, and present employment. The *t* test was used to determine the significance of the differences between the pre-program and post-program means. Unless stated otherwise, the probabilities in all tables in this report are two-tailed probabilities. The sample sizes for the pre-program and post-program measures differ slightly in some cases because during the semester some students changed their job status.

*The reader is requested to refer to the Appendix containing the Information Measure instrument.

TABLE 1

INFORMATION MEASURE MEANS FOR PARTICIPANT AND NON-PARTICIPANT SENIORS

Subgroup	SMILEY				YATES			
	Participants		Non-Participants		Participants		Non-Participants	
	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure
Total	191.474	197.776***	191.800	194.158	187.206	193.897***	187.579	186.947
N	76	76	95	95	68	68	38	38
Male	190.171	195.400*	190.161	191.472	186.333	190.417	184.800	183.867
N	35	35	31	31	24	24	15	15
Female	192.585	199.805***	192.594	195.328	187.682	195.795***	189.391	188.957
N	41	41	64	64	44	44	23	23
Have Held Job	192.683	197.738***	191.683	194.059	187.382	193.893***	187.333	187.471
N	63	65	82	85	55	56	33	34
Never Held Job	185.615	198.600*	192.538	195.000	186.462	193.917	189.200	182.500
N	13	11	13	10	13	12	5	4
Hold Current Job	192.657	196.811*	191.107	192.444	186.118	191.050	186.154	186.643
N	35	37	56	54	17	20	13	14
Do not Hold Current Job	190.463	198.692***	192.795	196.415	187.569	195.083***	188.320	187.125
N	41	39	39	41	51	48	25	24

* $P < .05$.
** $P < .01$.
*** $P < .002$.

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In examining Table 1 it can be seen that for Smiley High School there was a significant increase in the average scores for the total group of participants and for all participant subgroups. Since the pre-program means for the Smiley participants and non-participants did not differ significantly, their post-program means were compared. The t was significant at the .05 level. Thus the Smiley participants' scores increased to a significantly greater degree than the non-participant scores.

For Yates High School there was a significant increase in the Information Measure scores for the entire sample of participants and for all participant subgroups except for males, current job holders, and those who never held a job although it is felt that if slightly less rigorous significance levels were used, the differences would be significant. There was no significant increase in scores for the entire sample of non-participants and for all non-participant subgroups. In general the means for the Yates students were several points lower than the Smiley scores.

Table 2 contains the Information Measure means for those students who received that instrument once. At Smiley the post-program mean was significantly higher than the pre-program mean for the participants. This was not true at Yates. However, it must be remembered that the students who took the pre-program measure are not the same students who took the post-program measure. There were no significant differences between the pre-program and post-program means for the non-participants. The Information Measure means for the juniors were about two points lower than the senior pre-program means for each high school respectively. The Information Measure mean for the Smiley juniors was significantly higher than the mean

TABLE 2

INFORMATION MEASURE MEANS FOR QUESTIONNAIRES ADMINISTERED ONCE ONLY

Groups	SMILEY		YATES	
	Participants	Non-Participants	Participants	Non-Participants
Pre-Measure Only N	190.355 31	187.393 28	184.500 16	186.500 20
Post Measure Only N	200.846*** 13	191.159 44	191.944 18	189.333 3
Juniors N	189.388 103	-- --	184.953*** 64	-- --

*** $P < .002$.

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for the Yates juniors.

Tables 3-6 contain the data concerning the skewness of the score distributions for the pre-program and post-program Information Measures. For both Smiley and Yates participants there was a significant increase in the number of students who made a score of 199 or greater on the post-program measure in comparison to the pre-program measure. There were no significant differences for the two groups of non-participants. The chi square probabilities in these tables are one-tailed probabilities.

Tables 7 and 8 contain the gain scores on the Information Measure for both schools. For Yates High School there was a significant difference in the proportion of participants and non-participants who increased their scores by 10 points or more. For Smiley High School a greater portion of the participants increased their scores by 10 points or more in comparison to the non-participants. However, the difference was not significant. The chi square probabilities are one-tailed probabilities.

Tables 9 and 10 contain the pre-program and post-program means for each of the 64 items in the Information Measure. Only those seniors who received the Information Measure twice were included in this analysis. Item 4A represents the neatness score on the application blank. Item 4B represents the thoroughness score, and item 4C is the accuracy score. The remaining items refer to the multiple-choice items in the questionnaire. The Yates participants showed significant differences in 10 items, while the non-participants exhibited significant differences in only two items. The Smiley participants showed significant differences in 16 items, while the

TABLE 3

INFORMATION MEASURE SCORE FREQUENCIES
FOR YATES PARTICIPANTS

Score	Pre-Measure	Post-Measure
199 or Greater	8	28
Less Than 199	60	40

$X^2 = 13.638$ (df = 1), $P < .001$.

TABLE 4

INFORMATION MEASURE SCORE FREQUENCIES
FOR YATES NON-PARTICIPANTS

Score	Pre-Measure	Post-Measure
199 or Greater	4	4
Less Than 199	34	34

$X^2 = 0.140$ (df = 1) $P < .70$.

TABLE 5

INFORMATION MEASURE SCORE FREQUENCIES
FOR SMILEY PARTICIPANTS

Score	Pre-Measure	Post-Measure
199 or Greater	16	44
Less Than 199	60	32

$X^2 = 20.074$ (df = 1), $P < .001$.

TABLE 6

INFORMATION MEASURE SCORE FREQUENCIES
FOR SMILEY NON-PARTICIPANTS

Score	Pre-Measure	Post-Measure
199 or Greater	25	34
Less Than 199	70	61

$X^2 = 1.573$ (df = 1), $P < .20$

TABLE 7

INFORMATION MEASURE GAIN SCORE FREQUENCIES
FOR YATES SENIORS

Gain Score	Participants	Non-Participants
10 or Greater	28	6
Less Than 10	40	32

$X^2 = 6.093$ (df = 1), $p < .02$.

TABLE 8

INFORMATION MEASURE GAIN SCORE FREQUENCIES
FOR SMILEY SENIORS

Gain Score	Participants	Non-Participants
10 or Greater	23	22
Less Than 10	53	73

$X^2 = 0.763$ (df = 1), $p < .80$.

TABLE 9

INDIVIDUAL ITEM MEANS FOR INFORMATION MEASURE ADMINISTERED AT YATES HIGH SCHOOL

Question No.	Participants N = 68		Non-Participants N = 38		Question No.	Participants N = 68		Non-Participants N = 38	
	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure		Pre-Measure	Post-Measure	Pre-Measure	Post-Measure
1A	2.956	3.426**	3.053	3.037	6A	2.765	2.544	2.763	2.974
1B	3.250	3.221	3.105	3.289	6B	1.559	1.500	1.500	1.526
1C	3.059	2.794	3.026	2,947	6C	3.103	3.235	3.237	3.184
1D	2.853	3.162	2.895	2.868	6D	3.294	3.235	3.079	3.421
1E	3.103	3.426*	3.316	3.237	6E	3.485	3.471	3.500	3.553
1F	1.765	1.765	1.605	1.684	7A	2.838	3.059	2.974	3.132
1G	2.279	2.882**	2.184	2.553	7B	3.368	3.397	3.263	3.158
1H	3.382	3.294	3.289	3.526	7C	2.941	3.118	2.974	2.947
2A	3.38	3.412	3.263	3.237	7D	2.647	3.000**	2.684	2.868
2B	2.412	2.618	2.342	2.526	7E	1.603	1.897	1.947	1.947
2C	3.500	3.574	3.421	3.579	7F	3.206	3.206	3.289	3.316
2D	2.662	2.897	2.711	2.763	7G	3.529	3.676	3.553	3.500
2E	2.662	2.662	2.421	2.526	7H	3.118	3.206	3.316	3.105
2F	2.853	2.956	2.868	2.974	7I	3.529	3.471	3.711	3.474
2G	3.382	3.279	3.184	2.947	7J	2.588	2.971*	2.184	2.289
2H	3.029	3.059	2.842	3.000	7K	3.221	3.412	3.263	3.421
2I	2.279	2.191	2.342	2.105	7L	3.485	3.456	3.526	3.342
2J	3.38	3.485	3.105	3.342	8A	3.029	3.044	3.079	2.895
2K	2.426	2.338	2.500	2.342	8B	2.250	2.529*	2.289	2.421
2L	3.603	3.779	3.711	3.737	8C	3.279	3.265	3.500	3.237
3A	1.956	1.882	2.447	1.868*	8D	2.500	2.779*	2.395	2.474
3B	3.353	3.132	3.368	2.947*	8E	2.324	2.338	2.605	2.368
3C	3.265	3.412	3.211	3.105	8F	3.162	3.250	3.342	3.211
3D	1.912	2.485**	1.868	2.000	8G	3.221	3.412	3.211	3.211
3E	2.926	3.397**	2.737	2.737	8H	3.103	3.191	2.632	2.737
3F	3.118	3.206	2.658	2.868	8I	3.515	3.456	3.526	3.316
4A	2.956	3.029	3.053	3.316	8J	3.485	3.368	3.421	3.368
4B	2.588	2.912	2.579	2.579	9A	3.441	3.471	3.500	3.474
4C	3.279	3.485	3.289	3.553	9B	3.294	3.132	3.289	3.184
5A	2.338	2.426	2.263	1.921	9C	3.559	3.485	3.579	3.421
5B	3.206	3.324	3.237	3.105	9D	3.515	3.721	3.763	3.789
5C	1.765	2.103*	2.263	2.158	9E	2.456	2.588	2.526	2.711

* $P < .05$.
** $P < .01$.
*** $P < .002$.

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TABLE 10

INDIVIDUAL ITEM MEANS FOR INFORMATION MEASURE ADMINISTERED AT SMILEY HIGH SCHOOL

Question No.	Participants N = 76		Non-Participants N = 95		Question No.	Participants N = 76		Non-Participants N = 95	
	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure		Pre-Measure	Post-Measure	Pre-Measure	Post-Measure
1A	3.211	2.961	2.947	3.042	6A	2.947	3.039	3.074	3.063
1B	3.250	3.276	3.116	3.295	6B	1.618	1.684	1.589	1.632
1C	3.105	3.342	3.063	3.021	6C	3.132	3.237	3.284	3.253
1D	2.908	2.987	2.705	3.063*	6D	3.105	3.211	3.232	3.453
1E	3.237	3.803***	3.400	3.421	6E	3.487	3.566	3.347	3.347
1F	1.711	1.605	1.568	1.695	7A	3.118	3.171	3.084	3.116
1G	2.289	2.289	2.179	2.316	7B	3.158	3.263	3.263	3.347
1H	3.461	3.263*	3.537	3.421	7C	3.211	3.316	3.084	3.263
2A	3.368	3.592*	3.232	3.474	7D	2.789	2.921	2.853	2.916
2B	2.684	2.711	2.737	2.800	7E	1.632	2.00*	1.568	1.737
2C	3.329	3.447	3.295	3.316	7F	3.566	3.513	3.326	3.505
2D	2.737	2.829	2.884	2.779	7G	3.474	3.421	3.537	3.453
2E	2.539	2.592	2.516	2.663	7H	3.447	3.447	3.411	3.379
2F	2.697	2.908*	2.611	2.716	7I	3.605	3.803*	3.600	3.653
2G	3.224	3.342	3.137	3.263	7J	2.276	2.447	2.337	2.389
2H	3.145	3.382	2.947	3.179	7K	2.763	3.145**	2.800	2.895
2I	2.382	2.789*	2.579	2.642	7L	3.566	3.566	3.684	3.526*
2J	3.368	3.289	3.358	3.484	8A	2.974	3.263	3.011	3.000
2K	2.408	2.342	2.358	2.358	8B	2.447	2.750*	2.326	2.400
2L	3.697	3.829	3.811	3.737	8C	3.474	3.421	3.611	3.495
3A	2.184	2.079	2.242	2.284	8D	2.605	3.000***	2.653	2.705
3B	3.079	2.829	3.316	3.326	8E	2.671	2.789	2.663	2.632
3C	3.421	3.329	3.379	3.326	8F	3.487	3.526	3.453	3.389
3D	2.250	2.724	2.505	2.284	8G	3.316	3.316	3.284	3.295
3E	3.039	3.118	2.979	2.958	8H	3.355	2.895**	3.242	3.126
3F	3.250	3.303**	3.011	3.168	8I	3.605	3.579	3.632	3.547
4A	2.895	3.250**	2.926	3.011	8J	3.474	3.474	3.505	3.442
4B	2.382	3.211***	2.463	2.768	9A	3.447	3.474	3.568	3.632
4C	3.184	3.447*	3.242	3.505*	9B	3.408	3.368	3.484	3.474
5A	2.342	2.645*	2.495	2.411	9C	3.539	3.447	3.558	3.632
5B	3.250	3.395	3.358	3.263	9D	3.803	3.803	3.800	3.842
5C	1.987	2.00	1.989	1.958	9E	2.961	3.013	2.842	3.095

* $p < .05$.
** $p < .01$.
*** $p < .002$.

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non-participants exhibited significant differences in only three items.

Attitude Measure*

The 30-item Likert-type attitude measure was scored on a five-point scale for each item, the values ranging from zero through four. This instrument provided three attitude scores: work, social mobility, and a total score (work plus mobility). It was possible for the work and social mobility scores to range from 0 through 60, and for the total score to range from 0 to 120. Lower scores would be indicative of less positive attitudes. A score of 30 on the work and social mobility scales and a total score of 60 would indicate relatively neutral attitudes in each area respectively.

Table 11 contains the pre-program and post-program attitude means for the participant and non-participant seniors who received this instrument twice. For each high school the pre-program means were highly similar for the participants and non-participants. In all instances these students showed positive attitudes in all three areas. The work attitude means were several points lower than the social mobility attitude means. In general the attitude scores were slightly higher for Smiley High School than for Yates High School. In examining the pre-program and post-program means in can be seen that there were very few significant changes. The only significant change occurred for Smiley non-participants who were currently holding a job; this group showed a significant decrease in attitude toward work.

The score distributions of the pre-program and post-program attitude measures were inspected, but they were essentially the same. The gain scores were also examined, but they were essentially the

*The reader is again requested to refer to the Appendix.

TABLE 11

ATTITUDE MEASURE MEANS FOR PARTICIPANT AND NON-PARTICIPANT SENIORS

	SMILEY				YATES			
	Participants		Non-Participants		Participants		Non-Participants	
	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure	Pre-Measure	Post-Measure
Total								
Work	40.437	40.667	42.172	41.032	37.851	37.687	38.816	39.184
Social Mobility	45.147	46.280	46.000	46.108	44.806	45.328	45.974	46.316
Total	85.493	86.947	88.172	87.140	82.657	83.015	84.789	85.500
N	75	75	93	93	67	67	38	38
Male								
Work	39.000	39.412	39.700	38.700	38.391	36.217	35.600	36.667
Social Mobility	43.471	45.471	43.333	43.165	45.609	45.087	43.667	44.933
Total	82.471	84.882	83.033	81.867	84.000	81.304	79.267	81.600
N	34	34	30	30	23	23	15	15
Female								
Work	41.463	41.707	43.349	42.143	37.568	38.455	40.913	40.826
Social Mobility	46.537	46.951	47.270	47.508	44.386	45.455	47.478	47.217
Total	88.000	88.659	90.619	89.651	81.955	83.909	88.391	88.043
N	41	41	63	63	44	44	23	23
Have Held Job								
Work	40.302	40.547	41.875	40.880	37.759	37.618	38.667	39.559
Social Mobility	44.968	46.016	45.837	45.807	44.667	45.545	46.273	46.794
Total	85.270	86.563	87.712	86.687	82.426	83.164	84.939	86.353
N	63	64	80	83	54	55	33	34
Never Held Job								
Work	40.583	41.364	44.000	42.300	38.231	38.000	39.800	36.000
Social Mobility	46.083	47.818	47.000	48.600	45.385	44.333	44.000	42.250
Total	86.667	89.182	91.000	90.900	83.615	82.333	83.800	78.250
N	12	11	13	10	13	12	5	4
Hold Current Job								
Work	40.086	40.500	42.593	40.250*	36.313	37.947	36.692	39.929
Social Mobility	45.457	45.278	46.481	45.308	42.313	45.158	44.538	47.786
Total	85.543	85.778	89.074	85.558	78.625	83.105	81.231	87.714
N	35	36	54	52	16	19	13	14
Do Not Hold Current Job								
Work	40.575	40.821	41.590	42.024	38.333	37.583	39.920	38.750
Social Mobility	44.875	47.205	45.333	47.122	45.588	45.396	46.720	45.458
Total	85.450	88.026	86.923	89.146	83.922	82.979	86.640	84.208
N	40	39	39	41	51	48	25	24

* $P < .05$

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TABLE 12

ATTITUDE MEASURE MEANS FOR QUESTIONNAIRES ADMINISTERED ONCE ONLY

GROUP	SMILEY		YATES	
	Participants	Non-Participants	Participants	Non-Participants
Pre-Measure Only				
Work	39.839	40.107	34.688	36.600
Social Mobility	46.419	44.250	41.875	42.900
Total	86.258	84.357	76.563	79.500
N	31	28	16	20
Post Measure Only				
Work	41.615	40.341	37.056	39.667
Social Mobility	46.462	46.091	43.500	45.333
Total	88.077	86.432	80.556	85.000
N	13	44	18	3
Juniors				
Work	40.922	---	37.230***	---
Social Mobility	45.029	---	42.475**	---
Total	85.951	---	79.705***	---
N	103	---	61	---

** $P < .01$
*** $P < .002$

same for the participants and non-participants.

Table 12 contains the pre-program and post-program Attitude Measure means for those students who received this measure only once. In all instances there were no significant differences between the pre-program and post-program means. However, it must be remembered that the students who took the pre-program measure were not the same students who took the post-program measure. In comparing the Smiley juniors with the Yates juniors it was found that all attitude scores for the Smiley juniors were significantly higher.

CONCLUSIONS AND DISCUSSION

Conclusions

On the basis of the data analyzed several conclusions are offered:

1) The Group Guidance Program appeared to significantly increase the participants' knowledge of the world of work.

2) Participation in the Group Guidance Program did not appear to influence attitudes toward work and social mobility as measured.

3) All subjects showed favorable attitudes toward work and social mobility, but the attitude toward social mobility was the more positive attitude.

4) The results of the interviews indicated an extremely favorable attitude toward the Group Guidance Program on the part of the students involved; classroom discussions and case conferences were the most popular aspects of the program.

Discussion

It is very clear from the analysis reported that the second year methodology on the Group Guidance Project was far more successful than the first year methodology. The interviews with the participating students showed a far greater degree of interest, enthusiasm, motivation and involvement in this second year program than in the first year program. In terms of the data collected from the student interviews, the project would have to be rated as a very satisfactory success.

In addition to getting the students excited about their world of work entrance, the project did significantly improve their world of work entry skills. The pre and post program measure differences found in the participating students and not in the non-participanting students evidence this gain. There is no question but that the program had a significant motivational and cognitive effect on the students.

We did not find gains, however, in the attitudes as measured. It is our belief that this is a function not of the program but rather of the level of attitude measured by the instruments selected. All other indications point to significant attitudinal gains on the part of the participating students. We believe that the attitude instrument selected for use was not properly tapping these gains. The instrument, developed by one of the authors, was originally intended for extremely disadvantaged persons and had been developed on such youth of high school age. But the high scores of the pre-program attitude measurement here indicate that the instrument does not provide enough range of measurement for high school youth of the level now being counseled in the Group Guidance Program. Therefore it is firmly believed that there were positive attitudinal gains made from participation in the program, but the instrument used to measure these gains was not sensitive enough to them. The population for which the instrument was originally scaled was significantly more disadvantaged than the present group and a greater range of scores was obtained on the original group.

It is also evident to us that the staff was far more adequately prepared for the second year of the program than it was

for the first year of the program. In addition, the replacement staff had better qualifications. The in-service staff training program appeared far more effective as well. It is the general evaluative summary of the present authors that the second program year of this project was a success in respect to the knowledge and motivational effects on the students, staff adequacy, project-school relationships, and project relevance to needs of youth in transition from school to work. The general enthusiasm of the school district personnel for the program further evidences the overall acceptability of this approach to pre-employment counseling.

APPENDIX A

Information and Attitude Instrument

GROUP GUIDANCE PROJECT QUESTIONNAIRE

Please complete the following information before completing this questionnaire.

_____
Your Name

Circle the correct answers below for each question:

1. To what class in high school do you belong?

   Junior Senior

2. How old are you?

   15 16 17 18 19 20 21 or over

3. What sex are you?

   Male Female

4. Have you ever held a job?

   Yes No

5. Do you currently hold a job?

   Yes No

6. What is your ethnic background?

   Black American Mexican American White American

INSTRUCTIONS

On the following pages there are a series of paragraphs illustrating the problems that might occur when a person is involved in working or in seeking work. Following each paragraph, there are a series of possible solutions to the problem in that paragraph. For each of these solutions, you are to circle the number which best describes it. If the solution is 'Very Poor', you would circle 1; if the solution is 'Poor', you circle 2; if the solution is 'Good', you would circle 3; and if the solution is 'Very Good', you would circle 4. Remember you must circle one number for each statement.

1. Joe has heard from some of his friends that the Higgins Firecracker Company is hiring high school graduates for full-time work. Since Joe has just graduated and is in need of a job, he has decided that he will inquire further about these jobs. What should he do?

1	2	3	4		
Very Poor	Poor	Good	Very Good	A.	Joe should go to the company personnel office and be prepared to be interviewed.
1	2	3	4		
Very Poor	Poor	Good	Very Good	B.	Joe should call the company personnel office and request a job interview.
1	2	3	4		
Very Poor	Poor	Good	Very Good	C.	Joe should send the company a resume and wait for them to call him.
1	2	3	4		
Very Poor	Poor	Good	Very Good	D.	Joe should send the company a resume and a letter requesting a job interview.
1	2	3	4		
Very Poor	Poor	Good	Very Good	E.	Joe and a friend should go to the company personnel office.
1	2	3	4		
Very Poor	Poor	Good	Very Good	F.	Joe should ask a friend in the company to set up an interview for him.
1	2	3	4		
Very Poor	Poor	Good	Very Good	G.	Joe should send the company a resume and check up on it several days later.
1	2	3	4		
Very Poor	Poor	Good	Very Good	H.	Joe should find some information about the company before requesting an interview.

2. Arnold will graduate from high school and plans to get a job. However, he would like to get more information about employment prospects in his city. Where should he go?

1	2	3	4		
Very Poor	Poor	Good	Very Good	A.	High School Guidance Counselor
1	2	3	4		
Very Poor	Poor	Good	Very Good	B.	Friends who have jobs.

1 Very Poor	2 Poor	3 Good	4 Very Good	C. Texas Employment Commission
1 Very Poor	2 Poor	3 Good	4 Very Good	D. Private Employment Agencies
1 Very Poor	2 Poor	3 Good	4 Very Good	E. Employer Associations
1 Very Poor	2 Poor	3 Good	4 Very Good	F. Job Fair
1 Very Poor	2 Poor	3 Good	4 Very Good	G. Look around for help wanted signs.
1 Very Poor	2 Poor	3 Good	4 Very Good	H. Want Ads
1 Very Poor	2 Poor	3 Good	4 Very Good	I. Better Business Bureau
1 Very Poor	2 Poor	3 Good	4 Very Good	J. Contact local companies on his own.
1 Very Poor	2 Poor	3 Good	4 Very Good	K. Unions
1 Very Poor	2 Poor	3 Good	4 Very Good	L. Let his parents find him a job.

3. Wally has just graduated from high school and would like to obtain a job with good advancement possibilities. Since there are many job openings right now, Wally knows that he can readily secure a job. However, he can also enter special training programs and work too. What should he do?

1 Very Poor	2 Poor	3 Good	4 Very Good	A. Enter the work force full-time because on-the-job training is an excellent way to advance.
1 Very Poor	2 Poor	3 Good	4 Very Good	B. Enroll in a vocational or business school and work part-time because such training is necessary for advancement.
1 Very Poor	2 Poor	3 Good	4 Very Good	C. Enter the work force of a company that has special educational programs available to its workers.
1 Very Poor	2 Poor	3 Good	4 Very Good	D. Enroll in college because a college degree is absolutely necessary to obtain any good job today.

1	2	3	4	
Very Poor	Poor	Good	Very Good	E. Enroll in an apprenticeship training program.
Very Poor	Poor	Good	Very Good	F. Work full-time but take evening training at a trade school.

4. Below is part of a job application form. Complete the form as if you were applying for a job at the company.

DILLINGER DYNAMITE COMPANY

PLEASE PRINT DATE _____

NAME _____
FIRST MIDDLE LAST

ADDRESS _____
Street and Number City State Zip Code

SOCIAL SECURITY NUMBER _____

PHONE NUMBER _____ EMERGENCY PHONE NUMBER _____

MARITAL STATUS _____ NUMBER OF DEPENDENTS _____

AGE _____ DATE OF BIRTH _____

PERSONAL REFERENCE _____
Name Position

EXPERIENCE _____

_____

AWARDS AND ACTIVITIES _____

_____

5. Otto is in the process of completing an application form for a position with the Garrett Can Company. However, as he completes the form several problems occur. What should he do?

1	2	3	4	
Very Poor	Poor	Good	Very Good	A. Certain information that Otto feels is important in helping him get the job is not asked for on the application form. Otto doesn't write in this information because it would have been requested if it was important to the company.

1	2	3	4		
Very Poor	Poor	Good	Very Good	B.	Otto has lost his Social Security card so he leaves the section requesting this information blank rather than reveal that he lost his card.
1	2	3	4		
Very Poor	Poor	Good	Very Good	C.	Otto is not sure of an emergency phone number, but he decides to use his favorite uncle's number.

6. Susie will be applying for a job as a secretary and must take a few employment tests. Since she needs a job, she would like to get a "good" score on these tests. What should she do?

1	2	3	4		
Very Poor	Poor	Good	Very Good	A.	On the personality test she should answer what she thinks the answer <u>should</u> be, even if she has to stretch the truth a little.
1	2	3	4		
Very Poor	Poor	Good	Very Good	B.	On a timed test she should be more concerned with answering each question accurately than with answering all the questions.
1	2	3	4		
Very Poor	Poor	Good	Very Good	C.	Tests are not really that important in getting a job so she shouldn't try to make an outstanding score--------an average score will be good enough.
1	2	3	4	D.	If she is ill or nervous when she is scheduled to take the test, she should tell the person giving her the test.
1	2	3	4		
Very Poor	Poor	Good	Very Good	E.	Before she takes the tests, she should practice her typing by taking some standard typing tests.

7. Henry has applied for the job of machinist's helper and has an interview scheduled with the Peters Pistol Company. Henry would like to create a good impression during this interview. What should he do?

1	2	3	4		
Very Poor	Poor	Good	Very Good	A.	Henry will be a few minutes late for the interview so he plans a good apology for the interviewer when he arrives.

1 Very Poor	2 Poor	3 Good	4 Very Good	B.	Henry has considered in advance some of the possible questions that the interviewer might ask and is prepared to answer them.
1 Very Poor	2 Poor	3 Good	4 Very Good	C.	Early in the interview Henry will ask the interviewer about the salary for the job.
1 Very Poor	2 Poor	3 Good	4 Very Good	D.	Henry plans to do some research on salary before he goes to the interview.
1 Very Poor	2 Poor	3 Good	4 Very Good	E.	Henry plans to wear his best suit to the interview.
1 Very Poor	2 Poor	3 Good	4 Very Good	F.	If the interviewer is smoking during the interview, Henry plans to smoke too, since this will put him more at ease.
1 Very Poor	2 Poor	3 Good	4 Very Good	G.	Henry plans to arrive a few minutes early for the interview.
1 Very Poor	2 Poor	3 Good	4 Very Good	H.	If Henry feels that a question asked by the interviewer is unnecessary, he will avoid a direct answer.
1 Very Poor	2 Poor	3 Good	4 Very Good	I.	Henry will bring a friend or relative to the interview since this will help relax him.
1 Very Poor	2 Poor	3 Good	4 Very Good	J.	Henry plans to give additional information about himself, even if it is not asked for.
1 Very Poor	2 Poor	3 Good	4 Very Good	K.	Henry plans to be neat and clean for the interview, but he will not necessarily be dressed in his best clothes.
1 Very Poor	2 Poor	3 Good	4 Very Good	L.	If the interviewer addresses Henry by his first name, it is acceptable for Henry to address the interviewer by his first name.

8. Bill has been working for two weeks for the Thomas Tinker Toy Company. As a worker, Bill has to interact with many people while performing his duties. How should be behave?

1	2	3	4		
Very Poor	Poor	Good	Very Good	A.	Bill plans to dress in street clothes when he goes to work, even if he will always get them dirty while working.
Very Poor	Poor	Good	Very Good	B.	Bill plans to work always at his fastest rate even if it means showing up other workers.
Very Poor	Poor	Good	Very Good	C.	Since the boss will treat him in the same manner regardless of his attitude, Bill is not concerned about his own attitude toward his job.
Very Poor	Poor	Good	Very Good	D.	If the other men in Bill's crew are working too slowly for him, Bill plans to outwork them so he will get a good rating from his boss.
Very Poor	Poor	Good	Very Good	E.	A foreman tells Bill to work faster during a rush situation, but Bill continues to work at his regular rate because the quality of his work will be lowered otherwise.
Very Poor	Poor	Good	Very Good	F.	Bill feels it would improper to ask the boss too many questions about the job, since he might think he is not too bright or might get mad at him.
Very Poor	Poor	Good	Very Good	G.	Bill makes a special effort to become good friends with all the people who work with him.
Very Poor	Poor	Good	Very Good	H.	Bill believes in doing all his job assignments, even if he does not like them. But he tells his boss that he doesn't like these assignments.
Very Poor	Poor	Good	Very Good	I.	Since he intends to make up lost time, Bill feels it is alright to be late from time to time.

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1	2	3	4		
Very Poor	Poor	Good	Very Good	J.	Since Bill does not get paid when he is absent from work, he feels it is okay to take a day off once in a while because it does not cost the company anything.

9. Mary is competing with several girls for a secretarial job. Several factors which may influence her getting the job are listed below. How <u>important</u> is each of the following items?

1	2	3	4		
of No Importance	of Little Importance	Important	Very Important	A.	Her high school grades.
of No Importance	of Little Importance	Important	Very Important	B.	Her part-time work record during high school.
of No Importance	of Little Importance	Important	Very Important	C.	Business or vocational courses that she has taken.
of No Importance	of Little Importance	Important	Very Important	D	Her high school attendance record.
of No Importance	of Little Importance	Important	Very Important	E.	Extracurricular activities during high school (e.g. band, pep club, etc.)

CONTINUE ON IMMEDIATELY

WITH THE NEXT SECTION

OF THIS QUESTIONNAIRE

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OPINION SURVEY

On the next few pages are listed 30 statements which you may agree with or may disagree with. We want to know your feelings about these statements. There are no right or wrong choices, just how you feel about each statement.

As you read each statement, you are to circle the number corresponding to your choice of the amount of agreement or disagreement you have toward the statement. Please do not skip any sentences and try to respond as honestly as you can to each one.

Circle your choice of agreement or disagreement for each statement.

---

1. The only reason people work is to earn a living.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

2. There is a real chance for me to succeed in life.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

3. Most supervisors in industry are unfair to workers.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

4. The rich get richer while the poor get poorer.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

5. There comes a time in life when it's just not worth trying hard anymore.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

6. Life is really worth living.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

7. A strictly honest man is bound to fail in business.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

8. Nobody really cares about people like me.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

---

9. Most workers are not interested in doing a good day's work.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

10. Money buys happiness.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

11. There is a great deal of sense in trying very hard to succeed on your job.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

12. The major responsibility for finding a good job after this graduation rests with me.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

13. Most employers think more of themselves than of their workers.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

14. My chances for getting ahead are as good in Houston, Texas as anywhere else.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

15. A worker should not take a day off whenever he feels like it.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly Disagree

16. There is a little chance for advancement unless a man has unfair pull.

1	2	3	4	5
Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree

17. Most supervisors understand the problems of the average worker.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

18. Success depends more on luck than on real ability.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

19. It pays to work hard, because employers generally will not take advantage of you.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

20. The most important thing in life is to earn a lot of money.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

21. Most workers do not really earn their pay checks.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

22. Poor people are not very important.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

23. When a worker doesn't understand a task, it's usually the boss's fault.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

24. My children will get a fair chance to move up in the world.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

25. Money is not the most important thought in choosing a job.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

26. A poor person has a real chance to get ahead in our society.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

27. In general, industry does not drive you as hard as it can and yet give you as little as possible.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

28. When I finish this training program, I'll have little trouble finding a job.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

29. A man should always do his best for his employers.

1	2	3	4	5
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

30. Anyone can get ahead if he puts his mind to it.

1	2	3	4	5
Strongly agree	Agree	Undeciced	Disagree	Strongly disagree

APPENDIX B

Structured Interview Schedule

STRUCTURED INTERVIEW

School: _____

Interviewer: _____

Interviewee: Male Female

_____

1. What are your future plans?

   A. College
   B. Work
   C. Military
   D. Business College
   E. Non-College Vocational Training
   F. Undecided
   G. Other (Specify)

2. Were your future plans made before you entered this special program?

   A. Yes
   B. No

3. Who or what influenced your future plans <u>before</u> your senior year?

   A. Parents
   B. Relatives other than parents
   C. Friends
   D. Teachers
   E. High School Guidance Counselor
   F. Vocational Guidance Service Counselor
   G. Clergymen
   H. Course Work in School
   I. Personal Research you have done on your own
   J. Part-time Jobs you have had
   K. Special Programs or Exhibits sponsored by your School
   L. Special Community Programs (Job Fair, Youth Centers, etc.)
   M. Coach
   N. Other (Specify)

5. How did this special program influence your future plans?

   A. Helped you to clarify your future Vocational goals
   B. Caused you to change your Vocational choice
   C. Caused you to decide to enter college instead of working
   D. Caused you to decide to work instead of entering college
   E. Caused you to decide to enter the military service instead of working
   F. Caused you to decide to work instead of entering the military service
   G. Caused you to decide to enter the military service instead of college
   H. Caused you to decide to enter college instead of the military service
   I. No influence
   J. Other (Specify)

6. How beneficial was this special program?

   A. Very beneficial
   B. Somewhat beneficial
   C. Of small value
   D. Of no value

7. In what way or ways did this special program help you?

   A. Pointed out new employment opportunities that you did not know about.
   B. Helped you to better understand the process of evaluating an occupation
   C. Showed you methods and techniques of learning about employment opportunities
   D. Helped you in test taking
   E. Helped you in interview behavior
   F. Helped you to learn how to properly complete a job application form
   G. Helped you to learn proper work behavior and attitudes
   H. Helped you to evaluate your abilities and interests
   I. Showed you how to develop a good resume
   J. Showed you what factors are important to an employer when he is hiring a person for a job (achievement)
   K. Other (Specify)

8. What did you like about this special program?

   A. Role Playing
   B. Case Conferences
   C. Guest Speakers
   D. Films and Visual Aids
   E. Practice in test taking, developing resumes, and completing job application forms
   F. Classroom Lectures
   G. Classroom Discussions
   H. The Instructor
   I. Other (Specify)

9. What did you dislike about this special program?

   A. Role Playing
   B. Case Conferences
   C. Guest Speakers
   D. Films and Visual Aids
   E. Practice in test taking, developing resumes, and completing job application forms.
   F. Classroom Lectures
   G. Classroom Discussions
   H. The Instructor
   I. Other (Specify)

10. Did guest speakers participate in any classes?

   A. Yes
   B. No

If yes, who?

A. Police officers
B. Successful employees from local companies
C. People from college loan and scholarship offices
D. Union officials
E. Members of the personnel staffs of local companies
F. Other (Specify)

11. How often were films and visual aids used in class?

A. Never
B. Very rarely (1-3 times)
C. Infrequently (less than half of the time)
D. Frequently (more than half of the time)

12. Was too much time spent on any topic or topics?

A. Yes
B. No

If yes, what topics were covered in too great detail?

A. Achievement (School record, activities, work experience)
B. Attitude (proper work behavior)
C. Personal inventory (self-evaluation)
D. Occupational evaluation
E. Resumes
F. Job applications
G. Interviews
H. Testing
I. Other (Specify)

13. Was too little time spent on any topic or topics?

A. Yes
B. No

If yes, what topics were covered in too little detail?

A. Achievement (school record, activities, work experience)
B. Attitude (proper work behavior)
C. Personal inventory (self-evaluation)
D. Occupational evaluation
E. Resumes
F. Job applications
G. Interviews
H. Testing
I. Other (Specify)

14. How did you feel about the length of the research questionnaire?

A. Too long
B. Length was fine
C. Too short

15. How did you feel about the difficulty of the questions?

A. Too difficult
B. Easy to understand
C. Too east (i.e. transparent)

16. Did you have enough time to complete the questionnaire?

A. Yes
B. No

17. What difficulties did you have with the questionnaire?

A. Ambigious wording of the questions
B. Too few completion questions
C. Too many multiple choice questions
D. Printed directions were unclear
E. Confusing format
F. Other (Specify)

18. How would you describe your attitude and feelings while completing the questionnaire?

A. Serious and concerned
B. Too tired to care
C. Considered the questionnaire useless and a waste of your time
D. Were under a great deal of pressure timewise so would not put forth your best effort.
E. Had other things on your mind at the time
F. Too many questions by other students interrupted your concentration
G. Outside interruptions disturbed your concentration
H. Other (Specify)

19. How was the counselor's preparation for teaching this special program

A. Very good (always prepared)
B. Good (prepared most of the time)
C. Poor (sometimes prepared)
D. Very poor (never prepared)

20. What was the counselor's general attitude while teaching this special program?

A. Serious and concerned about the course
B. Apathetic and unconcerned
C. Considered the course a waste of his time
D. Considered the course a burden on his time
E. Much too serious
F. Joked around too much
G. Joked around but was still concerned about the course
H. Other (Specify)

21. In what way(s) was the counselor most effective?

A. Lecture
B. Discussions
C. Role Playing
D. Case Conferences
E. His (her) use of films and visual aids
F. Giving you practical experience in test taking, completing job application forms, etc.
G. Individual counseling
H. None
I. Other (Specify)

22. In what way(s) was the counselor least effective?

A. Lecture
B. Discussions
C. Role Playing
D. Case Conferences
E. His (her) use of films and visual aids
F. Giving you practical experience in test taking, completing job application forms, etc.
G. Individual counseling
H. None
I. Other (Specify)

23. How effective was the counselor in general?

A. Very effective
B. Somewhat effective
C. Ineffective

24. Were you a volunteer for this special program?

A. Yes
B. No

25. Who first told you about this special program?

A. Classmate
B. Teacher
C. Principal
D. Other School Officials
E. High School Guidance Counselor
F. Vocational Guidance Service Counselor
G. Other (Specify)

26. What were you told about this special program?

A. It was a course that would benefit you
B. It was something to take up time only
C. It would help you find a job
D. It was something you had to do
E. Other (Specify)

27. Were you able to attend class without outside interference from teachers or school officials?

A. Yes
B. No

28. Was the class often interrupted by teachers or school officials?

A. Yes
B. No

29. Were many classes ever cancelled by your school officials?

A. Yes
B. No

If yes, why?

A. Rallies for various athletic events
B. Special assemblies other than rallies
C. Fire drills
D. Counselor unable to attend class
E. Other (Specify)

---

4. Who or what influenced your future plans during your senior year?

A. Parents
B. Relatives other than parents
C. Friends
D. Teachers
E. High School Guidance Counselor
F. Vocational Guidance Service Counselor
G. Clergymen
H. Course Work in School
I. Personal Research you have done on your own
J. Part-time jobs you have had
K. Special Programs or Exhibits sponsored by your School
L. Special Community Programs (Job Fair, Youth Centers, etc.)
M. Coach
N. Other (Specify)

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State of Illinois Advisory Council on Vocational Education. Annual Evaluation Report, FY 1970.

Illinois State Advisory Council on Vocational Education, Springfield.
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ABSTRACT - Presented for consideration by those interested in vocational education, this second annual report of the Illinois Advisory Council on Vocational Education includes responses to the evaluation questions as prepared by the U.S. Office of Education. Also included are (1) an analysis of program costs, (2) recommendations for immediate action, (3) long term recommendations, (4) comparisons of vocational education objectives based on excerpts from the 1970 and 1971 state plans, and (5) summary statements of the Council's activities. Included in the report is a statement committing the Council to the concept that an educational program must furnish its students a means to live fuller lives, and to have fulfilling, productive careers. (JS)

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STATE OF ILLINOIS
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

ANNUAL EVALUATION REPORT

FY 1970

Vocational Education Amendments of 1968
Public Law 90-576

OCTOBER 1970

VT012335

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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STATE OF ILLINOIS
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

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RICHARD B. OGILVIE
GOVERNOR

WILLIAM E. NAGEL
EXECUTIVE DIRECTOR

October 22, 1970

Mrs. A. W. Schmid
Chairman
State Board of Vocational
Education & Rehabilitation
405 Centennial Building
Springfield, Illinois 62706

Dear Madam Chairman:

The State of Illinois Advisory Council on Vocational Education, by this letter, presents to the State Board of Vocational Education and Rehabilitation the Council's recommendations and evaluation report for 1970.

This report is for consideration by the State Board, and subsequent transmittal to the U. S. Commissioner of Education and the Chairman of the National Advisory Council on Vocational Education. It was prepared in accordance with the mandates of the Vocational Education Amendments of 1968 as outlined in the Federal Rules and Regulations of P.L. 90-576, section 102.23 (c).

Additional findings, reports and recommendations will relate our views and concerns to the State Board during this next year.

We recognize and express our appreciation for the cooperation of the State Board of Vocational Education and other State agencies and groups, and especially the Division of Vocational and Technical Education of the State Board.

Sincerely,

Donald E. Truitt

Donald E. Truitt
Chairman

State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

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State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

Background Presentation

During 1969-70, as mandated by the Vocational Education Amendments of 1968, a new State Advisory Council was formed, a new unique State Plan was written, and the State Board completely reorganized the Division of Vocational and Technical Education.

These moves form the apex of a new management structure upon which rests the responsibility of fulfilling the hopes of the Vocational Education Amendments of 1968.

The State of Illinois Advisory Council on Vocational Education has been meeting for over a year. This Council truly has been a working body endeavoring to fulfill its charge. Throughout the year this Council has been listening and acting. The Council's goal has been to assist in the equipping of our youth and adults with occupational education for employment in a growing and dynamic economy.

As stated in the Council's First Report, Illinois is representative of the nation. The United States is richer in material wealth and has more people engaged in education than at any time in the history of the country. Similar remarks could be made concerning this State. Yet this State enters the 1970's with an appalling manpower instability.

--- An immense shortage of technical manpower.

--- To provide these technical skills needed - a massive re-training job.

--- A high unemployment rate among the youth and the elderly.

--- About one-third of the unemployed youth functionally illiterate.

--- Thousands of illiterates in the adult population.

--- Few jobs, and fewer each day for illiterate or semi-literate people.

--- About half of the adults in the work force do not have a high school education upon which to build a new career.

--- *Almost 30% of the students drop out before high school graduation and this proportion is not decreasing significantly.*

--- *Yet, too often the educational system grinds on as if every secondary school student was destined to get a 4-year college degree, while in fact, 80% of the college enrollees do not receive a baccalaureate degree and drop out. Many of these students are unprepared for work but their careers could be reclaimed through a strong associate degree program in occupational education in a 2-year college.*

Today, this is the awesome yet challenging background. How well has Illinois faced up to the challenges?

State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

Summary Statements

I. There is strong evidence that total education is an urgent need, that education must be considered not a cost but an investment, and that education has become far more necessary for both the individual and society. The Council is firmly committed to the concept that an educational program must furnish its students a means to live fuller lives, and to have fulfilling, productive careers. The system should provide for the articulation of general education and occupational education from Kindergarten through all levels.

II. As a direct result of the reorganization of the Division of Vocational and Technical Education, the decision making process within this State agency was taken from the traditional subject matter organization (as a structure) and based more upon a functional approach. This concept was encouraged by the Vocational Education Amendments of 1968. The Advisory Council endorses this change made by the State Board.

III. The investigative activities of the Council were at a disadvantage because of the lack of information and data. Much of the available data admittedly was not as credible as desired. The Council is not aware of any State agency that has reasonable data or information on the needs of the economy for trained manpower; nor is there accurate data or information as to how effectively these needs are being met. There is a pressing need to devise a system of collection and retrieval of necessary information so that projections can be meaningful and priorities can be established.

IV. Advisory Council Studies and Reports.

A. The Advisory Council compared data from the 1970 State Plan with that of the 1971 State Plan to analyze how effectively the Vocational Education objectives as set forth by the State Board had been implemented.

B. A study "An Exploratory Analysis of Differential Program Costs of Selected Occupational Curricula in Selected Illinois Secondary Schools" has begun. This study will speak to these areas:

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1. *Differential program costs for selected programs.*

2. *Alternate methods of budgeting and allocating program costs to various occupational curricula.*

3. *Collection and analysis procedures to obtain differential program costs.*

4. *Recommendations for the internal accounting necessary for an effective program cost reporting system.*

5. *Program cost data in sampled schools for a two-year period for English, Science, and Vocational programs.*

6. *Initial program costs (start up cost) from two additional schools.*

7. *An ex post facto study of the collection, processing, and reporting of data on expenditures per student in junior college vocational programs and academic programs.*

V. *The budgeting environment for 1970 was extremely complicated by a number of crucial circumstances. These events have a bearing on the decisions made, and the priorities established.*

A. *The amendments of 1968 mandated fundamental changes in program emphases and priorities; and called for a new State Plan describing administrative structure and policy.*

B. *The Illinois State Plan was transmitted within the time scheduled but was rejected (as were all others). Reorganization was deferred until after August 1, because of the uncertain status of the State Plan and the appropriation. Filling staff positions after this date was extremely difficult.*

C. *The State Plan was approved at mid-September. Only then could work begin on detailed policies and procedures. The submittal data for local plans was six months out of phase for desired planning and reporting. Student units in approved schools were not reported until March and newly identified priority areas were not known at that time.*

D. *The late date of the approval of the Health, Education, and Welfare appropriation for fiscal year 1970 created a situation where 1970 funds were still unknown when the 1971 budget was being prepared.*

E. *A transitional period of some length will be necessary for full implementation of the Act, refinement of new policies and procedures, and the establishment of firm basic data from which to project.*

VI. *The Advisory Council recognizes the severe constraints imposed upon the State Board by the factors outlined above, and has taken these into consideration in their remarks in answering the evaluation questions posed by the U. S. Office of Education.*

State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

Long Term Recommendations

The Advisory Council is quite aware of the tremendous problem the State Board had during the past year trying to almost totally redirect the impact of the Vocational Education Amendments of 1968. These problems when accompanied by an appropriation made nine months late are exceedingly difficult to overcome. The State Board is moving on all fronts in implementing the intent of the Act. Many of the recommendations made by the Advisory Council to the State Board in the first Annual Report (1969) were achieved. Those recommendations not achieved are continuing to receive the attention of the staff of the State Board.

The Advisory Council would suggest to the State Board these long term recommendations:

1. There must be a greater expansion of relevant occupational programs to cope with the problems of school dropouts, the disadvantaged, the handicapped, the unemployed, and others. Present programs need to be evaluated and irrelevant programs modified or eliminated; and new programs need to be initiated to meet the projected manpower needs.

2. Greatly increased financial support must be forthcoming. Programs cannot be sustained nor initiated without money from all levels, Local, State and Federal. Local school districts must recognize their commitment to vocational education by redirecting local funds to meet the needs of the students in the district. The State Legislature must be convinced of the urgent need for these new programs and requested to increase State funds for their implementation. Congress must be urged to provide full funding of vocational and technical education under the Act.

3. The proliferation of the management and administration of vocational education at the national level is mirrored in Illinois. There are too many State agencies or departments having a role in the administration of vocational education. Each agency has its approach and solution to the problems. This tends to create separate, costly and isolated action. There must be improved articulation and coordination of all manpower efforts. The State Board has the responsibility to assist in affecting a solution.

State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

Recommendations for Immediate Action

The State of Illinois should:

1. Promote the improvement of the administration of vocational and technical education through programs such as seminars and internships for chief school administrators such as school superintendents, junior college presidents, deans of academic studies and agency board members.

2. Improve surveillance of programs, services and activities of the Area Vocational Centers, the Community Colleges and the secondary schools, to minimize duplication and competition for students, equipment, facilities and money.

3. Relate funding for vocational education to enrollment as in State financing for other types of education. At present, appropriations are made in a lump sum so that if the Division of Vocational and Technical Education is successful in increasing enrollments, the amount per student is automatically decreased.

4. Initiate a coordinated electronic system of data collection and retrieval for program planning.

5. Require that each school include provision for a system of placement and follow-up of all vocational and technical students as part of each local plan.

6. Initiate a State Manpower Needs Study through cooperation of State agencies.

7. Urge school districts, irrespective of level, to adopt the premise that education (and particularly occupational education) needs community lay expertise in the development of the educational programs.

8. Expand efforts to support programs in occupational orientation beginning with the elementary school.

9. Support programs initiating new, and upgrading traditional programs meaningful to women at the skill, technical and semi-professional level to encourage a greater number of women to become involved in vocational and technical education.

10. Support the development of a broad program of occupational education for adults.

11. Expand its leadership role of interaction with other State agencies to insure coordination of funding and programs.

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State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

Recommendations to the United States Commissioner of Education, and the National Advisory Council on Vocational Education.

The State of Illinois Advisory Council on Vocational Education recommends:

> *The Commissioner and the National Advisory Council urge Congress to provide full funding for vocational education as provided in the Vocational Education Amendments of 1968; and to provide advance funding (2-year) for all educational programs.*

RECOMMENDED EVALUATION QUESTIONS FOR
CONSIDERATION BY STATE ADVISORY COUNCILS,
PREPARED BY THE PROGRAM PLANNING AND
EVALUATION BRANCH, DIVISION OF
VOCATIONAL AND TECHNICAL EDUCATION,
U. S. OFFICE OF EDUCATION

GOAL I.
The Evaluation Should Focus on the State Goals and Priorities as Set Forth in the State Plan.

1. *Were the priorities and objectives set forth in the annual and long-range program plans valid in terms of the vocational education needs of all youth and adults and the manpower requirements and job opportunities in the State?*

   The priorities and objectives as set forth in the annual and long-range program plans were valid in terms of the vocational education needs of all youth and adults based on the data available to the planners at the time of writing the State Plan. The reliability of this data is questionable. The State staff in developing the State Plan did not have input data available from the necessary sources. We believe the data taken from the local school districts' 1971 one-year and long-range plans will help correct this inadequacy. The Council knows of no adequate study or survey on job opportunities available in Illinois at the time the State Plan was developed (January 1969-June 1969). One small survey will be completed by November 1970, which will be useful in future projections. The Division of Vocational and Technical Education is working closely with the Illinois Employment Service to produce a meaningful document. However, until the information and data collected is more valid, a reasonable evaluation of this goal is not possible.

2. *Were the objectives and program emphases listed in the State Plan proper and adequate with respect to the priorities and intent of the Vocational Education Amendments of 1968?*

   Priorities mandated in the Act are being followed and some progress was made. The Division has made progress toward State goals and objectives, especially in the area of occupational orientation, the articulation efforts at all levels, and in working with the disadvantaged. Thirty-two per cent of urban secondary students and 14% of rural secondary students were enrolled in vocational education. Twenty-two per cent of the post-secondary student enrollments were taking vocational education courses. On the basis of this data, some objectives of the 1968 Vocational Education Amendments are not being met. It is questionable whether some of the junior colleges are meeting the Illinois legislation that 15% of the school's curricula must be technically and vocationally oriented.

3. *To what extent were the program objectives met? Why did this level of achievement occur? How efficiently were these accomplishments made?*

In reviewing what data is available the vocational graduates were readily employable. The Division of Vocational and Technical Education is completing a State Evaluation Plan. However, until such an evaluation plan evolves (with data available) a statement cannot be made which would have significance in reviewing the achievement of program objectives.

4. *What major changes in direction or emphasis should be made in next year's State annual and long-range plans?*

Available data indicates the emphases are appropriate. It must be kept in mind that when good, "hard" data are available some change in direction may or may not become necessary. In many categories of projected manpower needs, the vocational education enrollment for that category falls far short of the need.

5. *What specific actions are being taken by the State Board and its staff to improve the effectiveness and efficiency of its overall program planning and evaluation activities, particularly with respect to the State Board's management responsibilities relating to State Plan operation? Are these actions adequate? Should these actions be redirected or reordered in any way?*

The Division of Vocational and Technical Education was completely reorganized pursuant to the mandates of the Vocational Education Amendments of 1968. To improve evaluation and accountability and to give increased emphasis, and in some cases redirection of programs, over what had been done in the past, a Program Approval and Evaluation Unit was formed within the Division. A Special Programs Unit was formed to especially work in the areas of the disadvantaged, handicapped, ancillary services, guidance, Cooperative Education, Work Study, Consumer and Homemaking and Area Center Planning. A Professional and Curriculum Development Unit was established to specifically work toward In-service Education, the establishment of a Materials and Resource Center and publishing reports and outlines to support the other activities. This past year has seen the formation of a group of representatives from our seven State Universities who working together have established a master plan for Professional Development. The Research and Development Unit was instructed to do research and studies that would be relevant to the needs of the State staff for planning and projections and determination of priorities.

Other units in the reorganization, i.e., Fiscal and Statistical, Occupational Consultant, Post-Secondary Coordination, and Manpower Development and Training, have not had as radical changes made in their normal operations as those specifically mentioned.

The Coordinators of the eight individual units of the Division act as the planning group for the Division.

The State Plan has a built-in flexibility that is unique. The Advisory Council would need to conduct a study of the State Plan and staff activities and responsibilities, as outlined there, before determining if there was need for increased State leadership and management.

GOAL II.
The Evaluation Should Look Into All Parts of the Human Resources Development Programs of the State.

1. *To what extent have actions been taken to expand and improve the joint program planning, implementation, and evaluation efforts of the State Board, Employment Service, vocational rehabilitation agencies, and the agencies responsible for special education (disadvantaged and handicapped students)? What positive effects, if any, may be attributed to these actions? Were the changes brought out adequately? What new or improved actions should be taken in this regard next year?*

   This year has seen increased attempts for joint activity in the planning and implementation efforts of the State Board with other State agencies such as Vocational Rehabilitation, Human Resources, Children and Family Services, Employment Service, Office of the Superintendent of Public Instruction, and the Executive Office of the Governor. Some redirection in program planning has resulted from this interaction. The initiative for this action was taken by the Division of Vocational and Technical Education. The staff members of the Special Programs Unit of the State Board (as do other units) work closely and cooperatively with those of other State agencies. This first year has not seen substantial increases in vocational programs for the handicapped. Vocational programs are planned in the immediate future to improve this. 1971 data should establish that the new emphasis is working.

2. *What joint actions have been taken by public and private vocational education institutions and agencies during the year to effect improvements in the State program planning, coordination, and evaluation efforts? What were the results of these actions? What additional steps would seem logical and feasible for next year?*

   Joint action between public and private vocational educational agencies in Illinois has been very limited whether at the local district level, the post-secondary level, or by State contract. Exceptions are noted where joint action has been initiated for Manpower Development Training programs, and contracts with the Division of Vocational Rehabilitation, and Departments of Corrections, and Children and Family Services.

   Private vocational and business schools are interested and cooperative when requested to participate.

3. *What programs, services, and activities have been implemented or are planned regarding joint efforts between public vocational education and other non-educational social institutions and agencies of the State concerned with the development of human resources? What pay-offs have resulted from these activities?*

Data on some non-public programs is being collected by the Division of Vocational and Technical Education and other State agencies. But this is not accumulated and analyzed for its effect on public programs.

The Division has projected and implemented occupational education programs with the Department of Corrections, Department of Children and Family Services and the Division of Vocational Rehabilitation.

4. *What new programs and working arrangements have been implemented or are planned for bringing about a closer, more effective involvement of employers and organized labor in the planning, operation, and evaluation of vocational education programs? What were the results of these efforts?*

Several industries expressed an interest to be partners in the development of occupational education programs for career ladder training within their industry. This past year has seen the establishment and completion of four programs in the construction industry, especially for heavy equipment operators, which involved industry, labor, and educational institutions. The State Board worked cooperatively with the Governor's Office, the Division of Human Resources, and the Employment Service in working out a training program for minority disadvantaged persons in trades and crafts training that permitted the lifting of a Federal embargo on many millions of dollars of road construction. Labor and industry were deeply involved.

5. *What specific actions have been taken in the State to enhance the image of vocational education and to effect a closer articulation between general and vocational education?*

The State Board using the 1970 State Plan as the instrument, for the first time strongly involved the Superintendents of Educational and Service Regions (formerly County Superintendents) and elementary, secondary and post-secondary top level administrators in the planning and sign-off of the local one-year and five-year plans. For the first time, people other than vocational educators were active participants in writing the local plans. Numerous meetings explaining and interpreting the State Plan (and to just listen to the problems of vocational education) were held throughout the State. In the past, where input by the Universities was largely on an individual school basis, there is now a coordinated effort which resulted in a Master Plan of Professional Development in Illinois.

6. *What steps have been taken with respect to eliminating duplication and competition in vocational program efforts in the State? What is the present status regarding duplication and competition among various programs concerned with the development of human resources including public and private vocational education efforts?*

The proliferation of agencies involved in occupational training in Illinois follows the pattern at the national level. In Illinois occupational training is performed or supervised by the State Board of Vocational Education and Rehabilitation, the Departments of Public Health, Mental Health, Children and Family Services, Human Resources, the Adult Education Division of the Office of the State Superintendent, Employment Service and others. The Office of the Manpower Coordinator in the Executive Office of the Governor is charged to develop a manpower structure for State government devoid of this management proliferation. Legislation now pending at the Federal level would greatly increase and make more intense this proliferation and competition in the management structure at the State level.

GOAL III.
Evaluation Should Focus Upon the Effects the Vocational Education Amendments of 1968 Had Upon the State in the Year Under Review.

1. *How many, and what types of programs, services, and activities were terminated during the year? Why? Any subsequent effects?*

Most program terminations were the result of action by consolidation of local districts or through cooperative programs. The establishment of Area Center Programs and post-secondary curriculum changes had some influence upon the termination of a few programs.

Many areas of endeavor by State staff must come as a result of a request of the local agency to the State for assistance and recommendations.

2. *What significantly new programs and services were implemented during the year, as a direct result of the influence or requirements of the new State Plan? What major results may be attributed to these innovations? Will these programs and services be continued next year?*

Significant new programs and services resulting from the 1970 State Plan were these:

a. Two Research and Development programs in occupational orientation for the elementary level grades K - 8 were funded.

b. A Materials and Resources Center was established.

c. Several new in-service training programs for teachers and administrators were conducted.

d. Several in-service training programs for guidance counselors were conducted.

e. A vocational program for minority disadvantaged called a "Preparedness" program was initiated by one public junior college.

f. The development of a Computerized Vocational Information System (CVIS) which has been well received by students and schools was continued. Twice this system has been explained at large national meetings.

g. Two program differential cost studies were funded, one by the State Board for post-secondary institutions and one by the Advisory Council for secondary institutions.

3. *What noteworthy accomplishments have been achieved in the special programs authorized (only those funded) under Parts C-I of the Amendments of 1968? Did these accomplishments have any "spin-offs" or side effects, with respect to the basic grant programs provided under part B of the Amendments? Should more of Part B funds be shifted to special programs; if so, why?*

These programs have been discussed in the previous question. The Advisory Council is not in favor of more "set asides." The total education effort would improve if many of the special programs were not categorical but part of a regular effort. Generally, vocational education did not meet the implications of the Vocational Education Act of 1963. Only through special "set asides" in the Amendments of 1968 did occupational education move into the areas of special needs. This need has now been recognized by the local educational agencies who have begun to implement meaningful programs. These special areas of need possibly could now be moved back into the regular effort. It is questionable whether the legislation as written in the Amendments of 1968 concerning the Consumer and Homemaking activities can produce truly workable programs. Illinois has always had a considerable number of programs in the Cooperative Work Area, so it is questionable whether much real impact has been made to move the local educational agencies toward increased co-op programs.

4. *What specific changes, if any, were made in the State management policies and procedures relating to vocational education, as a result of implementing the new State Plan and meeting the intent of the Amendments of 1968? How effective did these new policies and procedures prove? To what extent should they be continued next year?*

One major change was the complete reorganization of the Division of Vocational and Technical Education. This reorganization has already been discussed.

Another major change was the establishment of funding formulas based on a percentage factor of class hours and credit hours of the enrolled student. It is based first upon the individual local district's ability to pay plus added factors for such categories as disadvantaged, handicapped, exemplary programs, etc. This formula was developed to provide for judgments based upon the student enrollment and performance and not upon the number of teachers or the salary of each teacher.

This funding pattern should be continued.

The Council suggests that the State Office take more leadership in assisting the local school districts (all levels) in formulating their one- and five-year local plans.

5. *What specific effects - desirable and undesirable - have occurred as a result of the new State System of Allocating Federal funds to local educational agencies, required by the legislation and accompanying guidelines and regulations? What is significant of these effects? Should this system of allocation be modified? If so, in what way? What will be the likely result of these changes? Can and should these changes be made now?*

The management of the allocation of funds to local educational agencies is limited because of the requirement retained in the Amendments of 1968 for non-commingling of funds. This should be modified, but safeguards should be imposed to prevent local schools from misusing funds. The Council is in favor of the intent of the "maintenance of effort" provision as stated in both the State Plan and Federal Rules and Regulations.

Because reimbursement is made 12 - 15 months after expenditure a tremendously undue fiscal hardship is placed on the local educational agency. Every effort should be made by the State Board to reimburse on a quarterly basis, or at least on a six months basis.

In addition to the monetary hardship, the schools experience unnecessary delay in planning and programming when reimbursement information is delayed.

6. *Is the State mounting a concerted effort to meet the major priorities and program emphases of the Vocational Education Amendments of 1968? What progress has been made? What are the main factors, if any, inhibiting progress? Can these hindrances be overcome? If so, what major program changes will be made? What will these changes cost in terms of additional or redirected money, staff, time facilities?*

The State Office is making an effort toward development of meaningful vocational and technical education programs. Much remains to be done. Perhaps the recommendations of the Council will tend to remove some of the problem areas. The compiled data gives indication of progress such as:

a. Total 1970 enrollment in Vocational Education in the State jumped almost 300% over 1969 enrollments.

b. Enrollment of the secondary school vocational programs increased over 100% in 1970 over 1969.

c. Elementary programs of occupational orientation were funded for the first time.

d. State financing increased by 100% over 1969 -- $7,695,000 to $14,046,000. However, the total money funded FY 1971 (both State and Federal) with increased enrollment will result in a lower amount spent per pupil.

The Council has not made an estimate of the cost of implementing its recommendations; nor has there been a determination as to how many of the recommendations could be met by redirection of funding.

GOAL IV.
Evaluation Should Focus Upon the People and Their Needs.

1. *What specific actions were taken by the State Board to improve the validity and reliability of data pertaining to the current and projected vocational education needs of all youths and adults in the State? What were the results of this action? How valid and reliable are the present data? Are additional steps going to be taken next year to improve the data on vocational education needs?*

The credit hour data available from the local districts as indicated in their 1971 one- and five-year plans is reasonably accurate as is the post-secondary data which is based upon the credit hour also. However, when reading or comparing this type of data it should be kept in mind that it represents full time equivalency (FTE) when translated into student enrollment. In addition to this, head count data is available which is reasonably reliable though there may be some duplication by program of these numbers. Elementary vocational education enrollment is also by head count and is considered fairly reliable. The adult data is not considered reliable because of a discrepancy in the classification of programs by the local educational agencies. This makes the adult head count data invalid to an extent.

The data returned with the 1971 Local Educational Agencies plans has more validity than information formerly available.

2. *What progress has been made toward providing high quality programs for dropouts and potential dropouts, unemployed and under-employed youth and adults and disadvantaged and handicapped youth and adults? What additional programs, services, and activities are being provided for each of these categories of people? What are the major gaps and inadequacies? Can they be overcome? How? Does the State presently have the capacity to get the job done? If not, what is needed, other than just money?*

Progress is being made in serving the dropouts, potential dropouts, and the disadvantaged - but to a lesser degree with the handicapped. An evaluation of the effectiveness of the new programs and the extent of needs being met is not possible at this time. A subjective answer is that the programs are minimal compared to the needs, especially in the large urban ghetto areas of Chicago and population pockets in other large cities. Progress is being made but slowly. Hopefully the progress will be satisfactory before problems develop that require special programs and special funding.

The Manpower Development Training Unit, in conjunction with the Illinois State Employment Service, are effective in meeting some of the training needs of the unemployed and under-employed youth and adults. These needs are not being served at a level which could and should be achieved. Illinois has two active Skill Centers which served about 775 youth and adults in all programs last year. Very recently one of Illinois' post-secondary institutions was granted funding for an institutional Skill Center on the Chicago ghetto fringe area. These Skill Centers have marked significance in solving the problem of the under-employed and unemployed youth and adults, especially in the area of the minority population. In 1970 the Manpower Development and Training Unit provided training to 4650 unemployed or under-employed youth and adults under Section 231, 241, and 251 of the Act. In addition over 200 received OJT training in a health and a currency exchange training program.

3. *To what extent are new programs, services and activities being planned and implemented; old ones being modified; and all programs being articulated to enable new students - potentially all those not now served - to profit from some type of occupational training and guidance? Are there any principal stumbling blocks? Are plans being made or actions being taken to overcome these restraints? Do prospects look good for achieving a major break-through in the next several years?*

Illinois has the legislation, which coupled with the flexibility of a new State Plan, gives the local educational agencies the tools to do the occupational education job needed. How effectively these local programs will interface cannot yet be evaluated. The State Board has ready an overall State Evaluation Plan and will begin evaluating local programs at least on a pilot basis by January 1, 1971.

The reorganization of the Division of Vocational Education into special functional units is working. These units have projected new programs, services, and activities. How effectively the local educational agencies make use of these must be left to the State Evaluation. It is too early to predict how the local agencies will react though a preliminary opinion is that the reaction is good, but the results will be only fair.

4. *How effective have the programs been during the year under review when measured against evaluation criteria, such as meeting their pre-established objectives relative to numbers of enrollments and completions, job placement in fields for which trained, graduates initial success on jobs (ability to demonstrate possession of the required skills, attitudes and knowledge), employer satisfaction with graduates, and graduates' satisfaction with the program in which trained? What systematic action is being taken by the State Board to overcome any major shortcomings identified?*

A State Evaluation System is in the final stages of approval. Until this document is finalized and activated results will be sketchy. Because the data of 1969 is so variable and the data for 1970 is still being tabulated and validated no formal evaluation has been made.

Preliminary data indicates the total State enrollment in vocational education jumped from 232,789 in 1969 to 694,000 for 1970 - almost three times the 1969 enrollment. The placement figures show a variance from 86% to 96% which (if the figures are valid) is an excellent placement condition.

5. *What is the status of the State's program effort regarding its mandated responsibility to provide ample opportunity for youth and adults who desire or who are able to profit from technical and vocational education programs at the post-secondary level of education? What significant problems, if any (in addition to just financial deficits) are preventing attainment of this objective? Can these problems be overcome? How?*

The number of instructional programs for post-secondary institutions show an estimated 27% increase over 1969. However, the data has not been validated and is the estimate taken from the 1971 local educational agencies Annual Plan (figures projected). The number of junior colleges continues to increase each year. Many of the post-secondary schools are still in the developmental stage. During 1970 Illinois had three post-secondary schools in their first year. A total program of technical and vocational education is yet to be developed. As Area Vocational Centers (secondary level) and post-secondary institutions grow, many of the secondary schools are relinquishing their adult programs to these institutions.

There are restrictive influences to the proper growth and development of the post-secondary institutions such as:

a. All post-secondary institutions have programs which parallel college programs. Five or six institutions have not made a meaningful commitment to serve technical and vocational education training needs for their areas.

b. Some post-secondary institutions are not believed to be using all resources available i.e., local taxes, tuition, State and Federal appropriations, etc., for financing technical and vocational programs in the manner which the Legislature intended. Many of the institutions are relying heavily (if not almost entirely) on additional allocations from specific vocational funds to initiate and carry out these programs of technical and vocational education. The Advisory Council is planning a comprehensive study of this.

c. There is placement activity but much of it is not really meaningful; and follow-up is practically non-existent. These activities must be carried through so that curriculum changes can be made in response to deficiencies noted by graduates on the job.

GOAL V.
Evaluation Should Identify the Employment Opportunities Within the State and the Vocational Services Required.

1. *What specific actions were taken by the State Board to improve the validity and reliability of data pertaining to the current and projected manpower requirements and job opportunities in the State? What were the results of this action? How valid and reliable are the present data? Are additional steps going to be taken next year to improve the manpower data?*

The State Board plans through its Program Planning and Evaluation Unit to validate data by making field investigations. The local districts Annual Plan and Long-Range Plan can give grass roots data for the projection of manpower needs at the local secondary level. Any instrument for manpower requirements requires demographic and labor force data from the local district. The local schools simply do not have (in their present form) the capability for analyzing the data and employing the techniques required for meaningful projections. Nor is the data requested of them for Federal purposes meaningful to the local schools. It serves only the purpose of the Federal agency.

Several agencies, at the local district level, but particularly at the State level, are potentially geared for the collection of data which if properly analyzed could predict occupational needs and new and emerging occupations brought about by changes in existing industry or in the establishment of new industry in the district.

This data is collected and collated but never used for meaningful manpower projections of need. Only a statement of what happened is made and there is no analysis and projection of the data. These agencies should redirect a portion of their efforts to a new system for projection of needs and share this with the local school districts.

If this data is not available to the local districts in a form significant for their needs these educational agencies will have to gather this information themselves. A meaningful manpower survey and a proper analysis of it is a mandatory instrument for predicting and projecting training needs for the future, whether at the State or local level.

A greater availability of this kind of data from all agencies of this State and efficient use of this information must be implemented in this State by the State.

There is a similar need for an instrument for planning at the post-secondary level also.

2. *To what extent are vocational education programs providing training to meet the current and projected manpower requirements in shortage occupations? What percentage of the graduates are placed in shortage occupations? How many job opportunities are going unfilled because of a shortage of skilled manpower? Will State Program efforts be redirected in this direction next year?*

We have little or no information on shortage occupations. Therefore, it is impossible to relate as to how many graduates were placed. We do have a manpower needs study being completed in the fall of 1970. Until this material is available and data collected in light of this whatever is stated would be purely subjective. It is not reasonable to respond to the rest of the question until a manpower needs study is available and data is collected responding to those needs.

3. *To what extent are vocational programs providing training in new and emerging occupations? What percentage of graduates are placed in these occupations? How many and what types of jobs remain unfilled in new and emerging occupations? What changes in program efforts are planned for next year to meet these needs?*

There is little data available as to the extent of the training needs or the number of graduates placed in new and emerging occupations.

The post-secondary institution seems better able to move and respond to a need than are institutions at other levels. The biggest problem, until a glaring shortage exists, is the lack of acceptance by the institution to actively attempt to identify and train for those jobs.

The Manpower Development Training Unit in conjunction with other State agencies has been the State unit most able to respond and move into these needed areas.

There is evidence (programs) of much greater inter-agency cooperation in the coming year.

4. *To what extent are vocational education programs being implemented to provide training for job clusters or groups of jobs within a broad occupational area, such as electricity, auto mechanics, and electronics? What do the job placement figures show regarding graduates of cluster training programs? Will this type of training likely be increased next year? How much? Should it be increased even more than now planned? Why?*

The job placement figures available are not refined to a point where break outs are possible for a career ladder approach within a particular industry.

This question again points up the necessity of an adequate system of data collection and retrieval.

The placement of these graduates requires a commitment on the part of industry to supply jobs. The educational agencies also have a commitment to train in the needed job areas and to equip the student with the background and the skills to move within an industry, or to move horizontally to an industry with related needs.

Because of lack of data a more specific answer to this question cannot be given.

5. *To what extent are vocational and technical education programs and services being planned and implemented to provide occupational training and guidance to satisfy the full range of potential job opportunities in the State? Is this range of opportunities known? Are steps being taken to close any existing gaps? Does the State presently have the capability of providing the additional programs? What are the problems?*

The main thrust of providing this occupational training and guidance rests with the local educational agencies. How they have planned or implemented programs is indicated on their 1970 and 1971 local one-year and five-year plans. The State Office has not yet made an evaluation of the 1970 local plans so that data is not available.

Addendum "A "

State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

An Exploratory Analysis of Differential Program Costs
of Selected Occupational Curricula in
Selected Illinois Secondary Schools

I. Abstract

One major problem of an educational administrator is the estimating and projecting of capital and operational costs of educational programs. In a large measure this problem comes about because financial accounting and budgeting systems are oriented to a fiscal appropriation structure for management control procedures rather than toward educational program accounting. And many school districts find it appropriate and necessary (by Statute) to use organizational and object class categorizations (such as maintenance, personnel services, etc.) for a financial reporting and budgeting system.

Economic terms such as planning-programming-budget-systems (PPBS), cost effectiveness, and cost benefit are common to advanced educational and governmental planning. Yet, persons concerned with planning and developing occupational programs do not have accurate information available to describe the financial parameters of various curricula.

Because of the necessity of allocating scarce educational resources, of increasing student enrollments, and the increasing demand of employers for occupational skills there is a need for complete cost data accurately describing program costs, initial and operating, at the secondary school level.

Sufficient categories will be provided allowing for the identification of budget expenditures. It is the intent of this

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proposed study to utilize and build upon data previously collected by the State Board of Vocational Education and the Office of Superintendent of Public Instruction and to provide a structure to reflect costs for selected occupational programs. Although verification, additional collection, and classification of data will be necessary, previous State efforts will not be duplicated. This project is not to be considered a comprehensive cost-differential study but an exploratory attempt working within the limitations of time, resources, and available data.

The following dimensions are relevant in this respect:

1. Time span of data: The investigators propose to collect a span of two-year budget data at each school sampled.

2. Initial cost and operating cost: Startup cost and continuing program costs present different sampling problems for data collection.

3. Comparisons between various secondary school programs, such as English, science and vocational programs.

This study will work toward the following objectives:

1. Provide differential program costs.
2. Review and report alternate methods of budgeting and allocating program costs to various occupational curricula.
3. Determine collections and analysis procedures necessary to obtain differential program cost data.
4. Provide recommendations for internal accounting for data collection and analysis necessary to an effective program cost differential reporting system.

5. Provide program cost data in the sampled schools for a two-year period for English, science programs and vocational programs.
6. The initial program costs (startup cost) from new high schools.
7. The collection, processing, and reporting of data on expenditures per student in junior college vocational programs and academic programs.

Data analyzed will be evaluated as to:

1. Program costs categorized in a manner to provide information useful in budgeting current programs in secondary schools in Illinois, and in the allocation of resources provided to local districts by the Division of Vocational and Technical Education.
2. Secure causative factors where differential unit costs occur, if possible.
3. Recommendations for possible improvement in record systems required to compute unit costs.
4. Indicate causative factors, if present and identifiable, for differential initial costs.
5. Evaluate other research sources for data and recommendations germane to this study which are to be incorporated in this study.

Addendum "B"

State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

Excerpts From 1970 State Plan and 1971 State Plan
For Comparison of Vocational Education Objectives for 1970
and Actual Performance in 1970

All numbers are based on approved reimbursable programs.

I. Secondary

	Current Status 1969	Est. 1970	Actual 1970
Objectives			
a. Percentage of secondary school students enrolled in vocational education			
Urban	9.9%	11.0%	32.0%
Rural	19.1%	21.0%	14.0%
b. Percentage of secondary vocational students entering post-secondary vocational programs	13.0%	15.0%	19.5%
c. Total number of instructional programs (by OE code)	179	185	166
d. Percentage of students available for work, placed in jobs following training	97.3%	98.0%	96.7%
e. Vocational education completion rate (per cent) leaving program with marketable skills	98.0%	97.0%	96.4%
f. Vocational student-guidance counselor ratio	338	350	NA

II. Post-Secondary

Objectives			
a. Percentage of population age 15-24 enrolled in post-secondary vocational education			
Urban 1,275,000	1.52%	1.84%	2.15%
Rural 285,000	1.30%	1.58%	1.85%

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II. Post-Secondary (cont.)	Current Status 1969	Est. 1970	Actual 1970
b. Percentage of post-secondary (2-yr.) students enrolled in vocational education	23.9%	26.0%	22.0%
c. Number of instructional programs (by OE code)	75	85	95
d. Percentage of students, available for work, placed in jobs following training	94.0%	95.0%	87.0%
e. Number of instructional programs for emerging occupations	51	70	20
f. Vocational student guidance counselor ratio	500	575	NA
III. Adult			
Objectives			
a. Percentage of population 16-64 enrolled in adult vocational education	.65%	.7%	6.5%
Urban 5,185,000			
Rural 1,143,000			
b. Total number of instructional programs	95	105	80
c. Number of new instructional programs (new and emerging occupations)	5	8	5
d. Vocational education completion rate (per cent)	85.0%	87.0%	85.0%
IV. Disadvantaged			
Objectives			
a. Percentage of disadvantaged population (by level) enrolled in vocational education			
Secondary	2.0%	15.0%	11.0%
Post-Secondary	0	5.0%	2.5%
Adult	2.0%	10.0%	10.0%
b. Number of instructional programs	18	65	205

IV. Disadvantaged (cont.)	Current Status 1969	Est. 1970	Actual 1970
c. Number of students enrolled in cooperative programs	5000	6000	5500
d. Number of students enrolled in work-study programs	1500	2750	1900 **

** Summer 1970 only.

V. Handicapped

Objectives

a. Percentage of handicapped population (by level) enrolled in vocational education			
Secondary	3.0%	10.0%	3.0%
Post-Secondary	2.0%	5.0%	2.0%
Adult	2.0%	5.0%	2.0%
b. Number of instructional programs	15	40	100
c. Number of students enrolled in cooperative programs	1000	2500	2400
d. Number of students enrolled in vocational work-study programs	1000	1800	700 **

** Summer 1970 only.

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Addendum "C"

State of Illinois
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

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VT 012 339
Career Patterns. A Descriptive Analysis of Vocational-Technical Students and Teachers, Montgomery College.

Montgomery Coll., Rockville, Md. Office of Institutional Research.
Maryland State Dept. of Education, Baltimore.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Aug70 65p.

DESCRIPTORS - PROGRAM PLANNING; *PROGRAM EVALUATION; *VOCATIONAL EDUCATION; DATA COLLECTION; EDUCATIONAL FINANCE; TABLES (DATA); *STUDENT CHARACTERISTICS; *TEACHER CHARACTERISTICS; STUDENT ENROLLMENT; CAREER CHOICE; EMPLOYMENT EXPERIENCE; OCCUPATIONAL ASPIRATION; ACADEMIC ACHIEVEMENT; FEDERAL LEGISLATION; PERSONNEL DATA
IDENTIFIERS - *VOCATIONAL EDUCATION AMENDMENTS OF 1968

ABSTRACT - A newly designed student and teacher data system was used to collect data required for state and federal reports and to form the basis for allocating funds under the Vocational Education Amendments of 1968. The system, which utilizes machine processable forms, yielded these data tables: (1) personal characteristics of students by curriculum and occupational orientation, (2) age analysis by curriculum, class, and sex, (3) enrollment by sex and class, (4) highest educational level by curriculum, class, and sex, (5) employment status by curriculum, class, and sex, (6) educational and vocational expectations by curriculum, (7) employment profile by occupational orientation and class, (8) job applicants in major occupational areas by sex and class, and (9) faculty data description and analysis. Samples of data collection instruments are appended. (SB)

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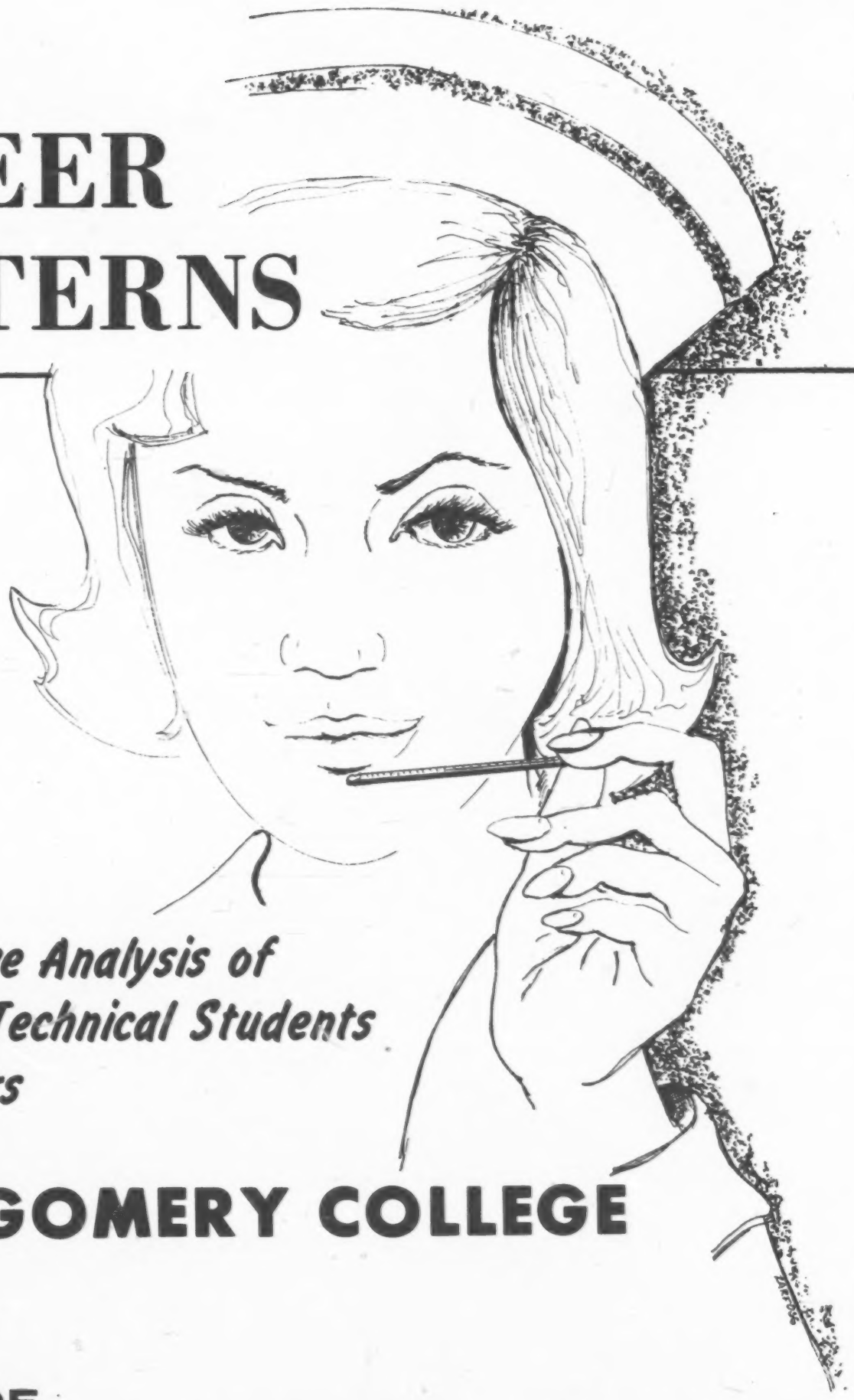
CAREER PATTERNS



A Descriptive Analysis of Vocational-Technical Students and Teachers

MONTGOMERY COLLEGE
1970

OFFICE OF INSTITUTIONAL RESEARCH

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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CAREER PATTERNS

A Descriptive Analysis of

Vocational-Technical Students and Teachers

Montgomery College

Based on Record Forms

submitted to

Maryland State Department of Education

June 1970

Compiled by Office of Institutional Research

August 1970

FOREWORD

When the career education coordinators were required to administer externally designed data collection record forms, we saw in this an opportunity to use the data to partially describe the College's career-oriented student. Although the questions are not the ones we might have asked nor are they in the form we would have suggested, they are relevant to State and Federal officials responsible for implementing the Vocational Education Amendments of 1968.

It was through the cooperation and support of the College's Data Processing Center that the information from the individual records was processed to allow the analysis presented in this report.

Mrs. Joan Faber, Development Specialist, has made every effort to glean from the data collected the relevant and significant information which might be of use to the College's coordinators, faculty, counselors, and administrators in the evaluation, planning, and development of career programs. Mrs. Faber's analysis will also provide a backdrop against which future surveys of this population can be compared.

Robert L. Gell, Director
Office of Institutional Research

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CAREER PATTERNS

Introduction

Late in January, the Maryland State Department of Education notified the College that a new vocational educati(student and teacher data system had been designed to replace the current reporting system. The purpose was to collect, in machine processable form, all current data required for State and Federal (under the terms of the Vocational Education Amendments of 1968) reports and to form a basis for allocation of funds under the same legislation.

There followed a series of meetings with representatives of the Division of Vocational Education and the Research Coordinating Unit (MSDE) and with concerned officials of the other Maryland community colleges and other Maryland local educational agencies. The Director of Institutional Research and the Development Specialist attended all of these meetings; the Comptroller and Senior Accountant and the Systems Analyst attended the main, or regional, meeting. Reports of these meetings were then sent to all concerned College personnel.

Although the community colleges felt very strongly that the forms, and particularly the instructions, applied to secondary, rather than post-secondary, vocational education, the State officials requested that all cooperate this first year. On the basis of this experience, they promised a review and evaluation of this data system which would include widespread input from all affected by it. Toward that end, an ad hoc committee of community college personnel has met with officials of the Maryland State Board for Community Colleges and the Maryland State Department of Education. Montgomery College's Director of Institutional Research is chair-

man of this ad hoc committee. The colleges' problems with the student forms were discussed and tentative changes agreed upon in order to report the data in terms applicable to the colleges in the future.

Procedures

To complete the required forms during spring 1970, however, presented several problems at Montgomery College:

The instructions provided by MSDE were not only not applicable to postsecondary education but might be unacceptable to mature students and their resentment might reduce the number of processable replies.

Some of the information requested was contrary to the College's policy of confidentiality of student records.

Printing and distribution difficulties at the State level delayed receipt of the forms until the end of April.

To minimize these obstacles and to comply with the State's requirements, the following assistance was given to the department chairmen and occupational coordinators:

Printouts of students registered for the various occupational programs were furnished;

Revised instructions were prepared which permitted college students to complete the forms with minimal instructor guidance in contrast to the instructor-guided, line-by-line procedure in the State's directions;

Briefing sessions were held for department chairmen and occupational coordinators at each campus, and

Packets of needed materials were distributed to those attending.

Despite the difficulties imposed by the limited time left before the end of the semester, the department chairmen and occupational coordinators, assisted by members of the staff of the Office of Institutional Research, were able to submit forms for 1557 (unduplicated count) students and 81 instructors by the middle of June.

Evaluation

At the briefing sessions, the department chairmen and occupational coordinators had been informed that the College's Data Processing department would punch the data and provide printouts of the information derived from the individual record forms. These would be reviewed before submitting the individual forms to MSDE and feedback of significant data would be provided. Following, therefore, are several descriptive tables and charts with explanatory and analytical comments that have been produced by the Office of Institutional Research.

The analysis of the data was limited by the purpose for which the information was originally requested. It must be kept in mind that the items asked of the student were to satisfy the State's requirement to report to the U. S. Office of Education. Although these reporting requirements are extensive, they do not produce answers to all the questions of interest to College officials concerned with occupational education. No conclusions can be drawn, for example, on the relative success of the College's programs

in meeting either the educational or vocational goals of these students. The data collected allows limited comparisons between students in different occupational programs but no such comparisons can be made between students in occupational versus other programs offered by the College.

In analyzing the data it must also be realized that it was easier to complete the records for degree students than for non-degree students. It was possible to secure data (not necessarily for all items) on almost 100 percent of the former; the percentage of replies from the latter was, of necessity, much less. Even physically locating the students and arranging for filling in the forms presented difficulties so late in the semester particularly for evening students. The planned collection of data during the registration process, which is projected to begin this fall, should do much to overcome these difficulties.

Overview

The Data Processing department punched information from the 1583 individual student records and 82 individual teacher records. An analysis of duplicate Social Security numbers reduced these numbers to 1557 and 81, respectively.

Before submitting the forms to Data Processing, the Office of Institutional Research had attempted to verify and cross-check several items of pertinent information. As a result, only two of the student forms slipped by with non-valid USOE program codes (indicating the occupational program in which the student is enrolled). Information from these two

individual forms are included in Table I which gives a general profile of the occupational student but are not included in the remainder of the tables and charts which are analyzed by curriculums.

It must be understood that the information on the individual student record forms was provided by each student supplemented by instructors' and registrars' records. This information was not verified except to correct obvious inconsistencies such as difference in numbers written and marked for optical scanning, incomplete marking for scanning, and errors in school and program code numbers. Any conclusions drawn from this data, therefore, must be tentative and tempered by the subjective nature of the replies.

Where feasible, the numerical data is also presented graphically and by percentages. The latter have been rounded off to equal 100 percent.

DESCRIPTIVE DATA OF ALL STUDENTS BY CURRICULUM

The individual student record (see Appendix) produced descriptive data as well as indicators of educational and vocational goals. A majority of the descriptive data is shown in Table I.

The first column indicates the total number of reporting students in each of the 17 occupational programs approved by the Division of Vocational-Technical Education (DVE) of the Maryland State Department of Education. These figures are then distributed by campus; 1,080 (69.4%) at Rockville and 477 (30.6%) at Takoma Park. Only 5 of the occupational programs are offered at both campuses; 8 are offered only at Takoma Park and 4 solely at Rockville.

The remaining columns total less than 1,557 due to the number of "no responses". It must be remembered that the student was under no requirement to complete each item. The percentages are based on the total number of valid replies. For example, the 872 male students represent 56.2 percent of the 1,552 replying to item number 3, Sex. The number of "no responses" is indicated for each category.

MONTGOMERY COLLEGE

Table I

OFFICE OF INSTITUTIONAL RESEARCH

DESCRIPTIVE DATA OF ALL STUDENTS BY CURRICULUM

CURRICULUM	Total Resp.	Campus		Sex		Race			Married		Class			Load		Employed		
		R	TP	M	F	B	W	O	Yes	No	AA1	AA2	ND	FT	PT	FT	PT	Not
Advertising Art	126	126		64	62	4	118	4	17	109	57	64	3	113	13	5	28	37
Cartography, Community Planning & Geography	29	26	3	19	9	1	26	2	14	14	16	1	12	14	15	11	6	2
Computer Science	493	407	86	373	117	21	337	27	158	332	185	175	98	307	185	148	144	82
Dental Assisting	67		67		67	11	55	1	9	58	25	15	26	35	32	24	18	19
Dental Lab Technology	12		12	11	1	3	8	1	4	8	9	2	1	9	3	3	3	5
Electronic Technology	56		56	56		1	53	2	19	37	29	24	1	45	10	12	15	11
Engineering Aide	44	36	8	42	2	2	39	2	22	21	8	16	19	17	27	22	12	6
Fire Science	31	31		31			31		14	17	5	12	14	11	20	22	3	3
General Business	150	111	39	112	38	9	131	10	50	99	56	59	26	98	50	46	31	20
Medical Lab Technician	14		14	2	12	1	13		2	12	9	4	1	9	5	2	5	7
Mental Health Technician	32		32	2	30	1	29	2	14	18	12	16	4	18	13		6	13
Nursing	72		72		72	8	60	3	34	37	17	55		49	23		36	29
Police Science	75	75		66	9		74		10	65	37	31	6	61	14	9	32	14
Printing Technology	71	71		69	2	3	64	3	17	54	19	51	1	59	12	13	30	11
Radiation Technology	18		18	17	1		17	1	7	10	5	10	3	11	7	5	3	3
Radiologic Technology	3		3	2	1		3		1	2	2		1	2	1			3
Secretarial	262	195	67	5	256	14	234	12	33	228	108	87	52	178	83	41	90	85
Incorrect Program Code	2	2		1	1		2			2	1	1		2			2	
TOTAL	1557	1080	477	872	680	79	1294	70	425	1123	600	623	268	1038	513	363	464	350
Percent		69.4	30.6	56.2	43.8	5.5	89.7	4.8	27.5	72.5	40.2	41.8	18.0	66.9	33.1	30.9	39.4	29.7
Number Not responding					5		114		9			66		6			380	

PERSONAL CHARACTERISTICS OF ALL STUDENTS BY OCCUPATIONAL ORIENTATION

A personal profile of the vocational-technical student, grouped by occupational orientation, is shown in Table II. The data is presented in median and percentage rather than in total numbers.

The major areas of occupational orientation and the curriculums in each area are:

Major Area	Curriculum	Number of Students Reporting	
Health-Related	Dental Assisting	67	
	Dental Laboratory Technology	12	
	Medical Laboratory Technician	14	
	Mental Health Technician	32	
	Nursing	72	
	Radiologic Technology	3	200
Business-Related	Advertising Art	126	
	Computer Science & Technology	493	
	General Business/Management	150	
	Secretarial	262	1031
Public Service	Cartography, Community Planning and Geography	29	
	Fire Science	31	
	Police Science	75	135
Technological	Electronic Technology	56	
	Engineering Aide	44	
	Printing Technology	71	
	Radiation Technology	18	189

The median age of students oriented to public service is higher than the others; the median age of students oriented to business is lowest. Only in the health-related field is there a preponderance of female students. Conversely, male students are predominant majorities in public service and technological areas. Male and female students are more evenly divided within business and related programs.

As is to be expected, there is a smaller percentage of married students and those with minor dependents in business-related curriculums where the median age is the lowest.

More than a majority of students are employed, both full- and part-time, in all areas other than health-related. The largest percentage of employed students are those oriented toward public service; the second largest are those oriented toward technological occupations.

Table II

PERSONAL CHARACTERISTICS OF ALL STUDENTS

BY OCCUPATIONAL ORIENTATION

OCCUPATION	Median Age	% Male	% Female	% Married	%/w Minor Dependents	% Employed
Health--Related	22.5	8.5	91.5	32.0	26.5	48.5
Business--Related	20.3	53.9	46.1	25.0	14.7	51.7
Public Service	23.3	86.6	13.4	28.2	17.0	61.5
Technological	22.5	97.4	2.6	34.4	16.4	59.3

AGE ANALYSES OF EACH CURRICULUM

Table III consists of 17 separate analyses of the age groupings in approved occupational programs. The "curriculum" is listed as it appears in the College Catalog for 1969-1970. If the "USOE Program" name differs, it also is listed. The "USOE Code" is assigned by DVE to relate vocational-technical education to occupations and is related to occupational titles of the Department of Labor. The individual tables are arranged by these numerical codes rather than alphabetically.

The College's curriculums fall within the following major occupational codes:

07 - Health Occupations

14 - Office Occupations

16 - Technical Occupations

17 - Trade and Industrial Occupations

The numbers of students in each age group is listed for each curriculum, subgrouped by sex and campus. These are then distributed by percentage within each age group. The range and median is given for each curriculum and also by campus, where applicable.

The median age of students in the various curriculums is graphically described in Chart A immediately following the individual tables.

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-1

AGE ANALYSIS

Curriculum: Dental Assisting

USOE Program: Dental Assisting

USOE Code: 07 01 01

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	23		23			23	33.8
20 - 24	15		15			15	23.6
25 - 29	2		2			2	2.9
30 - 34	1		1			1	1.5
35 - 39							
40 - 44							
45 - 49							
50 & over							
No Response	26		26			26	38.2
TOTALS	67		67			67	100.0

Range 18 - 34

Median 19

4687

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-2

AGE ANALYSIS

Curriculum: Dental Laboratory Technology

USOE Program: Dental Laboratory Technology

USOE Code: 07 01 03

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under							
20 - 24	7	7				7	58.4
25 - 29	2	2				2	16.6
30 - 34							
35 - 39							
40 - 44							
45 - 49							
50 & over							
No Response	3	2	1			3	25.0
TOTALS	12	11	1			12	100.0

Range 20 - 28

Median 23

4688

9B

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-3

AGE ANALYSIS

Curriculum: Medical Laboratory Technician

USOE Program: Medical Laboratory Technology

USOE Code: 07 02 00

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	8	2	6			8	57.3
20 - 24	4		4			4	28.5
25 - 29							
30 - 34	1		1			1	7.1
35 - 39	1		1			1	7.1
40 - 44							
45 - 49							
50 & over							
TOTAL	14	2	12			14	100.0

Range 18 - 37

Median 19

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-4

AGE ANALYSIS

Curriculum: Mental Health Technician

USOE Program: Mental Health Technician

USOE Code: 07 08 01

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	8		8			8	25.0
20 - 24	6		6			6	18.8
25 - 29	5	1	4			5	15.6
30 - 34							
35 - 39	2		2			2	6.2
40 - 44	6		6			6	18.8
45 - 49	5	1	4			5	15.6
50 & over							
TOTAL	32	2	30			32	100.0

Range 18 - 48

Median 28

4690

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-5

AGE ANALYSIS

Curriculum: Secretarial

USOE Program: Secretaries

USOE Code: 14 07 02

Age	Total*	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	168	1	166	131	67.7	37	56.7
20 - 24	67	4	63	42	21.3	25	36.3
25 - 29	8		8	7	3.5	1	1.4
30 - 34	5		5	3	1.5	2	2.8
35 - 39	4		4	4	2.0		
40 - 44	5		5	5	2.5		
45 - 49	1		1			1	1.4
50 & over	2		2	2	1.0		
No Response	2		2	1	0.5	1	1.4
TOTAL	262	5	256	195	100.0	67	100.0
Range	17 - 53			17 - 53		18 - 46	
Median	19			19		19	

* Total includes 1 student marking age but not sex item.

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-6

AGE ANALYSIS

Curriculum: General Business/Business Management

USOE Program: Supervisor & Administrative Management Occupations

USOE Code: 14 03 99

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	39	18	21	31	27.3	8	20.4
20 - 24	59	53	6	47	42.9	12	30.7
25 - 29	28	24	4	16	14.5	12	30.7
30 - 34	6	5	1	4	3.6	2	5.2
35 - 39	3	3		3	2.7		
40 - 44	6	3	3	4	3.6	2	5.2
45 - 49	2	1	1	1	0.9	1	2.6
50 & over	2	1	1			2	5.2
No Response	5	4	1	5	4.5		
TOTAL	150	112	38	111	100.0	39	100.0
Range	17 - 56			17 - 45		18 - 56	
Median	21			21		24	

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-7

AGE ANALYSIS

Curriculum: Electronic Technology

USOE Program: Electronic Technology

USOE Code: 16 01 08

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	10	10				10	17.8
20 - 24	28	28				28	50.0
25 - 29	12	12				12	21.4
30 - 34	3	3				3	5.4
35 - 39	1	1				1	1.8
40 - 44	1	1				1	1.8
45 - 49							
50 & over	1	1				1	1.8
TOTAL	56	56				56	100.0

Range 18 - 65

Median 22

4693

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-8

AGE ANALYSIS

Curriculum: Radiation Technology

USOE Program: Nuclear Technology

USOE Code: 16 01 15

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	2	2				2	11.1
20 - 24	7	6	1			7	39.1
25 - 29	4	4				4	22.1
30 - 34							
35 - 39	4	4				4	22.1
40 - 44							
45 - 49							
50 & over	1	1				1	5.6
TOTAL	18	17	1			18	100.0

Range 19 - 52

Median 24

4694

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-9

AGE ANALYSIS

Curriculum: Computer Science & Technology

USOE Program: Scientific Data Processing

USOE Code: 16 01 17

Age	Total *	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	164	111	52	147	36.0	17	19.5
20 - 24	176	143	33	136	33.9	40	47.0
25 - 29	58	52	5	43	10.7	15	17.5
30 - 34	33	26	6	27	6.5	6	6.9
35 - 39	21	15	6	18	4.4	3	3.4
40 - 44	9	5	4	7	1.6	2	2.3
45 - 49	6	5	1	6	1.4		
50 & over	9	6	3	7	1.6	2	2.3
No Response	17	10	7	16	3.9	1	1.1
TOTAL	493	373	117	407	100.0	86	100.0
Range	17 - 69			17 - 69		18 - 56	
Median	21			21		22	

* Total includes 3 students marking age but not sex item

4695

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-10

AGE ANALYSIS

Curriculum: Engineering Aide

USOE Program: Engineering Aide

USOE Code: 16 01 99

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	2	2		2	5.2		
20 - 24	18	17	1	15	44.8	3	37.5
25 - 29	13	13		8	21.1	5	62.5
30 - 34	4	3	1	4	10.5		
35 - 39	1	1		1	2.7		
40 - 44	2	2		2	5.2		
45 - 49							
50 & over							
No Response	4	4		4	10.5		
TOTAL	44	42	2	36	100.0	8	100.0
Range	18 - 45			18 - 45		20 - 29	
Median	24			24		25	

4696

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-11

AGE ANALYSIS

Curriculum: Radiologic Technology

USOE Program: Radiologic Technology (X-Ray)

USOE Code: 16 03 04

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under							
20 - 24	3	2	1			3	100.0
25 - 29							
30 - 34							
35 - 39							
40 - 44							
45 - 49							
50 & over							
TOTAL	3	2	1			3	100.0

Range 22 - 23

Median 23

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-12

AGE ANALYSIS

Curriculum: Nursing

USOE Program: Nursing

USOE Code: 16 03 05

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	11		11			11	15.2
20 - 24	30		30			30	41.7
25 - 29	12		12			12	16.7
30 - 34	7		7			7	9.7
35 - 39	9		9			9	12.6
40 - 44	3		3			3	4.1
45 - 49							
50 & over							
TOTAL	72		72			72	100.0

Range 19 - 42

Median 23

4698

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Total III-13

Curriculum: Fire Science

AGE ANALYSIS

USOE Program: Fire & Fire Safety Technology

USOE Code: 16 06 02

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	4	4		4	13.0		
20 - 24	10	10		10	32.2		
25 - 29	12	12		12	38.7		
30 - 34	1	1		1	3.2		
35 - 39	2	2		2	6.4		
40 - 44							
45 - 49							
50 & over	2	2		2	6.5		
TOTAL	31	31		31	100.0		

Range 18 - 51

Median 26

4699

9M

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-14

AGE ANALYSIS

Curriculum: Police Science

USOE Program: Police Science Technology

USOE Code: 16 06 05

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	33	28	5	33	44.0		
20 - 24	36	32	4	36	48.2		
25 - 29							
30 - 34	4	4		4	5.2		
35 - 39	1	1		1	1.3		
40 - 44							
45 - 49							
50 & over							
No Response	1	1		1	1.3		
TOTAL	75	66	9	75	100.0		

Range 17 - 39

Median 20

4700

N6

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-15

AGE ANALYSIS

Curriculum: Cartography, Community Planning & Geography

USOE Program: Community Planning Technology Ed.

USOE Code: 16 06 99

Age	Total *	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	7	4	3	7	26.9		
20 - 24	9	6	2	7	26.9	2	66.7
25 - 29	2	1	1	1	3.8	1	33.3
30 - 34	3	3		3	11.6		
35 - 39	2	2		2	7.7		
40 - 44	3	2	1	3	11.6		
45 - 49	1		1	1	3.8		
50 & over	2	1	1	2	7.7		
TOTAL	29	19	9	26	100.0	3	100.0
Range	18 - 53			18 - 53		23 - 25	
Median	24			24		23	

* Total includes 1 student marking age but not sex item

4701

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Title III-16

AGE ANALYSIS

Curriculum: Advertising Art

USOE Program: Commercial Art Occupations

USOE Code: 17 07 00

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	47	21	26	47	37.3		
20 - 24	65	38	27	65	51.5		
25 - 29	5	2	3	5	4.0		
30 - 34	1	1		1	0.8		
35 - 39	3		3	3	2.4		
40 - 44	1		1	1	0.8		
45 - 49							
50 & over							
No Response	4	2	2	4	3.2		
TOTAL	126	64	62	126	100.0		

Range 18 - 41

Median 20

4702

9P

MONTGOMERY COLLEGE

OFFICE OF INSTITUTIONAL RESEARCH

Table III-17

AGE ANALYSIS

Curriculum: Printing Technology

USOE Program: Graphic Art Occupations

USOE Code: 17 19 00

Age	Total Reporting	Male	Female	Rockville No.	Rockville %	Takoma Park No.	Takoma Park %
19 & under	21	20	1	21	30.4		
20 - 24	36	36		36	50.0		
25 - 29	5	5		5	7.0		
30 - 34	3	2	1	3	4.2		
35 - 39	3	3		3	4.2		
40 - 44	2	2		2	2.8		
45 - 49							
50 & over							
No Response	1	1		1	1.4		
TOTAL	71	69	2	71	100.0		

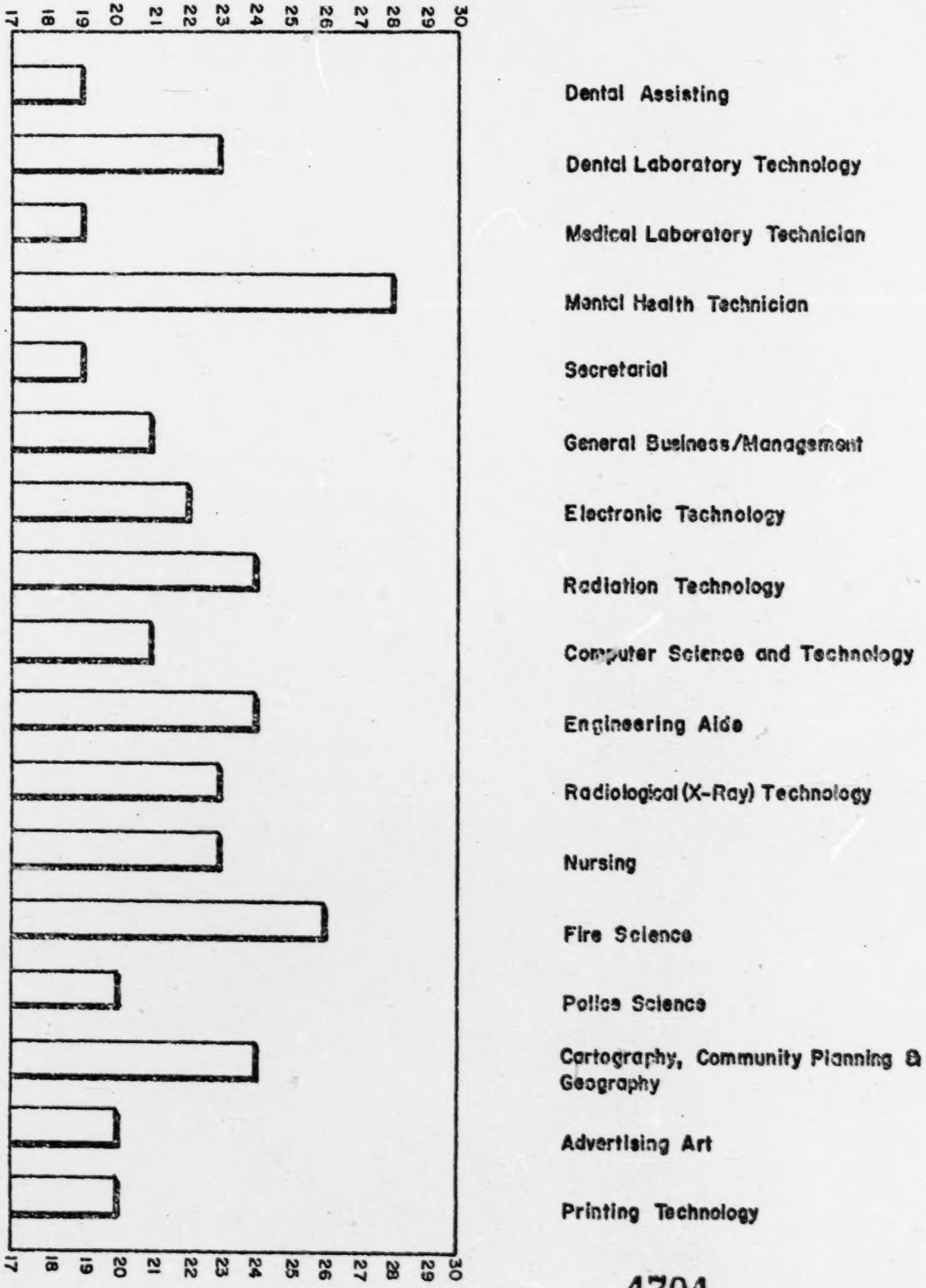
Range 18 - 42

Median 20

4703

CHART A

MEDIAN AGE BY CURRICULUM



RANGE AND MEDIAN AGE BY CLASS AND SEX

There were 1,424 students who reported their age, class, and sex. It was possible, therefore, to analyze age distributions by those factors, as shown in Table IV.

The figures in this table, as well as in the other tables in which age is a factor, attest to the maturity of a large number of students pursuing occupational programs at the College.

No striking differences are shown in age range as between male and female students or as between degree and non-degree students.

There are, however, differences in the median age. The female median falls within a lower age group than the male median except for students classified in the second year of an associate degree program.

Table IV

RANGE AND MEDIAN AGE

BY CLASS AND SEX

Age	Total Reporting AA1	Total Reporting AA2	Total Reporting ND	Male AA1	Male AA2	Male ND	Female AA1	Female AA2	Female ND
19 & under	331	152	51	145	57	19	186	95	32
20 - 24	173	313	64	122	207	36	51	106	28
25 - 29	38	63	59	29	50	46	9	13	13
30 - 34	13	22	26	10	13	20	3	9	6
35 - 39	8	26	19	4	13	13	4	13	6
40 - 44	5	16	12	3	5	5	2	11	7
45 - 49	3	5	7	2	2	4	1	3	3
50 & over	2	5	11	2	3	7		2	4
TOTAL	573	602	249	317	350	150	256	252	99

ANALYSIS

		Range	Median
Male	AA-1	17 - 65	20 - 24
	AA-2	18 - 52	20 - 24
	ND	17 - 61	25 - 29
Female	AA-1	17 - 47	19 & under
	AA-2	17 - 69	20 - 24
	ND	17 - 53	20 - 24

4706

ENROLLMENT IN OCCUPATIONAL CURRICULUMS BY SEX AND CLASS

The enrollment figures by sex and class shown in Table V were derived to comply with a reporting form of DVE. The two students reporting incorrect USOE program codes are not included.

Of the 871 male students reporting, 325 indicated their status as Associate Degree, 1st Year; 363 indicated Associate Degree, 2nd Year; and 151 as Non-Degree. The remaining 32 male students failed to indicate their postsecondary status (item 14 B).

Of the 679 female students reporting, 273 indicated their status as Associate Degree, 1st Year; 257 indicated Associate Degree, 2nd Year; and 116 as Non-Degree. The remaining 33 female students failed to indicate their postsecondary status. Additionally, 5 students indicated postsecondary status but failed to mark item number 3, Sex.

The postsecondary status of the 1,555 reporting students, both male and female, is summarized as:

Associate Degree 1st Year	599
Associate Degree 2nd Year	622
Non-Degree	268
No Response	66

The Sex/Class data is shown in Table V by curriculum. Chart B depicts this data for all programs.

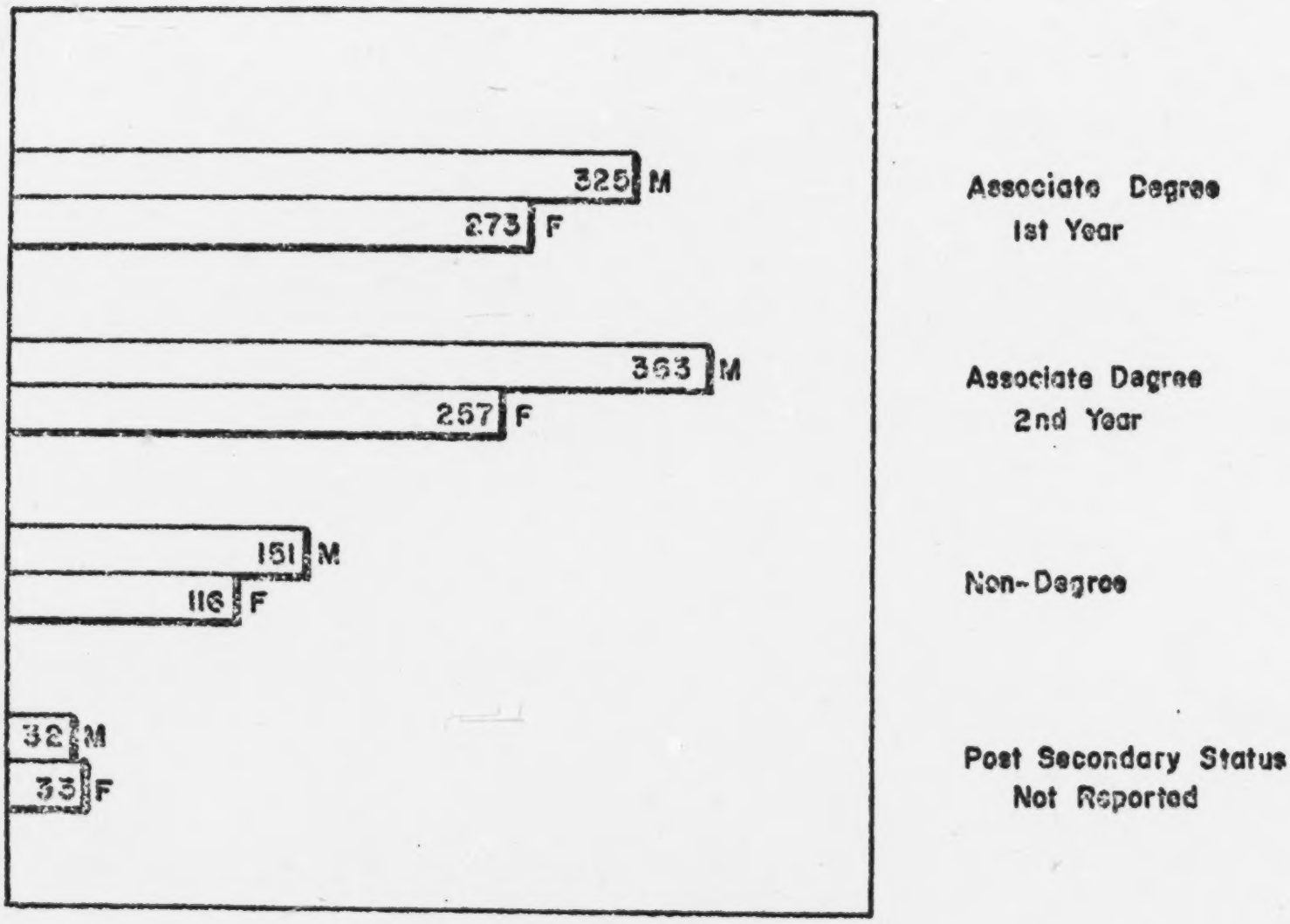
Table V

ENROLLMENT IN OCCUPATIONAL CURRICULUMS BY SEX AND CLASS

Curriculum	AA Degree Students				Non-Degree Students		Incomplete Responses				
	First Year		Second Year				Sex-No Class		Class-No Sex		
	M	F	M	F	Male	Female	M	F	AA[1]	AA[2]	ND
Advertising Art	28	29	35	29	1	2		2			
Cartography, Community Planning & Geography	9	7			10	2				1	
Computer Science	137	48	138	36	77	20	21	13		1	2
Dental Assisting		25		15		26		1			
Dental Lab. Technology	8	1	2		1						
Electronic Technology	29		24		1		2				
Engineering Aide	8		16		18	1		1			
Fire Science	5		12		14						
General Business	37	19	49	10	18	8	8	1			
Medical Lab. Technician	2	7		4		1					
Mental Health Technician	1	11	1	15		4					
Nursing		17		55							
Police Science	33	4	27	4	5	1	1				
Printing Technology	19		49	2	1						
Radiation Technology	5		9	1	3						
Radiologic Technology	1	1			1						
Secretarial	3	104	1	86	1	51		15	1		
TOTAL	325	273	363	257	151	116	32	33	1	2	2

CHART B

ENROLLMENT BY SEX & CLASS
ALL CURRICULUMS



STUDENTS WITH MINOR DEPENDENTS BY CURRICULUM AND CAMPUS

Both State and Federal authorities are interested in the number of persons pursuing vocational-technical education who have minors dependent upon them for support. Item number 6 on the student record was designed to elicit this information. To clarify this question, the special instructions distributed to Montgomery College students (appended) asked, "If there are children dependent upon you, mark 'yes'".

For each curriculum, Table VI shows the total number of students, totals replying "yes" or "no", and the number not responding. These replies are also given by campus.

The columns are totaled and percentages figured college-wide and for each campus.

On a college-wide basis, 16.6 percent of respondents replied affirmatively to item number 6. The Rockville percentage was 14.1. The Takoma Park percentage was 21.8 reflecting the larger number of married students and older students at that campus. A large percentage (22.8) did not respond to this item.

Table VI

STUDENTS WITH MINOR DEPENDENTS BY CURRICULUM AND CAMPUS

Curriculum	College Wide				Rockville				Takoma Park			
	Total Reporting	Yes	No	No Response	Total Reporting	Yes	No	No Response	Total Reporting	Yes	No	No Response
Advertising Art	126	6	69	51	126	6	69	51				
Cartography, Community Planning & Geography	29	7	11	11	26	6	9	11	3	1	2	
Computer Science	493	95	286	112	407	76	245	86	86	19	41	26
Dental Assisting	67	12	51	4					67	12	51	4
Dental Lab. Technology	12	4	7	1					12	4	7	1
Electronic Technology	56	10	31	15					56	10	31	15
Engineering Aide	44	13	29	2	36	10	24	2	8	3	5	
Fire Science	31	11	16	4	31	11	16	4				
General Business	150	30	72	48	111	16	56	39	39	14	16	9
Medical Lab. Technician	14	2	12						14	2	12	
Mental Health Technician	32	14	8	10					32	14	8	10
Nursing	72	21	43	8					72	21	43	8
Police Science	75	5	49	21	75	5	49	21				
Printing Technology	71	5	51	15	71	5	51	15				
Radiation Technology	18	3	8	7					18	3	8	7
Radiologic Technology	3		3						3		3	
Secretarial	262	21	196	45	195	19	148	28	67	2	48	17
TOTAL	1555	259	942	354	1078	154	667	257	477	105	275	97
Percent		16.6	60.6	22.8		14.1	62.0	23.9		21.8	58.9	19.3

HIGHEST EDUCATIONAL LEVEL COMPLETED BY CURRICULUM

Item number 7 asked the student to record the highest educational level he had completed. The special instructions prepared for Montgomery College students defined "attended college" to mean that the student had already earned "any college credits at any institution of higher education".

The large number of students who marked "attended college", however, seems to indicate that this item was interpreted to mean present attendance at college rather than credits already earned. If so, many who marked "attended college" should have marked "completed high school".

It is interesting to note that 68 students indicated having earned college degrees; 46 of them holding the bachelor degree. Over half of these were in the Computer Science and Technology program.

Only 20 students indicated a completed level of education less than high school graduation, and only 14 failed to make any response. It would seem that those questions asked by DVE that are customarily asked of a student elicit a larger number of responses than do questions not asked on other college forms. Thus questions concerning age, sex, marital status, and education are more readily answered than are those relating to minor dependents, employment, and aspirations.

Table VII

HIGHEST EDUCATION LEVEL COMPLETED BY CURRICULUM

Curriculum	Total	Less than H.S. Grad.	H.S. Grad.	Some Post-Secondary	Degrees A.A.	Degrees Bach.	Degrees Advanced	No Response
Advertising Art	126	6	65	53	1	1		
Cartography, Community Planning & Geography	29	1	8	16		2		2
Computer Science	493	4	103	346	6	27	4	3
Dental Assisting	67		3	61				3
Dental Lab. Technology	12		1	10				1
Electronic Technology	56	2	7	47				
Engineering Aide	44		4	37		3		
Fire Science	31		5	25		1		
General Business	150		47	93	3	5	1	1
Medical Lab. Technician	14		2	12				
Mental Health Technician	32		7	21	2	2		
Nursing	72		2	67	1	2		
Police Science	75	1	13	60	1			
Printing Technology	71	6	17	46	1			1
Radiation Technology	18			18				
Radiologic Technology	3		1	2				
Secretarial	262		54	200	2	3		3
TOTAL	1555	20	339	1114	17	46	5	14
Percent		1.3	21.8	71.6		4.4		0.9

HIGHEST EDUCATIONAL LEVEL COMPLETED BY CLASS AND SEX

The inquiry concerning highest level of education completed also lent itself to a distribution by class and sex, as shown in Table VIII. There were 1,461 students who responded to all three items. The same caveat as to definition of terms applies as explained in the discussion of the previous table.

In each category, the largest number marked "attended college" under item 7. It is interesting to note, however, the distribution of those students who marked having completed a degree program. Of these 57, 34 were male and 23 were female. Over half, or 32, classified themselves as non-degree students; 19 male and 13 female.

Of those holding degrees, 16 (9 male and 7 female) have completed an associate degree; 36 (22 male and 14 female) have a bachelor degree; and 5 (3 male and 2 female) have an advanced degree.

This table shows the diverse educational preparation of students in occupational programs and the need for additional preparation for today's world of work.

Table VIII

HIGHEST EDUCATIONAL LEVEL COMPLETED BY CLASS AND SEX

	Total Reporting			Male			Female		
	AA[1]	AA[2]	ND	AA[1]	AA[2]	ND	AA[1]	AA[2]	ND
Less than High School Graduate	9	10	2	6	7	2	3	3	0
High School Graduate	253	45	27	138	20	15	115	25	12
Some College	324	544	190	175	324	100	149	220	90
Degrees:									
A.A.	3	10	3	2	5	2	1	5	1
Bachelors	3	8	25	2	5	15	1	3	10
Advanced	0	1	4	0	1	2	0	0	2
TOTAL	592	618	251	323	362	136	269	256	115

EMPLOYMENT STATUS BY CURRICULUM

A significant number of career students, 825, are employed. This is more than half (53.1%) of the students who completed an individual record. Of those employed, 363 (44%) have full-time jobs and 462 (56%) have part-time jobs.

In addition, the student was asked to indicate whether or not the employment was related to his studies. It is interesting to note that a far greater percentage of the full-time jobs (71.6%) were so related than were the part-time ones (28.8%).

There are variations between the occupational programs that are noteworthy. For example, the Fire Science curriculum has the highest percentage of students employed and most of them are full time in a related occupation. It can be assumed, therefore, that this curriculum attracts mainly in-service employees who seek upgrading. Dental Assisting has the next highest percentage of employed students and of those employed full-time, most are similarly in a related job. Other curriculums with higher-than-average employed students are Community Planning, Computer Science, Engineering Aide, and Police Science.

Table IX

EMPLOYMENT STATUS BY CURRICULUM

Curriculum	Total Responding	Employed No.	Employed %	Full-Time Number	Related No.	Related %	Non-Related No.	Non-Related %	Part-Time Number	Related No.	Related %	Non-Related No.	Non-Related %
Advertising Art	126	33	26.2	5	3	60.0	2	40.0	28	7	25.0	21	75.0
Cartography, Community Planning & Geography	29	17	58.6	11	10	90.9	1	09.1	6			6	100.0
Computer Science	493	292	59.2	148	90	60.8	58	39.2	144	21	14.6	123	85.4
Dental Assisting	67	42	62.7	24	22	91.7	2	08.3	18	10	55.6	8	44.4
Dental Lab. Technician	12	6	50.0	3	1	33.3	2	66.7	3	1	33.3	2	66.7
Electronic Technology	56	27	48.2	12	6	50.0	6	50.0	15	2	13.3	13	86.7
Engineering Aide	44	34	77.2	22	18	81.8	4	18.2	12	4	33.3	8	66.7
Fire Science	31	25	80.7	22	20	90.9	2	09.1	3			3	100.0
General Business	150	77	51.3	46	33	71.7	13	28.3	31	9	29.0	22	71.0
Medical Lab. Technician	14	7	50.0	2	2	100.0			5	2	40.0	3	60.0
Mental Health Technician	32	6	18.8						6	1	16.7	5	83.3
Nursing	72	36	50.0						36	24	66.7	12	33.3
Police Science	75	41	54.7	9	8	88.9	1	11.1	32			32	100.0
Printing Technology	71	43	60.6	13	11	84.6	2	15.4	30	11	36.7	19	63.3
Radiation Technology	18	8	44.4	5	2	40.0	3	60.0	3	2	66.7	1	33.3
Radiologic Technology	3												
Secretarial	262	131	50.0	41	34	82.9	7	17.1	90	39	43.3	51	56.7
TOTAL	1555	825	53.1	363	260	71.6	103	28.4	462	133	28.8	329	71.2

EMPLOYMENT STATUS BY CLASS AND SEX

The employment status of the career student was also analyzed by class and sex. A total of 1,097 students provided data on which Table X is based.

Of these students, 319 (29.1%) are employed full time and 448 (40.8%) have part-time jobs. Of the 593 male students included in this table, 473 work while attending College. A total of 225 (47.6%) work full time and 248 (52.4%) work part time. Female students statistics are: 294 out of 504 are employed; 94 (32.0%) work full time and 200 (68.0%) work part time.

A total of 852 of these students classify themselves as degree students. Of these, 41.3 percent of male students and 24.1 percent of female students list themselves as employed. Of the 245 who are non-degree students, 49.4 percent of the males and 36.3 percent of the females are employed.

A comparison of degree and non-degree students shows that 65.4 percent of the former and 85.7 percent of the latter are employed, full and part time.

Table X

EMPLOYMENT STATUS BY CLASS AND SEX

	Total Reporting			Male			Female		
	AA1	AA2	ND	AA1	AA2	ND	AA1	AA2	ND
Full-Time	69	82	168	53	73	99	16	9	69
Part-Time	181	225	42	101	125	22	80	100	20
Not Employed	137	158	35	47	62	11	90	96	24
TOTAL	387	465	245	201	260	132	186	205	113

EDUCATIONAL AND VOCATIONAL EXPECTATIONS BY CURRICULUM

The Vocational Amendments of 1968 require correlating vocational-technical education to manpower requirements and employment opportunities. Items 12 and 13 of the student record, therefore, ask the student about his educational and vocational expectations.

Table XI relates the student answers to items 12 and 13 to those given to item 14 B postsecondary status (see Table III).

Of the 1,489 students who indicated their postsecondary status, 611 or 39.3 percent stated they expect to complete the program in which they are enrolled this year; 895 or 57.6 percent intend to continue; and only 49 or 3.1 percent did not respond.

In contrast to the 611 students who expect to complete their educational program, only 426 said they would seek employment this year in a job related to their course. It might be assumed, therefore, that the other students are already employed in a related area and attending the College to upgrade their occupational skills. That 393 students are employed in a course-related job (see Table VI) confirms this assumption.

Fewer students responded "yes" to the question, "Will you be looking for employment this year in a job related to your course?" than responded "no". Affirmative replies were recorded from 426 (27.4%), negative replies from 734 (47.2%). A negative reply can be interpreted in two ways: either the student will not be looking for a job or looking in an unrelated area. The large number who did not respond at all,

395 (25.4%), indicates many students are uncertain about their employment expectations for this year. A similar uncertainty might account for the many who replied "no" to this question.

Table XI

EDUCATIONAL AND VOCATIONAL EXPECTATIONS BY CURRICULUM

Curriculum	Total Responding	Present Post-Sec Status				Expect to Complete Program This Year			Look for Related Job This Year		
		AA[1]	AA[2]	ND	NR	Yes	No	NR	Yes	No	NR
Advertising Art	126	57	64	3	2	54	67	5	35	37	54
Cartography, Community Planning & Geography	29	16	1	12			27	2	4	15	10
Computer Science	493	185	175	98	35	189	289	15	107	264	122
Dental Assisting	67	25	15	26	1	21	40	6	13	44	10
Dental Lab. Technician	12	9	2	1		2	9	1	1	7	4
Electronic Technology	56	29	24	1	2	21	35		22	18	16
Engineering Aide	44	8	16	19	1	19	21	4	10	29	5
Fire Science	31	5	12	14		11	16	4	4	23	4
General Business	150	56	59	26	9	61	86	3	17	77	56
Medical Lab. Technician	14	9	4	1		6	7	1	10	4	
Mental Health Technician	32	12	16	4		16	16		6	16	10
Nursing	72	17	55			27	43	2	32	33	7
Police Science	75	37	31	6	1	23	51	1	18	36	21
Printing Technology	71	19	51	1		40	30	1	27	26	18
Radiation Technology	18	5	10	3		11	7		6	5	7
Radiologic Technology	3	2		1		1	2		1	2	
Secretarial	262	108	87	52	15	109	149	4	113	98	51
TOTAL	1555	599	622	268	66	611	895	49	426	734	395

EMPLOYMENT PROFILE BY OCCUPATIONAL ORIENTATION AND CLASS

Although the record form provided by the Maryland State Department of Education was designed to collect data in discrete areas, the relationship between several of these areas produces an employment profile of students pursuing career education at the College.

Table XII relates occupational orientation, class, employment status, and educational and job expectations.

In all occupational areas, it is shown that more degree students are employed part time than full time but the opposite is true of non-degree students. Most of the latter who work do so on a full-time basis. This probably accounts for the small percentage of non-degree, as compared to degree, students who expect to look for a related job this year.

It is not surprising that few of the first year degree students expect to complete the program in which they are enrolled this year. However, a large number of second year degree students indicate that they do not expect to complete the program this year. It may be assumed, since about half of these students are employed, they are part time at the College.

Less than half of the non-degree students expect to complete the program this year in all occupational areas. This would seem to indicate that the career preparation undertaken by these students requires education over a span of time.

Table XII

EMPLOYMENT PROFILE BY OCCUPATIONAL ORIENTATION AND CLASS

	Total Indicating Class	Employed Full Time	Employed Part Time	Expect to Complete This Year	Look for Related Job this Year
HEALTH					
AA-1	74	4	24	8	15
AA-2	92	1	43	51	44
ND	33	24	1	14	4
	199	29	68	73	63
BUSINESS					
AA-1	406	42	120	94	94
AA-2	385	54	126	219	114
ND	179	116	34	75	44
	970	212	280	388	252
PUBLIC SERVICE					
AA1	58	9	21	6	7
AA2	44	7	17	15	14
ND	32	26	3	12	5
	134	42	41	33	26
TECHNOLOGICAL					
AA1	61	13	15	10	18
AA2	101	21	40	68	41
ND	24	17	5	10	5
	186	51	60	88	64
ALL STUDENTS					
AA1	599	68	180	118	134
AA2	622	83	226	353	213
ND	268	183	43	111	58
	1489	334	449	582	405

JOB APPLICANTS IN MAJOR OCCUPATIONAL AREAS BY SEX AND CLASS

The data compiled from item 13, "Will you be looking for employment this year in a job related to your course?" could form a basis for predicting job applicants. By relating the answers to this item with the sex, class, and occupational orientation of the students, some indication of available manpower could be gleaned.

Table XIII, therefore, lists the numbers of students in each of the four major occupational areas who indicated they would be job-seekers. These are grouped by sex and class. Chart C depicts this same information.

It can be seen that in the health-related occupations, most of the job applicants would be female whereas in the public service and technological areas, almost all would be male.

In all but one group--males seeking jobs in health-related occupations--the largest number of potential job applicants are those classified as second year degree students.

Table XIII

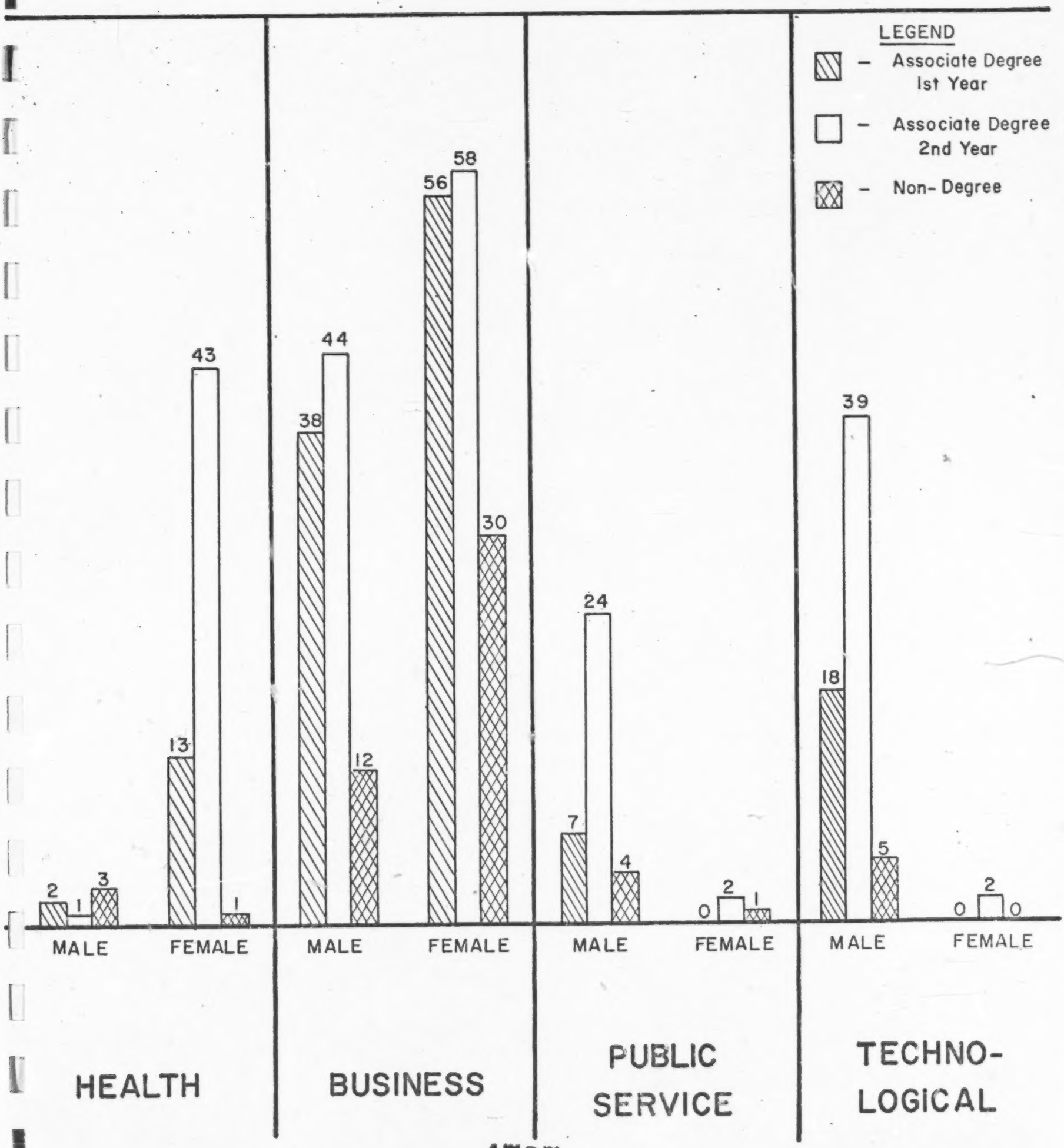
JOB APPLICANTS IN MAJOR OCCUPATIONAL AREAS

BY SEX AND CLASS

	Total Reporting			Male			Female		
	AA[1]	AA[2]	ND	AA[1]	AA[2]	ND	AA[1]	AA[2]	ND
HEALTH	15	44	4	2	1	3	13	43	1
BUSINESS	94	102	42	38	44	12	56	58	30
PUBLIC SERVICE	7	26	5	7	24	4	0	2	1
TECHNOLOGICAL	18	41	5	18	39	5	0	2	0
TOTAL	134	213	56	65	108	24	69	105	32

CHART C

JOB APPLICANTS IN MAJOR OCCUPATIONAL AREAS BY SEX AND CLASS



FACULTY DATA, DESCRIPTION AND ANALYSIS

Each faculty member teaching in the approved vocational-technical curriculums was also required to complete an individual record. In addition to recording personal characteristics such as age, sex, and race, information was requested concerning employment status. This information is analyzed in the following two tables.

The first table (Table XIV) records, by curriculum, personal characteristics of the 81 faculty members reporting and their teaching status in the program. As indicated in the last column, they are evenly divided between full-time and part-time in total, but not within the individual programs.

Table XV analyzes the employment status of the part-time faculty. Of these, 5 have other teaching assignments and are full time at the College although only part time in the occupational curriculum. Three part-time faculty members are not otherwise employed and one did not respond. Over three-fourths of the part-time faculty have other employment and all but one are working in an area related to their teaching assignment.

Table XIV

DESCRIPTIVE DATA OF FACULTY BY CURRICULUM

Curriculum	Total Responding	Campus		Sex		Race			Status	
		R	TP	M	F	B	W	O	Full-Time	Part-Time
Advertising Art	6	6		6			6		3	3
Cartography, Community Planning & Geography	3	3		3			3			3
Computer Science	20	14	6	14	6	1	19		6	14
Dental Assisting	2		2		2		2		1	1
Dental Lab. Technician	2		2	1	1	1	1		2	
Electronic Technology	5		5	5			5		2	3
Engineering Aide	5	4	1	5			5		2	3
Fire Science	2	2		2			2			2
General Business	4	2	2	4			4		3	1
Medical Lab. Technician	2		2	1	1		2		1	1
Mental Health Technician	5		5	3	2		5		1	4
Nursing	8		8		8		8		8	
Police Science	3	3		3			3		1	2
Printing Technology	2	2		2			2		2	
Radiation Technology	1		1	1			1		1	
Radiologic Technology	1		1	1		1			1	
Secretarial	10	6	4	1	9		9	1	6	4
TOTAL	81	42	39	52	29	3	77	1	40	41

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Table XV

ANALYSIS OF EMPLOYMENT STATUS OF PART-TIME FACULTY

Curriculum	No. Part-Time Faculty	No. Teaching Other-MC	No. Not Otherwise Employed	No Response	No. Employed Related	No. Employed Not Related
Advertising Art	3				3	
Cartography, Community Planning & Geography	3	1			2	
Computer Science	14	1	1		12	
Dental Assisting	1				1	
Dental Lab Technology						
Electronic Technology	3				3	
Engineering Aide	3		1		2	
Fire Science	2				2	
General Business	1				1	
Medical Lab Technician	1					1
Mental Health Technician	4	3			1	
Nursing						
Police Science	2				2	
Printing Technology						
Radiation Science						
Radiologic Technology						
Secretarial	4		1	1	2	
TOTAL	41	5	3	1	31	1
		9			32	

APPENDIX

Table of Contents

Vocational Education Student Record

Maryland State Department of Education

Directions for Completing Vocational Education Student Record

Office of Institutional Research
Montgomery College

Vocational Education Teacher Record

Maryland State Department of Education

Maryland State Department of Education
VOCATIONAL EDUCATION STUDENT RECORD

1. Print your name
LAST FIRST

2. Print the name of your school

3. Sex
MALE
FEMALE

4. In which of the following groups do you consider yourself?
BLACK
WHITE
OTHER

5. Are you married?
YES
NO

6. Do you have any children?
YES
NO

7. Mark the highest educational level you have completed.
ATTENDED ELEMENTARY
COMPLETED ELEMENTARY
ATTENDED HIGH SCHOOL
COMPLETED HIGH SCHOOL
ATTENDED COLLEGE
COMPLETED ASSOCIATE DEGREE
COMPLETED BACHELOR DEGREE
ADVANCED DEGREE

8. Are you enrolled in a private school?
YES
NO

9. Are you a full time student?
YES
NO

10. Which of the following represents your present employment status?
EMPLOYED FULL TIME
EMPLOYED PART TIME
NOT EMPLOYED

11. If you are presently employed, is your job related to the course in which you are enrolled?
YES
NO

12. Do you expect to complete the program in which you are enrolled this year?
YES
NO

13. Will you be looking for employment this year in a job related to your course?
YES
NO

14. SELECT ONE IN THE GROUP (A,B, or C) WHICH APPLIES TO YOU.

A. Secondary Status

Write and mark your grade in the box at the right. If you are an ungraded student write and mark "99" for your grade.

B. Post Secondary Status
ASSOCIATE DEGREE 1st YEAR
ASSOCIATE DEGREE 2nd YEAR
NON-DEGREE

C. Adult Status

Mark the major reason for taking this course.
TO PREPARE FOR A JOB
TO HELP ON YOUR PRESENT JOB
AS PART OF AN APPRENTICESHIP PROGRAM
OTHER

15. Using the Office of Education list of instructional codes, select the code which identifies the program in which you are enrolled. Write and mark the code in the box at the right.

16. Print the program name.

17. Is this a work experience program?
YES
NO

18. If you are a post secondary or adult level student and you were previously enrolled in a vocational program at the secondary level, write and mark the secondary level program code in the box at the right.

19. Print the program name.

20. Was this a work experience program?
YES
NO

21. Write and mark your age in the box at the right.

22. Write and mark your Social Security Number in the box at the right. If you do not have a Social Security Number write and enter all zeros.

23. Write and mark your school number in the box at the right.

24. Write and mark your zip code in the box at the right.

THIS SECTION IS TO BE COMPLETED BY SCHOOL PERSONNEL

25. A B C D E F G H I J K L

26. A B C D

4732

DC 6494

OPTICAL SCANNING FORMS by OPTICAL SCANNING CORPORATION

MONTGOMERY COLLEGE
Takoma Park, Maryland 20012
Rockville, Maryland 20850

Office of Institutional Research

Directions for Completing Vocational Education Student Record

Item	Instruction
1	Self-explanatory (print last name first).
2	After printing "Montgomery Community College" to designate campus write "TP" or "R".
3 - 4	Mark one appropriate response box for each item.
5	If you are a head of household, mark "yes".
6	If there are children dependent upon you, mark "yes".
7	Mark only one level, the highest you have completed as of today. (If you have already earned any college credits at any institution of higher education, mark "attended college"; if you have not, mark either "completed high school" or "attended high school", whichever is applicable
8	Mark "no".
9	Mark "yes" if you are carrying 12 or more semester hours. Mark "no" if you are carrying less.
10	34 hours or less is considered part-time employment.
11 - 13	Mark the appropriate response box. (The "Course" or "Program" referred to is the vocational-technical course or program.)
14 B (only)	Do not mark either 14 A or 14 C. In 14 B, mark associate degree, 2nd year, if you have earned academic credit for 28 or more semester hours. Non-degree is comparable to special student.
15 - 17	This information will be furnished you by your instructor.
18 - 20	If you were so enrolled, print the program name in 19 and answer item 20. Your instructor will code item 18.
21 - 22	Write and mark the appropriate response box.
23	The College number is 150057.
24	Mark the appropriate response box with your home address zip code.
25 - 26	Leave blank.

JFF:kh
May 1970

BEST AVAILABLE COPY

Maryland State Department of Education

VOCATIONAL EDUCATION TEACHER RECORD

1. Print your name.

LAST FIRST

2. Write and mark your age.

3. Write and mark your Social Security Number.

8. A, B, C, and optional D.

FOR EACH SCHOOL IN WHICH YOU CURRENTLY TEACH, COMPLETE SECTION A, B, AND C. IF THE PROGRAM RECORDED IN SECTION B IS A SPECIAL PROGRAM, MARK ALL TERMS IN SECTION D WHICH APPLY TO THAT PROGRAM. REPEAT THE ABOVE PROCEDURE FOR EACH ADDITIONAL PROGRAM THAT YOU CURRENTLY TEACH.

SCHOOL NUMBER | PROGRAM CODE | EDUCATIONAL LEVELS OF STUDENTS | SPECIAL PROGRAM DESCRIPTION

EDUCATIONAL LEVELS OF STUDENTS: ELEMENTARY, SECONDARY, POST SECONDARY ASSOCIATE DEGREE, POST SECONDARY NON DEGREE, ADULT PREPARATORY, ADULT SUPPLEMENTARY, ADULT APPRENTICESHIP, ADULT OTHER

SPECIAL PROGRAM DESCRIPTION: RELATED REMEDIAL INSTRUCTION, COOPERATIVE WORK EXPERIENCE, EXEMPLARY, PILOT OR DEMONSTRATIVE, SPECIAL PROGRAM FOR: DISADVANTAGED STUDENTS, HANDICAPPED STUDENTS, PRE-VOCATIONAL INSTRUCTION: GROUP GUIDANCE, OCCUPATIONAL ORIENTATION, PRE-POST SECONDARY INSTRUCTION: RELATED SUBJECT, OCCUPATIONAL PREPARATION

4. Sex

MALE
FEMALE

5. In which of the following groups do you consider yourself?

BLACK
WHITE
OTHER

6. What is your employment status at all the levels at which you currently teach?

FULL TIME PART TIME

ELEMENTARY
SECONDARY
POST SECONDARY
ADULT

7. If you teach part time only, are you employed in a job related to the program you teach?

RELATED EMPLOYMENT
NON-RELATED EMPLOYMENT
NOT OTHERWISE EMPLOYED

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OC 6522

VT 012 340
An Instructional Program for the Mentally, Physically, and Socially Handicapped Individuals in Genesee County.

Genesee Area Skill Center, Flint, Mich.
Michigan State Dept. of Education, Lansing.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Sep70 78p.

DESCRIPTORS - *VOCATIONAL EDUCATION; *PROGRAM PLANNING; PROGRAM DEVELOPMENT; *SPECIAL EDUCATION; *HANDICAPPED STUDENTS; *DECISION MAKING SKILLS; SECONDARY GRADES; PROGRAM EVALUATION; EDUCATIONAL PROGRAMS; MENTALLY HANDICAPPED; EMOTIONALLY DISTURBED; PUPIL PERSONNEL SERVICES; PHYSICALLY HANDICAPPED

ABSTRACT - This 3-phase project was developed to aid physically, mentally, and socially handicapped persons between the ages of 15-19 in Grades 9-12 to make decisions needed to complete a training program and to enter the world of work. Phase 1, which began in February 1970 and continued through a summer session, involved instruction and exploration in several occupational areas, while Phases 2 and 3, which will continue the program through 1971-72, are designed to provide intensive training in one occupational area. In addition to the training program, the project offers counseling, placement, and other pupil personnel services. During Phase 1, a total of 75 students were enrolled, and 52 successfully completed the course. Instructional topics for Phase 1 included automobile mechanics, automobile body repair, welding, small engine repair, beauty culture, business occupations, and plant maintenance. During Phase 2, additional course offerings will include: graphic arts, landscaping, and health occupations. Course outlines are provided for these and several other instructional areas. (SB)

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Genesee Area Skill Center

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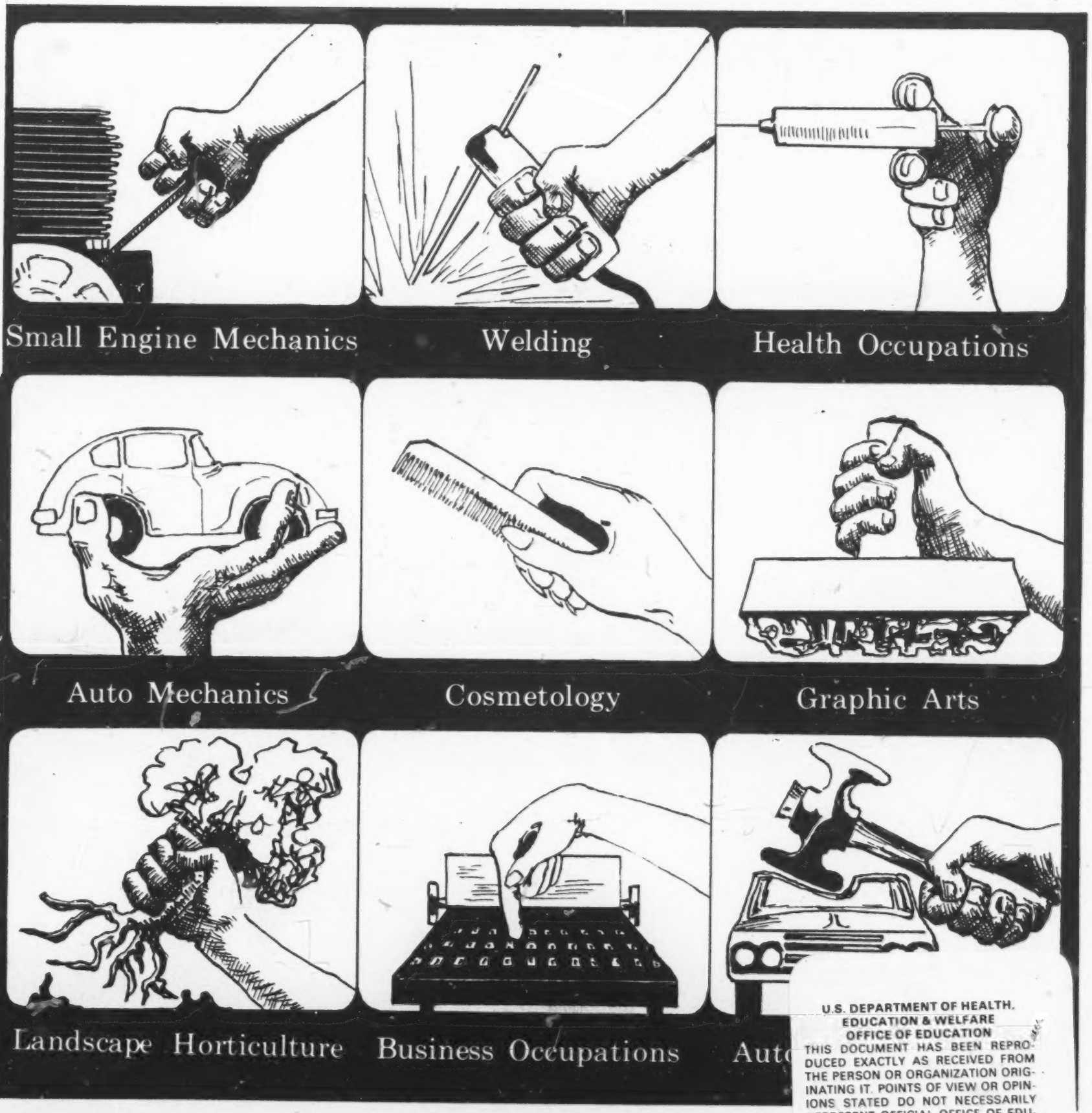
Special Needs Program



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4736

AN INSTRUCTIONAL PROGRAM

FOR THE

MENTALLY, PHYSICALLY, AND SOCIALLY HANDICAPPED INDIVIDUALS

IN GENESEE COUNTY

GENESEE AREA SKILL CENTER
G-5081 Torrey Road, Flint, Michigan
September, 1970

In Cooperation With

Genesee Intermediate School District

District Vocational Rehabilitation Office

Flint Board of Education

Mott Program

* * *

State of Michigan Department of Education
Special Education - Vocational Education - Vocational Rehabilitation

* * *

FOREWORD

In September, 1969, the Genesee Area Skill Center began fulfilling its planned mission of providing high quality vocational education programs to employment-bound youth of Genesee county.

Almost simultaneously with the Center's opening, many persons perceived the golden opportunity such a facility presented for the realization of one of the goals of special education: employability of handicapped youth.

This document traces the evolution of the Special Needs Program from an abstract idea to reality. Besides serving as a historical record, it is hoped that the account will be helpful to districts planning similar programs.

ACKNOWLEDGEMENTS

The Special Education Program at the Genesee Area Skill Center is unique in that it is the first of its kind in the state of Michigan.

A great deal of thought and effort have gone into the design and implementation of the Special Education Program.

A note of appreciation is in order to the following for their interest and industrious participation.

Mr. Glen Smith, Chief
Program Operations
Division of Vocational Education
Department of Education

Mr. Robert Kennon
Special Education Division
Department of Education

Mr. Jan Baxter
Special Education Division
Department of Education

Mr. William Mackie
Vocational Rehabilitation
Department of Education

Mr. Richard G. Loomis, Principal
Genesee Area Skill Center

Mr. Marshall Mossman
Occupational Counselor
Genesee Area Skill Center

Mr. Eugene Erickson
Consultant, Vocational Rehabilitation
Genesee Intermediate School District

Teaching Staff
Genesee Area Skill Center
Flint, Michigan

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Continuation Proposal . . . . . 1970-71: Phase 2	Green

Part I

Introduction

This instructional program is a cooperative effort of the Special Education, Vocational Rehabilitation and Vocational Education Divisions of the State of Michigan, to use the facilities of the Area Vocational Center as an exemplary project.

The project is aimed toward assisting the handicapped student in making those decisions needed to enter and successfully complete the Skill Center program and to enter the "world of work".

Background Information

In the pre-admission and admission procedure of selecting students from the various school districts in the county for the Genesee Area Skill Center between February and June, 1969, it became evident that some type of special program would be needed for the handicapped.

Many courses offered at the Skill Center, in addition to providing manipulative training, also cover related information of a technical nature involving at least one-third of the instructional time. This type of programing is advantageous to the handicapped student.

Many of the counselors in the school districts felt they had students whose attitudes and psychological testing results, as well as their interests, would qualify them for entry into the Skill Center programs. However, because of the technical level of course content, it was felt that chances for success of many handicapped students would be limited.

It is felt that the services of this Center should also be made available to the potential dropout, the recent dropout, and other handicapped individuals who lack job entry skills. The instruction for the acquisition of these skills can be offered in the instructional setting of this center where the student would have the advantage of instructors, counselors, and up-to-date facilities.

An additional advantage of this program is flexibility both in time and content of training, which is necessary to meet the special needs of the handicapped. It also provides a "change of climate" for the potential dropout and eliminates many of the frustrations which the recent dropout experiences in the regular school setting.

Scope of the Project

1. This program is designed to serve those individuals who have special needs and will be identified. The project would include three phases of operation.

   A. Phase 1-A would begin February 9, 1970, with seven areas of instruction offered (see attached application form). The instruction time would run approximately from 3-5 P.M. on Mondays, Tuesdays, Wednesdays and Thursdays, corresponding with the regular secondary school calendar. This will allow time for teach planning, material and shop arrangement, conferences and in-service programs. Additionally, there would be provision of one week of in-service, record and preparation time before and at the end of the semester.

Phase 1-A is designed as an exploratory skill program, with most students spending each day in a different exploratory area. It is designed to give the student a chance to gain an insight into the areas that would most interest him, so that he may continue in order to build salable skills. Also, this would give the teaching staff an opportunity to develop techniques in teaching skills to students on the program.

The entire teaching staff of the Skill Center would participate, but in most cases a teacher would teach once a week. A maximum of 12 students would be enrolled in each group. The total program would accomodate 84 students and continue for 17 instruction weeks.

B. Phase 1-B would include a summer session of 8 weeks in those instructional areas where there is sufficient interest to offer a class which could possibly be enrlarged to accommodate additional students to the program. This training would be more concentrated in four hours a day with the student spending his time in either one or two instructional areas.

2. Phase 2 would include a continuation of the intensified training with the student concentrating on one or two instructional areas in the 3-5 P.M. time allotment for the 1970-71 school year, and the summer session of at least eight weeks.

3. Phase 3 would be a continuation of Phase 2 into the 1971-72 school year and summer session.

Phase 2 and 3 are designed to provide an opportunity for the special education student to achieve a salable skill in one of the Skill Center instructional areas. In addition, some students, it is hoped, will achieve at a level in which they may compete in a regular A.M. or P.M. instructional offering during the school year. This move could be made at any time during the school year that would be deemed advisable by the instructor. The student may also continue in one of the adult classes offered at the Skill Center.

By utilizing the five departments of the Skill Center plus the school plant facilities and incorporating into the program flexibility in time and content of training, this more specialized instructional program should meet the occupational needs of the handicapped student.

The basic objective of the program is to provide the student with the insight into his abilities, as well as his limitations, for a specific job in the "world of work." In addition, it will provide an opportunity for the often overlooked handicapped youth to develop occupational skills.

Identifying Students

1. The program is designed to serve handicapped persons ages 15-19, grades 9-12. Student selection will be based upon those who meet the listed criteria from the following groups.

A. Mentally handicapped but educable (Type A). This is probably the largest group to be served.

B. Physically handicapped; those persons who would blend in with the Type A student. They may possess disabilities such as heart condition, hearing and orthopedic problems, are functionally retarded but may have the same academic and social needs.

C. Socially disadvantaged; those persons identified as being disadvantaged due to economic, psychological, racial and ethnic reasons. The aim would be to provide those students meeting the criteria and identified as being disadvantaged, with fruitful skill and visible goals, relating these goals to their regular school as well as a sound employment future. It is hoped that the potential or actual dropout can be channeled back into the regular school program as a more interested student. All participants should exhibit changes in behavior which will be beneficial to their future lives.

2. Suggested guide for student selection.

A. For groups A and B, the mentally handicapped and physically handicapped, the following criteria should be used:

1. Positive attitude and interest for the skilled area in which the student will be enrolled.

2. Maturity for participation in and completion of the program.

3. Potential for success on the program.

4. Transportation arrangement or availability.

5. Prediction for possible job success on the program with a tenacity for completing program.

6. Family interest involvement and participation.

7. Positive social adjustment.

B. For Group C, the Social Disadvantaged, it would be expected that substitutes for Items 6 and 7 would be provided through participating agencies in the program. Special Education consultants or Vocational Rehabilitation coordinators would provide auxiliary services when needed.

3. Students considered for participation will be identified by classroom teachers, school counselors, teacher counselors in Special Education, Type C consultant, D.V.R. consultants, D.V.R. coordinators, and Genesee County Residence Youth Center.

4. A committee will meet to select students to participate in the program. This committee will be composed of one member representing the following agencies:

A. Special Education Department, Flint Community Schools

B. Special Education Department, Genesee Intermediate School District

C. Division of Vocational Rehabilitation

D. Director Extended School Services, Genesee Area Skill Center, representing the Mott Program

E. Student Personnel Services, Genesee Area Skill Center

The Principal of the Genesee Area Skill Center will have overall responsibility for this program. The selection committee shall act as the operational board for the program, with the Principal of the Genesee Area Skill Center acting as an ex-officio member of the board. The Student Personnel Services member of the Skill Center shall act as chairman.

The Problem

1. In the various school districts and high schools of the Genesee Intermediate Area there are hundreds of youths who are employment-bound with a variety of handicaps. At the present time there is no provision to utilize the facilities of the Skill Center to provide instructional programs to teach skills which can be utilized by the handicapped and disadvantaged youth.

2. There is no other facility in Genesee County offering the many instructional programs which are adaptable to the handicapped youth who is not college-bound, or in need of a facility such as a sheltered workshop.

3. It is difficult, under present circumstances, for the school dropout and others, such as young adults, to receive training comparable to that which will be available at the Skill Center.

4. The Flint Public Schools reported in 1969 that 28% of the pupils who begin the 9th grade do not graduate from the 12th grade. 43% of the dropouts have IQ's below average, and are thus identified as not possessing the potential for average academic work.

5. In contrast to present N.Y.C. programs in operation in various schools, this proposal would combine a home school educational program with a skill building training program. In addition, students would participate in a cooperative work experience program in a related job cluster, and eventually into a successful full-time placement in a demand occupation.

Objectives of the Project

1. Coordinate identification of potential individuals for the various instructional programs.

2. Assist in the selection of individuals who would benefit from the objectives of the project.

3. Counsel and provide occupational information through an orientation program.

4. Coordinate services and counsel individuals enrolled in the flexible instructional programs established for the handicapped at the Skill Center.

5. When possible, assist individuals in the program by offering job orientation, actual job experience, or cooperative programs.

6. Provide a placement service for those students completing the instructional program.

7. Follow up and counsel those completing training when employed.

8. Participate in an evaluation program of services aimed at employment success on the part of the individual as well as a continuous evaluation of the instructional program.

Outline of Procedures and Activities

The following summary of the proposed project provides an overview of the project to date:

1. In discussion with various school and service groups (parents, teachers, and others concerned with the handicapped student), there was concern expressed for the need of skill training such as that provided in the Skill Center. The feeling was strong that the facility must be made available to the handicapped of the Genesee Intermediate School area.

2. In addition, through numerous publications and communications, the Office of Economic Opportunity and the Model Cities Program, great concern relative to the high dropout rate of the disadvantaged youth in the Genesee Area is pronounced. Questions concerning the training and preparation of job-bound youth and graduates are asked. Lack of skill training, and the general lack of relevancy of the present instructional program of the comprehensive high school, and the non-use of the Skill Center for this group is further questioned.

3. The Special Education, Vocational Rehabilitation, and Vocational Education staffs, felt that a cooperative venture is needed in order to aid in solving these problems.

4. Mr. Heilborn, Vocational Rehabilitation; Mr. Loomis, Genesee Area Skill Center; and Mr. Mossman, Genesee Area Skill Center, met to discuss the possibility of using the Skill Center facilities for this project.

5. Subsequently, on July 10, an Advisory Committee was formed to discuss the feasibility of the project. Represented were: Genesee Area Skill Center, Vocational Rehabilitation Division Staff, and representatives of the Genesee Intermediate School District Special Services Staff.

6. The committee agreed there was a need for this service, and directed Mr. Anthony MacPherson, of Vocational Rehabilitation, and Mr. Marshall Mossman, of the Genesee Area Skill Center, to prepare a proposal to be presented to various departments on the State level.

7. Because funds are not available in the Skill Center budget, and present funding of the Flint Division Vocational Rehabilitation district are inadequate to fund such a program, it is felt that special funding should be sought to initiate the project, and also serve as a pilot program for other areas in the state.

8. The basic proposal was presented to representatives of the Divisions of Special Education, Vocational Education and Vocational Rehabilitation in Lansing, Michigan, July 31, 1969. The proposal was discussed and a decision was reached to present the proposal to an expanded group at the Skill Center

9. On August 19, 1969 a meeting was held at the Skill Center involving 14 persons representing the Skill Center, Genesee Intermediate District, Flint Public Schools, the State Division of Special Education, Vocational Education and Vocational Rehabilitation. It was recommended that students to be served by narrowed to basically involve the Type A student with no emotional problems, with some physically handicapped and socially handicapped depending upon the number of persons identified and possibly served.

10. Subsequent meetings were held with local representatives of those groups previously involved, refining the program to be offered. These meetings were held in August, September, October, and November. Surveys were conducted to determine if enough students were available to be served. A special application form was prepared and the student identification was initiated.

11. The final copy of the proposal was completed in December, 1969 and re-submitted to the three cooperating divisions in the State Department of Education.

12. It is hoped that the implementation of the program can begin in February, 1970.

Part II

Specific Services

1. Counseling Team

A counseling team should be available to coordinate the project for the handicapped and should be composed of the following:

A. Project Coordinator, Student Personnel Service, Genesee Area Skill Center

B. Special Education staff of the Genesee Intermediate School District, such as the school psychologist, and special education consultant.

C. Vocational Rehabilitation Coordinators from the D.V.R. Flint District.

This team will be responsible for the entire counseling process of the handicapped individual who will be enrolled in one of the instructional programs at the Skill Center. Personnel will act in a liaison relationship between the student, the home school, the referral agency, his classroom experiences, and the employee-employer relationship, whether in a cooperative venture or permanent employment.

Most important would be counseling the individual in developing positive attitudes toward success in the classroom, and ultimately in the "world of work."

2. Cooperate with community agencies - such as Department of Social Services, O.E.O., Model Cities, Urban League, M.E.S.C., by providing information and services to clients in these agencies.

3. Identification and Screening Process

Identifying of potential individuals would be made through schools, agencies and other referral sources. Through psychological evaluations and medical examinations, a determination would be made by the screening team regarding success and the type of training which should be offered the individual.

4. Program Flexibility

A. It is expected that because of the special nature and needs of the various handicapped groups, existing instructional programs could be adjusted to meet the needs of the individuals. Additional programs could be developed and geared to the needs of the various handicaps of students using the existing facilities--such as a maintenance skills program, or possibly combining the landscaping instructional program with a maintenance skill program.

B. It is felt that a joint effort with special funding would allow for a larger variety of course offerings than could be possible through agencies acting separately. With a greater variety of course offerings, the students would be able to receive experiences in, and therefore develop a vocation in which he/she could participate and be successful.

5. Job Orientation or Experience

To provide an opportunity for students enrolled in the handicapped program to participate in actual work on a cooperative basis with employers.

6. Occupational Information and Placement Service

A. To assist the student in understanding how his/her pattern of aptitudes and skills can best be used, job requirements and expectations.

B. To assist the student in placement on a job with positive adjustment to the job requirements, other employees, and the employer.

7. To apply computer science techniques and cooperate with the Data Processing Department of the Genesee Area Skill Center and Genesee Intermediate School District.

A. Aid in the identification of handicapped students enrolled in the various school districts throughout the county.

B. Employ a constant record service which, as an example, could identify dropouts immediately.

C. Collect data and keep records on the students while participating in the program.

D. Aid in the evaluation of the entire program contantly and for follow up purposes.

E. Coordinate with other computer services which would aid in the placement of students completing the program.

Program Evaluation

1. The program will be evaluated by the various committees under the Skill Center structure. Assistance will be available from the governing board of the project which will be constantly available, the Student Personnel Services Committee of the Skill Center comprised of representatives of various school districts in Genesee County. Evaluation responsibility will also be assumed by the Advisory Committee to the Adminstrative Council, representing community factions such as labor, business, industry, NAACP, Urban League, etc. Also, the Adminstrative Council, which is comprised of seven members representing the Intermediate School District, Flint Board of Education, Genesee County Superintendent Association, and the Mott Foundation. It has as its prime responsibility the recommending of all Skill Center programs, and will evaluate in the final analysis also the Special Education Program.

2. As part of the Student Personnel Services of the Skill Center, evaluation procedures will be carried out in cooperation with the ERIC Counseling and Personnel Service information Center at the University of Michigan, in association with its director, Dr. Garry R. Walz.

Some Specific Objectives of the Program

In connection with this proposal, since its inception about one year ago, many questions have been raised by people in all levels of the Special Education, Vocational Education and Vocational Rehabilitation areas. Many of the questions and concerns are listed below. It is intended that upon the completion of the program there will be answers and solutions.

1. How will in-service programs for the instructional staff be carried out? What will be the content of the in-service programs?

2. What will be the difficulties involved in enrolling students in the program from three different handicapped areas? How much intense recruiting is necessary?

3. Can the students be taught more advanced skills as well as basic skills with a more flexible program?

4. Can the students follow a more complex schedule such as four different, but similar, areas of study in a week? Should the time be longer than the two hours of instructional time? If so, how much longer, and in what specific areas?

5. What are some solutions to the problems of transportation of student to the Skill Center for the program?

6. What kind of relationship develops between the home high school and the Skill Center in implementing this program? Is credit given? Are programs of the students in the schools readily changed?

7. Is the enrollment successful, as well as acceptance of the program by the racial and ethnic disadvantaged students?

8. What is the retention percentage of the students enrolled in the program? Is it considered average as to what caused the students to drop? What solutions can be applied in the future?

9. What instructional or occupational areas ultimately offer entry occupation opportunities for students enrolled in this program? Is there acceptance of these students in business and industry upon completion of a specialized program?

10. What problems will be encountered in placing these students?

Although every parent, student and professional person associated with the program will have many questions, based upon their individual concerns, in the final analysis a program must be offered, started and followed to completion to accomplish basically the following:

1. For the student: A commitment, to be treated as a worthwhile person, to develop a plan for the future by developing those patterns of attitudes and concepts needed both to enter and adjust to the world of work.

2. For interested and involved persons in the program: To keep the above commitment to the student in mind at all times and provide, where possible, the opportunity to develop skills to the ultimate level of each student's ability, regardless of the handicap.

A. Eligible Funding Costs	Phase 1-A Feb-Jun 1970	Phase 1-B SS 1970	Phase 2 1970-71 + SS	Phase 3 1971-72 + SS	Total Costs
1. Salaries					
a. Project Director	-	-	-	-	-
b. Project Coordinator	$ 1,000	$ 2,500	$ 4,500	$ 2,000	$ 10,000
c. Clerical (Co-op)	900	375	2,200	1,800	5,275
d. Others, Teachers ($8.00 hr.)	1,920	20,000 Est.	24,000 Est.	24,000 Est.	69,920
2. Employee Benefits - 10%	150	2,000	2,400	2,400	6,990
3. Approvable Travel Inservice & Mileage	300	600	1,000	1,000	3,200
4. Student Transportation	1,000	1,000	2,000	2,000	6,000
5. Duplicating and Printing					
a. Duplicating Costs	200	200	400	400	1,200
b. Final Reports	30	30	30	30	120
6. Supplies and Materials					
a. Project Materials (books, class materials)	500	500	1,000	1,000	3,000
b. Office Supplies	50	50	100	100	300
c. Communications	50	50	100	100	300
7. Other Services					
a. Statistical					
b. Testing					
c. Others - Research & Computer Use	500	500	1,000	1,000	3,000
Project Sub-Totals	$ 6,942	$ 27,805	$ 38,730	$ 35,430	$108,385

4751

II. Project Budget

B. Additional Project Costs (100% Local Funds)	Phase 1-A Feb-Jun 1970	Phase 1-B SS 1970	Phase 2 1970-71 + SS	Phase 3 1971-72 + SS	Total Costs
1. Specialized Equipment - Equipment to be Provided	$ 6,000	$	$ 1,000	$ 1,000	$ 8,000
2. Test Materials to be provided by DVR & Int Sch Dist	1,500		1,500	1,500	4,500
3. Medical Evaluations	2,000		2,000	2,000	6,000
4. Physical Restoration Service					
5. Flint Community Schools, Genesee Int Sch Dist., and DVR contributions in consulting services, personnel services and business services. Sum based upon 10% of total project subtotal	694	2,780	3,873	3,540	10,887
"B" Sub-Total	$ 10,194	$ 2,780	$ 8,373	$ 8,040	$29,387

Signed _____
Chief School Adminstrator or Designate

Title General Superintendent of Community Education

Date January 14, 1970

Department of Education
Division of Vocational Education
P.O. Box 928
Lansing, Michigan 48904

Mailing Address G-5081 Torrey Road

City Flint, Michigan 48507

INFORMAL APPLICATION FOR RESEARCH OR DEVELOPMENTAL PROJECTS

I. Description of Project

A. Title of Project:

An Instructional Program for the Mentally, Physically and Socially Handicapped Individuals in Genesee County.

B. Background Information

In the pre-admissions and admissions procedure of selecting students for the Genesee Area Skill Center, between February and June, 1969, in cooperation with the various school districts in the county, it became evident that some type of special program would be needed for the handicapped.

In the Genesee Intermediate Area there are hundreds of youths who are employment-bound with a variety of handicaps. At the present time there is no provision to utilize the facilities of the Skill Center to provide instructional programs to teach skills which can be utilized by the handicapped and disadvantaged youth.

C. Objectives:

1. The program is designed to serve handicapped persons ages 15-19 grades 9-12, from the following groups:

   a. Mentally handicapped but educable (Type A)
   b. Physically handicapped (functionally retarded)
   c. Socially disadvantaged (racial, ethnic, etc.)

2. To identify students that could profit by an exploratory experience in the Skill Center with an aim toward entering the regular program during the day or evening classes. These students would enter an instructional program that will provide skills that will aid in entering the world of work.

3. To provide those skills and experiences that would enable the student to successfully complete an instructional program and enter the world of work in an occupation that would use specific skills learned.

D. Personnel:

1. Name of Project Director: Richard G. Loomis

2. Statement of previous experience of Director:

   a. Principal, Genesee Area Skill Center
   b. Vocational Director, Genesee Intermediate School District
   c. Instructor Retailing, Northern Michigan University
   d. Distributive Education Coordinator, Cooperative Education, Muskegon Public Schools

3. Name of Project Coordinator: Marshall Mossman

4. Statement of previous experience of Project Coordinator:

   a. Occupational Counselor, Northwestern Community High School, Genesee Area Skill Center
   b. Counselor, Director of Placement, Northwestern High School
   c. Coordinator, Industrial-Technical Programs, Adult Education, Mott Program
   d. Coordinator, Cooperative Education, Northern and Northwestern Community High Schools
   e. Counselor, Adult Education and Mott Program
   f. Teacher, Vocational Drafting, Northern and Northwestern Community High Schools
   g. Chairman, Industrial Art and Vocational Education Department, Northwestern High School
   h. Author of textbook, Drafting: Basic Techniques
   i. North Central Counselor Certification
   j. Permanent Secondary Teacher Certification
   k. Vocational T & I Teacher Certification
   l. Qualified, Secondary Curriculum Development

5. Titles of other personnel to be paid from research funds:

   a. Teachers
   b. Counselors
   c. Project secretary
   d. Project clerk-typist

INTRODUCTION

A "Special Education Program" denotes a type of instructional program designed for students with unique needs. The Special Education Program at the Genesee Area Skill Center is structured to meet the vocational needs of special students by providing exploratory classes for them at the Skill Center two hours a day, four days a week.

Special students have distinctive educational needs to be met. The importance of meeting these needs is reinforced by the fact that most special education students will be expected to perform in a society that may be unaware of, or hesitant to consider, their handicaps.

To separate the educational experiences of the special student from those of the average student is unrealistic since both students will be expected to perform successfully in the same society. It is to this end that the Special Education Program of the Genesee Area Skill Center is dedicated; to provide simultaneously an educational environment for both types of students.

The following outlines describe the introductory experiences provided to special students by each skill subjects as a means of discovering principle areas of interest.

ARCHITECTURAL DRAWING

Total Elapsed Time: 90 minutes
Total Instruction Time: 80 minutes

Course Description: 80 minutes of exploration into the architectural drawing occupation which consists of orientation and actual manipulation of basic tools.

Course Objectives:

1. To help the student find out whether he would like to explore architecture futher.
2. To familiarize the student with drawing routine.
3. To give a basic experience with drawing and reproducing tools.

Course Outline:

I. Introduction
   A. Pass out name tags
   B. Introduce instructor
   C. Show what regular class is doing
   D. Show what architects do in general

II. Classroom Procedure
   A. Introduce students to basic tools
   B. Introduce students to reproduction
   C. Show how architectural drafting relates to all phases of graphic communication
   D. Trace page 126 of "Drafting: Basic Techniques by Marshall Mossman & Kermit Baker"
   E. Blue print students tracing (each student gets brief instruction on use of blue print machine and prints his own)
   F. Student selects color scene from samples in sample room
   G. Dismiss class to check in materials and clean up at 4:35
   H. Dismiss class at 4:45

III. Materials Needed for Instruction
   A. 15 30-60 degree and variable 45 degree triangles
   B. 15 Mechanical pencils
   C. 15 Rools 3/4 scotch drafting tape
   D. 15 Sheet 9 x 12 #1000 post vellum
   E. 13 Pencil type erasers

AUTO BODY MECHANICS

Course Description and Objectives: The objective of the first five weeks will be to tive the students an introduction to auto body repair. The student will be given a description of the basic body tools, given actual practice in bumping sheet metal, filling and spray painting.

Course Outline:

1. Basic tools-pick hammers, shrinking hammer, vixen file, plastic board file, spoons, picks and dollies.

2. Basic bumping-picking and filing.

3. Shrinking sheet metal.

4. Filling with plastic and solder.

5. Spraying primer surfacer.

6. Wet sanding.

7. Spraying top coats of acrylic lacquer and enamel.

AUTO MECHANICS
CHASSIS AREA

Course Description: The basic objective of the 1½ hour time block is to relate the students to our program, discussing how it operates. Instruction is very basic in nature covering very briefly the areas suspension, brakes, transmission, differentials and alignment. Demonstration of machine operation with a very short question period following.

Course Objectives:

1. Safety in the shop area.
2. Auto program structure.
3. Brakes - drum (operation)
4. Brake drum lathe operation
5. Brake shop grinder
6. Disc brake operation
7. Disc brake lathe
8. Front-end alignment
9. Alignment machine operation
10. Wheel balance theory (basic)
11. Balancer operation
12. Directions for next class
13. Dismissal

AUTOMOTIVE MECHANICS

Course Description: The purpose of this course is to familiarize students with the automotive mechanics field. Students will be exposed to the type of jobs available, basic automotive terminology, and various pieces of equipment used in the field.

Course Objectives:

1. Introduce students to the field of mechanics
2. Explain types of jobs available
3. Discuss system of earning money
4. Familiarize students with automotive terminology
5. Give students experience in testing cooling system

Course Outline:

I. Introduction

   A. Teacher

   B. Class

   C. Schedule

II. Opportunities In Automotive Field

   A. Jobs available

   B. Places of employment

   C. Wages

   D. Skills expected

III. Tour Area

   A. Equipment

   B. Terminology

IV. Cooling System Maintenance

   A. Testing pressure

   B. Testing antifreeze

BASIC ELECTRICITY AND ELECTRONICS

Course Description: This course is to train the student to use motor and mental skills sufficiently to be able to read simple pictorial diagrams, and place, wire and solder components listed on the diagram in an applied circuit.

Course Objectives:

1. Show students how to strip a wire.
2. Have students strip wires.
3. Show students how to drill holes.
4. Have students drill holes.

Course Outline:

I. Welcome

II. Rules and Regulations

A. Safety

B. Handling equipment

C. Departure

III. Tour of Electronic Facilities

A. Demonstrate using GDAC
Simple circuit having students see voltage waveforms

B. Show students tool cabinet

IV. Talk on Possible Job Opportunities

A. Electronic Assemblers

B. TV Tower Installers

C. Electrician Helpers

D. Radio Installers

E. Tape Deck Installers

V. Show Students How to Strip Wire

BEGINNING ELECTRICITY AND ELECTRONICS

Course Description: The purpose of this course is to provide the student with a basic understanding of simple circuitry.

Course Objectives: This course is meant to build some insight into the use of circuits, the types of components used, and provide some visuable results of circuit building.

Course Outline:

I. Discussion

A. What is a circuit?

B. Components of a circuit

C. Voltage in a circuit (waveform)

II. Activities

A. Student draws circuit

B. Student chooses components

C. Student builds circuit

III. Demonstration

A. One circuit is choosen to demonstrate a waveform (visably) on an oscilloscope

COMMERCIAL ART

Course Description: Orientation program beginning March 2nd and ending March 30. Commercial Art Class meets on Mondays from 3:15 to 4:45 p.m. (1½ hrs. per session).

Course Objectives: This orientation course is meant to make the students aware of some of the many areas in the field of commercial art, and to acquaint them with some of the equipment used in commercial art.

1. To allow the student use of materials as they are applied to selective areas of commercial art.
2. To allow the student a certain amount of creativity.
3. To evaluate this creativity in conjunction with student abilities.
4. To formulate new approaches and standards related to the student's ability.

Course Outline:

I. Introduction

   A. Classroom procedures

   B. Studio requirements (discipline)

   C. Introduction and familiarization of equipment

   D. Care and cleaning of equipment

II. Use of Tools and Paper

   A. Pencil sketching
      1. Creative
      2. Structured

   B. Use of straight edge (parallel)

   C. Use of angles (30/60 degree) (45/90 degree)

   D. Tracing paper

   E. Drawing paper
      1. Vellum
      2. White (drawing)
      3. Manila

   F. Paint
      1. Tempera
      2. Water color

   G. Use of brushes

DATA PROCESSING

Course Description: The purpose of this course is to introduce the special education students to the various machines used in unit-record data-processing. The students will be given a chance to run the simpler machines and the instructor will demonstrate the more complex machines.

Course Objectives:

I. Hands on keypunch

   A. Explanation and use

II. Hands on sorter

   A. To sort a deck of cards-all students involved

III. Hands on collator

   A. Typical problem with students observing

IV. Hands on accounting machine

   A. Typical problem with students observing

Course Outline:

I. Name and point out various machines

   A. Keypunch
      1. Explanation and use

   B. Sorter
      1. Explanation and use

   C. Collator
      1. Explanation and use

   D. Accounting machine
      1. Explanation and use

DIESEL AND TRUCK ENGINE MECHANICS

Course Description: Diesel and Truck Engine Mechanics provides the student with an exposure to the operating characteristics of, and the basic differences between, gas and diesel engines.

Course Objectives:

1. To familiarize the student with the over-all operation of gas and diesel engines.

2. To provide an exposure to the operating differences between the 2 cycle and 4 cycle diesel engine.

3. To give the student an understanding of the personal qualities and abilities needed to become a diesel mechanic.

Course Outline:

1. Compression ratio

2. Fuel injector system

3. Air intake system

4. R.P.M. in relation with horse power

5. Cooling system

6. Oiling system

7. Two and Four cycle Diesel engines

DISTRIBUTIVE EDUCATION

Course Description: This course description applies only to the five introductory sessions held between March 2 and March 30, 1970. Basically, the course involves a brief introduction to marketing and a chance for the students to experience simple cash register operations. The objectives to be covered in the alloted 1½ hours per day group are listed below.

Course Objectives:

1. To explain briefly what distribution is and what activities are involved in getting products from the producer to the consumer.

2. To familiarize the students with some of the various occupations available in distribution:

Salesman	Advertising Manager
Buyer	Display Manager
Manager	Window Trimmer
Store owner	Sign printer
Stock clerk	Merchandise Manager
Shipping clerk	Adjustment clerks
Credit worker	Demonstrator
Cashier	

3. To introduce the operation of the cash register.

4. Each student will demonstrate the correct cash register operation for a cash sale and a charge sale.

Course Outline:

I. Introduction
   A. Instructor
   B. Classroom Equipment

II. Distributive Education
   A. What it is
   B. Occupations in Distribution

III. Cash Register Operation
   A. Parts of Register
      1. Inside of Register
      2. Changing Tapes
   B. Cash Sales
   C. Charge Sales

DOMESTIC APPLIANCE REPAIR

Course Description: Domestic Appliance Repair provides the student with an opportunity to gain practical information needed to make minor repairs of modern home appliances.

Course Objectives:

1. To understand electricity and the part it plays in the operation of home appliances.

2. To gain knowledge, at an exploratory level, of the construction and operation of home appliances.

3. To obtain an understanding of the specific abilities needed to succeed as an appliance repair technician.

4. To gain an awareness of the importance to properly diagnose the cause of a malfunction in a home appliance.

Course Outline:

I. Electricity

   A. What electricity is

   B. How small appliances are powered by electricity

II. Construction and Operation Fundamentals

   A. General types of electrical appliance construction

   B. Accepted operation practices

III. Motor-Driven Appliances

   A. General construction types of motor-driven appliances

   B. General operating procedures for motor-driven appliances

GRAPHIC ARTS

Course Description: It is the purpose of this program to show the possible areas in Graphic Arts that each student could prepare for employment.

Course Outline: They will be exposed to the following areas:

Composition
Pasteup
Photography
Stripping flat
Plate making
Offset presswork
Bindery

1. Discuss what Graphic Arts is

2. Each student makes his own name and school name on the Headliner.

3. Each student helps paste up name in preparation for photography.

4. The list of names is photographed.

5. Flat is stripped up.

6. Plate is made.

7. Offset press copies are made of the list.

8. Holes are drilled with paper drill.

MACHINE OCCUPATIONS

Course Description: This course description applies only to the introductory sessions which are to be held for the five week period beginning on March 2, and ending on March 30, 1970. The introductory outline, below, is to be covered in the alloted one and one-half (1½) hours per group.

Course Outline and Objectives:

I. To familiarize the students with the basic machinist's hand tools with a brief explanation of each. These tools are listed below.

   A. Six inch rule

   B. File

   C. Center punch

   D. Ball peen hammer

   E. One-inch micrometer

   F. Dial indicator

II. To familizarize the students with some of the various machine tools. This is to be accomplished with a short description of the major components of each machine, juxtaposed with a simple machining operation on each particular machine. A list of the machines that are to be covered are as follows:

   A. Shaper

   B. Milling machine

   C. Drill press

   D. Engine lathe

   E. Surface grinder

ORNAMENTAL HORTICULTURE

Time Allotted: 90 minutes
Actual Instruction Time: 80 minutes

Course Description: This course is intended to give the students instruction in the basic principle of designing of flowers and greenhouse operations.

Course Objectives:

1. Familiarize the students with the use of basic tools used in the floriculture and horticulture industries.
2. Acquaint the students with the operation of a greenhouse.
3. Acquaint the students with the different areas available in floriculture.
4. Familiarize the students with the basic floral designs and principles.
5. Acquaint the student with other materials besides fresh and artificial flowers that can be used in floral decoration.
6. Acquaint the students with the different means of propagation of plants.

Course Outline:

I. What is Horticulture?
   A. Horticulture as a vocation
   B. The Skill Center Facilities

II. Corsage Construction
   A. Wire and taping
   B. Identification of flowers
   C. Use of line flowers
   D. Took home their accomplishments

III. Seed Production
   A. Use of soil mixes
   B. Use of fertilizers
   C. Planting of seeds
   D. Annuals in the Landscape and Identification

IV. How to transplant seeds
   A. Transplanting seeds
   B. Identification of flowers

V. Working with fresh flowers
   A. Floral design principles (basic)
   B. Identifying cut flowers
   C. Construction of arrangements (procedure and techniques)
   D. Take home an arrangement

VI. Working with plastics (glass flowers)
   A. Techniques and construction of dipping
   B. Take home samples

Course Outline: (Boys) One Session Each

I. Introduction into Ornamental Horticulture

II. Power equipment and tools used

III. Skill Center Facilities (Tour)

   A. Classroom
   B. Workroom
   C. Greenhouse
   D. Hotbed/coldframe
   E. Nursery area
   F. Grounds

IV. Showing 40 slides of "What is Horticulture"

V. A few basic principles of landscaping

VI. Job opportunities in this field

VII. What is expected of a worker; what the returns are

VIII. How to seed and how to transplant seedlings

MECHANICAL DRAWING

Time Allotted: 90 minutes
Actual Instruction Time: 80 minutes

Course Description: This course is intended to give the students 90 minutes of instruction and orientation in the basic use of tools and the occupation opportunities in the Mechanical Drawing area of the Graphic Communications Department.

Course Objectives:

1. To familiarize the student with the use of basic tools,
2. To familiarize the student with the organization of a drafting room,
3. To give the student a basic background of the reproduction processes related to drafting,
4. To stress the need for different types of people in drafting occupations,
5. To give the student an opportunity to get some "hands-on" experience in drafting.

Course Outline:

I. Introduction
   A. Instructor
   B. Students
   C. Any previous drawing classes?
   D. Definition of mechanical drawing
   E. Mechanical Drafting as it relates to other classes in the department
   F. Beginning pay scale and entry level occupations in the mechanical drawing field.

II. Classroom Procedure
   A. No break policy
   B. Questions anytime
   C. Paper and tape in baskets on way out
   D. Clean-up at 4:40 p.m.
   E. All tools returned to instructor's desk before leaving
   F. Brush off tables during clean-up

III. Blueprint Room
   A. Blueprint machine
   B. Microfilm machine
      1. Explanation of its application to mechanical drawing
      2. Similarity to architectural application
      3. How Graphic Arts class aids in this program
   C. Allow each to run prints of their work

IV. Tools of the Trade
- A. Paper, different types
- B. Pencils, different types
- C. Tape, drafting only
- D. Triangles, 45-90 and 30-60
- E. Erasers
- F. Parallel edge on tables
- G. Tables
- H. Drafting brush

V. Application
- A. Trace "coupling link"
  - 1. Freehand arcs
  - 2. Use all instruments
- B. Trace "gauge block"
  - 1. Add dimensions off board
- C. Trace "inspection plate"
  - 1. Convert fractions to decimals
  - 2. Give out decimal equivalent sheet

VI. Dismissal
- A. 4:45 p.m.
- B. Check all equipment
- C. Collect name tags

VII. Instructional Materials Required
- A. Triangles - 13 each
- B. Pencils, mechanical - 13 w/lead
- C. Tape-1 roll
- D. Erasures - pencil type (13)
- E. 36 sheets "A" vellum
- F. Examples of each size sheets

RESIDENTIAL WIRING PRACTICES

Course Description: A 90 minute introduction to the study of residential wiring practices.

Course Objectives: To assist the student in choosing his course of study by providing him with a preview of the relevant areas to be covered in the course.

Course Outline:

I. Stimulate curiosity as introduction to course.

   A. What's behind the plug, switch, etc. in the wall?

   B. Where does the power come from?

II. Discuss the sources of supply.

   A. To the pole.

   B. Pole to the fuse.

   C. Meter to the panel.

   D. Panel to the branch circuit.

III. How do we pay for it?

   A. Demonstrate construction and heading of a meter.

   B. Compare with other meters.

SMALL ENGINE MECHANICS

Time Allotted: 90 minutes
Actual Instruction Time: 80 minutes

Course Description: This course is designed to give the students 80-90 minutes of orientation and instruction in the simple use of mechanical tools and the function of small engines and their components.

Course Objectives:

1. To familiarize the students with the existence and the use of some hand tools in the mechanical trades.

2. To acquaint the student with some safety measures used.

3. To familiarize the students with the variety of small engines in use.

4. To give the students a chance to assemble and disassemble some engines.

Course Outline:

I. Introduction
   A. By instructor
   B. By students
   C. Interview of previous experience
   D. Explanation or definition of small engines
   E. Types of small engines

II. Classroom procedure
   A. Break policy (none)
   B. Questions, at will
   C. Refuse in baskets, all times
   D. No food, drink in shop area
   E. Clean shop before leaving
   F. All tools, parts put away before leaving
   G. Clean up about 4:40 p.m.

III. Shop Area
   A. Tool cabinets
   B. Spark plug cleaners
   C. Marine tank
   D. Parts cleaning tanks
   E. Spare parts cabinets
   F. New and used engines
   G. Ventilation system

IV. Tools of Department
   A. Basic tools used
   B. Special tools used
   C. Meters used
   D. Cleaning agents (harmful and harmless)
   E. Oils used
   F. Greases used
   H. Other liquids used (including gasoline)

V. Application
   A. Use of basic tools
   B. Use of special tools
   C. Application of various liquids and dangers involved

VI. Engine of period
   A. Return all things used in class
   B. Collect name tags
   C. Clean up personal appearance
   D. Dismissal at 4:45 p.m.

VII. Instructional material required
   A. New engines (lawnmower)
   B. Used engines (lawnmower)
   C. Internal engine parts
   D. Hand tools

TRAINING COURSE FOR BUILDING CUSTODIAN

Job Description:

The size of the building to be serviced will determine the specific duties performed by the custodial staff. In small buildings practically all the work is performed by the custodian himself. The larger the building the more assistance will be needed and the work assignments will become more specialized. In general the work performed will include the following:

1. Keeps public parts of buildings in clean, orderly condition and good state of repair.
2. Operates furnaces and boilers to provide heat and hot water.
3. Sweeps, mops, and scrubs halls, stairways, rooms and offices.
4. Removes and disposes of litter and waste paper from halls, stairways, rooms and offices.
5. Makes minor repairs to defective plumbing, electric wiring, or other parts of the building.
6. Replaces burned out electric lamps in fixtures throughout the building.
7. Cleans sidewalks and driveways of snow or debris.
8. May issue instructions to subordinates concerning cleaning, repair, and maintenance of mechanical and electrical equipment, plumbing, and structure of building.
9. Maintains adequate safety protection for occupants of building by directing elimination of fire or other hazards, providing necessary fire-extinguishing equipment and insuring accessibility to fire escapes.
10. May keep records of labor and material costs for operating buildings.

Course Objectives:

1. To develop an understanding of the responsibility placed upon custodians as service employees assigned the job of providing healthful and comfortable quarters for the occupants of the building.
2. To develop a knowledge of, and some skill in, the use of modern equipment and materials, to provide sanitary and safe conditions in the maintenance of the buildings.
3. To create a desire for self-improvement by learning the technical information related to the various aspects of the custodial service.
4. To develop an acceptable level of skill in the use of equipment, tools, and supplies necessary for carrying out the responsibilities assigned to a building custodian.

Course Outline:

1. General housekeeping

2. Sanitation in the general overall work area

3. Operation and maintenance of heating-ventilating systems

4. Maintenance of buildings and grounds

5. Human relations

6. Management of supplies and equipment

7. Safety

8. Students will learn about the importance of personnel

9. Security and protective measures

WELDING

Time Allotted: 90 minutes
Actual Instruction Time: 80 minutes

Course Description: The purpose of this course is to introduce some basic welding machines and practical skills which make up a part of the welding occupation today.

Course Objectives:

1. To show why welding of materials is important to industry.
2. To show a few of the welding processes.
3. To help the student know of vocational opportunities in welding.
4. To give a student a sincere awareness of safe welding practices.
5. To give a student opportunity to try out his ability to light a welding torch and heat metal for welding.

Course Outline:

I. Introduction
   A. Instructor
   B. Students
   C. Any previous welding experience?
   D. Any fathers who may be welders?
   E. Welder's beginning pay.

II. Classroom procedure
   A. Discussion on safety
   B. Nothing is thrown through the air
   C. No breaks
   D. Ask permission to leave
   E. Clean-up is 4:35 p.m.
   F. Tools returned to the cabinet
   G. Scraps thrown away, work area clean, and floor swept.
   H. No playing around or bumping one another at any time.
   I. All exhaust fans turned on and off at the beginning and end of period.
   J. All new welding rods and electrodes returned to the supplies.

III. Materials and Supplies
   A. Electrodes
   B. Gas rod
   C. Flux
   D. Practice Metal

IV. Various metal working machines and tools
- A. Shear
- B. Pedestal drill
- C. Horizontal band saw
- D. Vertical band saw
- E. Iron worker
- F. Hand 3/16" thickness shear
- G. Tool cabinet

V. Welding machines
- A. Gas welding torches
- B. Arc transformer
- C. Arc rectifiers
- D. Mig-Metallic arc wire
- E. Tig Heli arc

VI. Welding demonstrations
- A. Safe welding practices
- B. Arc
- C. Light an oxygen acetylene torch
- D. Gas fusion
- E. Gas bronze

VII. Application
- A. Each student lighting the torch
- B. Heating and fusion welding of metal
- C. Practice in using the filler rod

VIII. Ending of period
- A. Clean-up
- B. Take care of scrap metal pieces
- C. Check to see torches are safely turned off
- D. Check each students progress
- E. Dismissal 4:45 p.m.

IX. Instructional material required
- A. Gloves
- B. Welding rod
- C. Flue
- D. Metal practice plates

Phase 1B Summer School 1970

Addendum to:

Proposal Phase 1A Feb - June 1970
Previously Funded
Dated January 14, 1970

Introduction

This program is designed to provide a continuity in skill building for those students now participating in the special education program at the Skill Center, which commenced in February, 1970.

Special Program Coordinating Committee

Joe Sventko	Instructional Specialist, Flint Community Schools
Gene Erickson	Consultant, Vocational Rehabilitation, Genesee Intermediate School District
Donald Lietzke	Special Education, Kearsley High School
James Carr	Supervisor, Division of Vocational Rehabilitation, State Department of Education
Marshall Mossman	Occupational Counselor, Genesee Area Skill Center

Advisers

Richard Loomis	Principal, Genesee Area Skill Center
Robert Kennon	Special Education Division, State Department of Education
Jan Baxter	Special Education Division, State Department of Education
Ervin Hoose	Regional Casework Supervisor, Division of Vocational Rehabilitation
Phillip Beauvais	Coordinator Special Education, Flint Community Schools
James Hilley	Director of Special Services, Genesee Intermediate School District
Neal Cason	Staff Specialist for Extended Services, Genesee Area Skill Center

Background Information

The boys participated in an exploratory program for five weeks. Students were exposed to the five departments at the Center which involved twenty different course offerings. Twenty teachers who were regular members of the Genesee Area Skill Center staff served as teachers during the 1½ hour program. After each program the student moved on to a different area each day, with the students attending Monday, Tuesday, Wednesday and Thursday.

The girls were on a similar program which was exploratory in nature, except with experiences only in the area of business occupations, horticulture and beauty culture.

After the five-week program the students were interviewed to determine the area of instruction in which they could concentrate and learn some basic skills. The instruction was increased to one hour and forty minutes, and to run for a duration of eight weeks, with the following offerings:

Girls - beauty culture two days a week, and business occupations two days a week;

Boys - are generally in one area, although the students in auto body repair are given two days of welding experience the first month of the eight week program. In addition, there are two automotive service classes, one welding (arc and gas), one business occupations, one small engine repair, as well as the auto body repair class.

Scope of the Project (Revised)

It is planned that the instructional program as now offered in the areas of Auto Mechanics, Small Engine Repair, Auto Body Mechanics, Welding, Business Occupations and Beauty Culture will be continued to the summer session. The aim is to provide an opportunity for students to advance from the basic skill building course they are now taking into a more concentrated course which, in many cases, will build saleable skills.

The aim of the program is to place at least ten students into related income producing occupations at the end of the summer. Some students, now enrolled, will need additional training following this program. New students will be enrolled in the program for the first time in the summer session.

It is hoped that a full year's program for the school year 1970-71 will allow students presently enrolled, who will not attend the summer session, to complete their training programs, along with new students who will attend during the summer. Expectations are that some of these students will be enrolled in the regular program in the fall during the morning or afternoon session.

Time Schedule

During the summer session students will be attending from 12:15 to 2:45 P.M. during the regular PM scheduled periods. Some students may attend regular classes, others will be in classes with a different instructor, paralleling regular classes; still others will be in separate classes with their own instructors.

Some Problem Areas

If this program continues and serves as a model for other school districts, as well as new Skill Centers, it is evident that additional services should be built into the program for the summer session, as well as the 1970-71 school year phase.

Needed in addition to previous program are the following.

Program Aide: Has been selected by the Flint Board of Education. He will work a 6-hour day with the following responsibilities:
1. Supervise loading and unloading of buses, as well as student behavior on buses, to and from the four Flint high schools.
2. Assist in the monitoring of all students participating in the program while they are in the lounge areas or in the halls. He will be a trained special education person and shall act as a dean of students under the Program Coordinator.

Curriculum Specialist: A qualified person, preferably with special education and vocational education background; to relate the present Skill Center course curriculum to the specific needs of the Special Education student. This person has not been selected. If the proposal is approved he will be selected by the Principal of the Genesee Area Skill Center. He will work with the Skill Center staff and Student Personnel Service Psychologist under the general direction of the Project Coordinator. He will be paid at the rate required by the Flint Board of Education for a teacher for summer employment.

Student Personnel Services: This specific individual has assisted in the formulation of the original program under the direction of the Genesee Intermediate School District, in conjunction with the district office, Division of Vocational Rehabilitation and the various school districts in Genesee County outside the City of Flint.

During the summer session he shall be a member of the Skill Center staff under the direction of the Project Coordinator. He specifically will provide a continuity of program between the various school districts, the Skill Center, parents, students, teachers, etc. Preferably, this individual should be a qualified school psychologist, as well as have a basic knowledge of vocational education programs, along with vocational rehabilitation procedures.

This individual would develop procedures and forms such as skill profiles, instructors' diagnoses and recommendations, personnel characteristic profile student's progress report, specific skill progress forms, or any other forms needed to provide goals for the instructors as well as the students.

This information is necessary to determine the level of skill ability on the part of the student towards job placement or the need for additional training. He will be paid at the rate as required by the Flint Board of Education for summer employment.

The following is a summary of proposed areas of responsibility of the Student Personnel Services in the expanded program.

A. Admissions - both the Summer and Fall programs.

1. Coordinate identification of potential individuals for various instructional programs: Work with

   a. Special education teacher
   b. Parents

2. Student evaluations

   a. Testing
   b. Progress profiles

3. Counseling

   a. Students - occupational, job readiness, adjustment
   b. Teachers - regarding student progress and supportive effects from school
   c. Parents - general program and projected occupational goals and ultimately job placement
   d. Employers- regarding job placement or training. Help them understand the handicapped and the individual aptitudes and abilities of potential employees
   e. Job placement
   f. Follow up job placement to determine satisfaction of problem areas.

B. Evaluation of the ongoing program

Student Personnel Services - Placement

The program will have the services of the placement specialists of the Genesee Area Skill Center Student Personnel Services. Thye will assist those students, who possess salable skills, into jobs.

Transportation

Transportation will be provided to and from all four Flint high schools during the summer session. Students from school districts outside Flint will come by private transportation, in some cases will be provided by the school districts, or provided by D.V.R.

Course Credit

Credit equal to full credit will be available to the discretion of the local school district.

Program Continuation

Generally all aspects of the program initiated in February to June will be continued, such as: research testing, TV tapes, curriculum development, progress profiles, as well as program and student evaluators.

Clerical

Two co-op type clerical and typist students are needed to handle duties required of the program at the Flint Board of Education required wage: $1.50 hr. x 6 hrs = $9.00 day x 5 day = $45.00 week x 8 weeks - $360.00 x 2 persons = $720.00 (approx.)

Teachers

Paid at the rate required by the Flint Board of Education of $8.97 per hr. of 2½ hrs per day, 5 days per week for 8 weeks for 7 teachers = $6,440.00 (approx.)

Project Coordinator

Paid at the rate required by the Flint Board of Education for summer employment as listed.

Mileage

Cost based on requirement mostly of the Student Personnel Services Psychologist @ 10-15.00 per week for 8 weeks plus the traveling required of other personnel such as Project Coordinator.

Inservice

Cost based on per hour requirement of the Flint Board of Education for meetings required of the staff such as program orientation and evaluation. A minimum of four such meetings are planned.

General Comments

Assignment of responsibility of personnel within the program is determined by the Flint Board of Education under a contract with the United Teachers of Flint for summer employment 1970.

Adminstrative Costs

Item No. 8 under Budget B. Because of lack of direction in this matter, 10% of the requested funding is used as in-kind. The 10% figure was used in previous budgets followed as samples.

Some personnel that will be associated with the program are full time, and responsibilities will be additional, with no additional pay. However, the burden on the adminstrative procedures of the Flint Public School will result in extra work and, in some cases, extra cost.

As directed by the Flint Board of Education, as an example, Mr. Joe Sventko is hired on a summer contract and directed to work with the Special Needs Program. The scheduling of buses, i.e., will be one of his responsibilities associated with the program. Other personnel on the summer program, assigned by the Flint schools at various times, will be Mr. Ed Woodward, who will work with the handicapped youth. Mr. Sventko's prime responsibility will be the M.R. program.

Genesee Area Skill Center

SPECIAL NEEDS PROGRAM

Summer, 1970

Curriculum Description

THE CURRICULUM OF THE SPECIAL NEEDS PROGRAM - PHASE B

Introduction

During the exploratory portion of the Special Needs Program (Phase A), pupils were afforded an opportunity, through multiple sampling, to identify skill areas compatible with their interests and abilities. Phase B represents the developmental segment during which each pupil will begin to acquire and refine the specific skills of his chosen specialty.

The Special Needs Program is a pioneering effort, subject to empirical formulation and modification as the various phases are implemented. Its "raison d'etre", the curriculum, is similarly dependent upon pragmatic experimentation in content and method. The tentative curricula herein described are those which have emerged as a result of teachers and staff specialists working together for one summer session to design realistic courses to meet the needs of their student clients.

Marshall L. Mossman
Project Coordinator
Special Needs Program

Eugene R. Erickson
Assistant Project Coordinator and
Pupil Personnel Services
Special Needs Program

GENERAL OBJECTIVES

The general objectives may be stated in a chronological manner to exhibit the developmental nature and purpose of the Special Needs Program.

1. From a selected list of course offerings the pupil can make an appropriate choice of a specific skill in harmony with his interests, ability and personal goals.
2. By participating in the instructional program of his chosen field, the pupil acquires vocational skills sufficient to qualify him for entry into the world of work on at least a minimum level of productivity.
3. The pupil develops an improved self-image by discovering his talents, through his own insights and with the help of teachers and counselors.
4. The pupil realizes the limitations of his capabilities as a result of actual exposure to levels of skills required in given areas, and adapts his goals accordingly.
5. Through actual or simulated contacts with customers and clients, the pupil recognizes the need for improving personal characteristics and communication skills in order to succeed on the job.
6. Upon successful completion of training in the Special Needs Program the pupil, with the aid of placement and follow-up service, can obtain and hold a paid job in the skill area for which he was trained.

GENERAL CURRICULUM GUIDELINES

Each skill area follows instructional procedures suited to the nature of the skill taught. Several considerations, however, transcend subject lines and apply to all areas:

1. Class size is kept deliberately small, ideally between 8 and 14 students per teacher.
2. Instruction and supervision is intensive and constant.
3. Practical "learn by doing" is emphasized; theoretical study is minimized.
4. Positive "you can do it" approach is stressed.
5. Sequence of skills or operations is presented at a slower pace (compared to regular program).
6. Reinforcement by repetition is a recommended practice.
7. There is no ceiling on achievement; each pupil may ascend the hierarchy of skills to the limit of his ability.

EVALUATION PROCEDURES

In the Special Needs Program, evaluation of pupil achievement is concerned primarily with individual <u>description</u> rather than competitive <u>rating</u>. It is felt that describing what a pupil can do as a result of his learning experience is far more important than comparing him with his classmates. Tentative forms for descriptive evaluation are attached as appendices.

As a concession to tradition, letter grades will also be given. Teachers have at their disposal the whole range of marks from A to D (no failures). Criteria for arriving at grades is entirely their prerogative.

Small Engine Mechanics

The course of instruction in small engine mechanics is organized on a continuum of simple to complex mechanisms as illustrated below:

Lawn Mowers--------> Snow Throwers----> Small Tractors-----> Snow-mobiles----> Outboard Motors-----> Motor-cycles

Single cylinder ----------> Multi-cylinder

Boys may proceed along the continuum to the limits of their abilities to understand increasingly complicated mechanical units. In the Special Needs Program, it is unlikely that the end-goal (multi-cylinder) will be reached, except in rare cases. The main instructional procedure is a combination of individual and small group (2-3) demonstration, followed by individual "learn-by-doing" on actual engines. Instruction appears to be most efficient on a one-to-one teacher-pupil basis.

Course Content

I. Introduction to Small Engines

a) Major engine components
b) Air, fuel and exhaust system components
c) Ignition system components

II, Small Engine Terminology

List of 174 terms and expressions

III. Safety and Shop Care

a) Safety and the repairman
b) Shop safety
c) Shop equipment
   1. Electrical
   2. Tools
   3. Air lines
   4. Turning
   5. Dangerous liquids
d) Shop cleaning
e) Personal shop habits

IV. Use and Care of Hand Tools

a) General mechanics tools
b) Use of tools
c) Tool operation

V. Threads and Fasteners

a) Fasteners
b) Fine threads
c) Course threads

(Contd)

d) Bolts, screws, nuts
e) Washers
f) Key
g) Lock rings

VI. Four-stroke Cycle Engines

a) Components: valves, cylinders, camshafts, crankshafts, bearings, piston and rings
b) Fuel systems: carburetion, fuel and air filter systems
c) Ignition systems: circuits, magnetos, condensers, spark plugs, breaker points
d) Cooling systems

VII. Engine Tune-up and Overhaul

a) Testing
b) Adjusting
c) Servicing
d) Disassembly
e) Assembly

Special Instructional Needs

In contrast to the regular program where multi-purpose test equipment is used, the Special Needs class is better served by more simple, single-purpose units; e.g., separate volt and ohm meters, etc.

Observations and Comments

1. Class characteristics:
   Attendance: variable; not good
   Attention: very good
   Discipline: no major problems
   Attitude: pretty good

2. Special Needs students seem to be less able to transfer elements of mechanical understandings from the abstract to the real; e.g., from a picture of a carburetor to a real carburetor.

3. Pupils display a deep sense of responsibility, and really try.

Welding

The curriculum in welding for the Special Needs pupils provides practice in arc and gas welding, silver soldering, bronze welding, and cast iron welding. Ability permitting, boys may progress from learning the basic techniques to the problems of application of skills to real situations. Instruction in each phase involves: (1) total group lecture and demonstration, (2) individual trials (repeated as often as necessary), (3) one-to-one teacher-pupil performance sessions. Related theoretical information is largely omitted.

Course Content

I. Introduction

A. The Genesee Area Skill Center
1. Purpose
2. Skills offered
3. Staff
4. Tour of the Center

B. Welding class
1. Teacher
2. Students
   a) Previous experience
   b) Desire
   c) Future plans
3. Discussion of how welding relates to vocational demands

II. Course

A. Describe and demonstrate various welding methods and techniques
1. Gas fusion welding (Demonstration: lap joint test plate)
2. Gas bronze welding (Demonstration: butt joint test plate)
3. Electric arc welding (Demonstration: 3 beads on a test plate)
4. Metallic inert gas welding (Demonstration: run a few stringer beads)
5. Tungsten inert gas welding

B. Past experience
1. Give those students who have had some past experience a chance to try their skill
2. Ask those who will to describe the welding machine or how it is used
3. Encourage those who can to select the different types of welds from a stack of welded pieces
4. Inquire if other members of their family are welders

C. Responsibilities and Safety
1. Only leather top shoes may be worn to class
2. After roll is taken and until cleanup is finished, safety glasses must be worn
3. There is to be no hitting, bumping, running or playing at any time while student is in building; injury may result

(Contd)

4. No one is to cry out "fire" when there is none
5. All injuries must be reported to the teacher promptly
6. In case of fire or storm, notice the directions posted for for leaving the building
7. Be sure to cover all exposed skin areas before arc welding
8. Do not look at arc welding less than 50 feet
9. Be sure to wear shaded glasses for gas welding
10. Nothing may be thrown in the welding area
11. Be mindful that all welds are hot. Be sure what you have just welded is marked hot or covered or put in a safe place to cool
12. The emergency buttons are to be used for emergency only. Anyone who misuses them will be disciplined
13. Observe safe practice for each machine as directed by the teacher

D. Class rules and responsibilities

1. Breaks are to be 7 minutes long and the person on break must have a pass during the break. Food may be purchased, but the student must return to the welding lab to eat it
2. There will be a lab job assigned to each student
3. It is the responsibility of each student to clean his own area
4. No fooling around or lying around is allowed
5. No student is to take on an outside job without first consulting with the teacher
6. No materials in the lab are to be used without teacher's consent

E. Machines
1. Types of machines
2. Proper ways for using them
3. Wrong ways

F. Materials
1. Welding gas metal bins
2. Arc welding metal
3. Electrodes selection
4. Gas Rod and fluxes

G. Gas fusion welding - 4 weeks
1. Classroom
   a) Study and discussion of textbook
   b) Overhead transparency projection of oxy-acetylene setup components
   c) Film strip describing setup and lighting of an oxy-acetylene torch
2. Lab work
   a) Lighting and setup of demonstration by the teacher
   b) Each student performs the setup and lighting function
   c) Other students watch to see that it is done correctly
   d) Completion of practice plates for all positions
      Demonstrations for the various welding plates as students are ready - both group and personal
      Personalized instruction mostly used for best performance

(Contd)

H. Arc Welding A.C.
   1. Classroom
      a) Study and discussion of textbook material on arc welding
      b) Overhead projections and discussion of machines and circuit of arc welding
      c) Film strip on machines and safety in arc welding
   2. Lab work
      a) Demonstration
      b) Each student attempts his first weld in a group situation
      c) A booth is assigned to each student and each student is shown how to set his welder and a demonstration is done for the student in his booth
      d) The teacher watches while a few welds are done by each student in his booth
      e) The teacher from this point gives personalized instruction

I. Student work
   1. Each student must complete a selected amount of welds in various positions and with various electrodes
   2. Practical tests are to be completed at various times
   3. When the assigned work is done student may work on special projects and do some creative project work
   4. Each student is encouraged at times to watch another student weld for the purpose of observing proper and incorrect welding skills

Special Instructional Needs

To adapt the regular curriculum to effectively teach the Special Needs class, the following provisions are desirable:

* Special tools for the physically handicapped
* Films and colorful printed materials, simplified
* Posters
* Handouts: single-concept sheets, safety reminders, etc.

Observations and Comments

1. Class characteristics:
   Attendance: very good
   Attention: good
   Discipline: no problem
   Attitude: very good

2. Pupils often wish to attain perfection and tend to remain with one skill or operation beyond the necessary point of proficiency

3. Work planning is a noticeable deficiency

4. Actual basic skill acquired can be as good as that of a regular student

Beauty Culture

The regular program in Beauty Culture consists of several special skills, inter-related but not necessarily sequential in nature.

* Hair stylist
* Beauty salon cosmetologist
* Manicurist
* Wig specialist

All but the last require State licensing in order to practice. Special Needs pupils receive training in all operations and may prepare for the State examinations in Cosmetology, time and ability permitting. The basic instructional technique is small group demonstration, followed by individual practice with teacher assistance. Necessary theoretical material is read to the pupils, with the latter following the text and illustrations in the textbook. A frequent incidental dividend for pupils in the Beauty Culture curriculum is improved personal beauty practices and hygiene.

Course Content

Orientation

Career opportunities in Cosmetology
Organization of beauty salon training facilities
Skills and techniques of personal and environmental hygiene
Desirable personality traits
Ethics of Cosmetology

Bacteriology, Sterilization, Sanitation

Cleaning and sterilization of tools and equipment
Methods of sterilization
Importance of sanitation
Procedures used to control pathogenic bacteria
Safety precautions and difficulties involved in the handling and application of sterilizing agents

Hair Care

Advantages and effects of shampooing the hair
Giving shampoos
Special shampoos for hygienic reasons
Composition and function of hair rinses
Composition and function of special shampoos
Massaging and giving hygienic care to normal scalp and hair
Preparation and application of hair rinses
Caring for the hair
Treatments for dandruff, dry and oily scalp

(Contd)

Special scalp treatments
Vocabulary related to hair cutting, hair shaping and hair dressing
Finger waves
Precautions and difficulties encountered in giving finger waves
Identifying distinctive facial types
Selecting and applying the proper permanent wave
Basic principles of permanent waving

Facials

Preparation for plain facial
Facial manipulations
Draping the patron
Facial for dry skin
Facial for oily skin
Acne treatment
Egg pack
Oil mask
Eyebrow arch
Giving facials
Application of creams
Theory of massage
Reasons for particular manipulation
Corrective eyebrow arching
Diet in relation to clear skin
Cosmetics used in facials
Theory of packs and masks
Benefits of regular facial treatments
Safety precautions and difficulties involved in tweezing eyebrows

Manicuring

Anatomy of the hand, wrist and arm
Important parts of the nail
Important parts beneath the nail
Composition and growth of the nail
Hygienic care of the nail
Different types of manicures and the theory of each
Giving complete manicures

Special Instructional Needs

Teaching aids to assist in presenting essential theory and procedures are indispensable. These include (1) mannequins, (2) color slides, (3) illustrative printed materials, (4) simplified textbooks.

Observations and Comments

1. Class characteristics
   Attendance: excellent
   Attention: very good, with exceptions
   Discipline: good
   Attitude: mostly good

2. Special Needs pupils show a strong desire to please the teacher.

3. The setting is conducive to improvement of speaking and reading.

4. Given sufficient time, the pupils do a beautiful job with basic skills.

Office Training

Four major skills, separate and largely independent of each other, are taught. Pupils are given the opportunity to learn each skill to the extent of his interest and ability. In descending order of sophistication, these skills are:

* Typewriting
* Adding Machine Calculator
* Switchboard
* Ditto and Copy Machines

The usual instructional procedure is (1) total group lecture and demonstration, followed by (2) individual practice and progress. Negative criticism is avoided; encouragement is freely given.

Course Content

I. Introduction to Typewriters

A. IBM selectric-executive models
B. Develop a healthy attitude toward fellow workers and the work world
C. Develop skill level in typewriting at a minimum speed of 25 words per minute on 1, 3 and 5 minute timings, with no more than 2 errors
D. Develop a skill in typing a mailable letter in 20 minutes
E. Develop skill in typing business forms which require centering and tabulation skills
F. Develop skill in typing master ditto and stencil
G. Develop skill in operating master ditto and stencil machine
H. Develop skill in operating the 3M copy machine, multigraph machine, folder machine, etc.

II. Introduction to ten-key electric adding machine

A. Develop skill in addition, subtraction, multiplication, and division
B. Explaining how adding machines are used in different office jobs, such as, discounts, percentage, job hourly pay scale, etc.
C. Time drills for speed and accuracy

III. Introduction to calculators

A. Same method applied here as stated above in Part II.

IV. Introduction to office machines

A. Which machine does what in an office job. Students will decide which machines to use for his own assigned project

V. Introduction to the switchboard

A. Teach method of inter-office messages, outgoing calls, and incoming calls. Office relations and what kind of calls they might encounter.
B. "Operator" type of switchboard set-up.

Special Instructional Needs

The regular facilities and equipment are well suited to the Special Needs Program; a few additional items are desirable, including (1) overhead projector with transparencies on typing, and (2) movies on office practice. It is important, however, for the teacher to have a prior inventory of certain individual characteristics of each pupil:

* Spelling competency
* Reading level
* Emotional make-up

Observations and Comments

1. Class characteristics
   Attendance: very good
   Attention: fairly good
   Discipline: unusually good
   Attitude: usually good

2. The Special Needs class acquire skills at a rate about equal to average regular students.

3. Given enough time and training, the special student can be as competent as the average office worker. Appropriate career goals would include clerk-typist, office machine operator, switchboard operator.

4. A "Business Occupation" class could be of great value to the student in getting help in needed academic skills. For instance, if a pupil happens to be low in spelling skills, the instructor would select material relating to spelling from the typing books; if a pupil is poor in grammar skills, the instructor would select practice material from typing manuals that pertains to development of better grammar skills.

Auto Body Mechanics

The curriculum of the Auto Body Mechanics course is divided into two main skill areas, each with a hierarchy of sub-skills.

Bumping

- Sheet metal finishing
- Roughing of sheet metal
- Use of grinder and other power tools
- Panel replacement

Painting

- Top coat spraying
- Primer surfacer spraying
- Wet sanding
- Feather edging
- Cleaner operations

The Special Needs pupil may "climb the ladder", so to speak, in each division to the limit of his ability. Instructional techniques are described as:

* Specific and direct
* Immediate practice after demonstration
* Short total class sessions
* No homework

Course Content

I. Orientation

A. Requirements for entrance into the Auto Body Repair trade
Mastery of practical skills
Comprehension of technical and related information

B. Personal traits, necessary and/or desirable:

Patience	Industry
Appearance	Initiative
Cooperation	Consideration of others
Physical condition	Reliability and trustworthiness

C. Opportunities in Auto Body Repair
Types of jobs
Places of employment
Compensation

II. Safety practices; shop hazards

A. Hand tools

B. Power tools

(Contd)

III. Materials

A. Preparation
Sandpaper, various grits
Rubbing compounds
Cleaning agents

B. Metals
Characteristics of steel
Sheet metal work

IV. Finishing

A. Cleaner operations

B. Feather edging

C. Wet sanding

D. Primer surfacer spraying

E. Top coat spraying

V. Bumping

A. Small dents (dinging)

B. Filling with plastic filler

C. Sanding operations

Special Instructional Needs

The facilities and equipment are appropriate without modification or additions for teaching the Special Needs class. Supplementary teaching aids, however, are needed. Color slides, 16 mm motion pictures, 8 mm continuous loops and simplified printed materials are particularly helpful.

Observations and Comments

1. Class characteristics
   Attendance: good
   Attention: pretty good
   Discipline: good
   Attitude: good

2. The rate of learning is somewhat slower compared to regular classes, but the end product is of equal quality.

Auto Mechanics

Auto Mechanics is a developmental program involving skills that should be learned in sequence. Beginning with basic vehicle service, the pupil proceeds to the functions of a mechanic's helper, then to apprentice mechanic, next to a system specialist (transmission tune-up, front-end, etc.), and becoming finally an automotive technician. Although the ladder of skills is open to Special Needs pupils, it is likely that most of them will acquire skills for job-placement in the first two categories; e.g., vehicle service and mechanic's helper. Numerous sub-specialties exist, among them the following:

- Lubrication
- Oil change
- Battery service
- Exhaust system
- Brake repair
- Cooling system
- Wheel bearing service
- Under hood inspection
- Tire balance
- Tire repair
- Shock absorbers
- Starter and generator repair
- Minor tune-up

Pupils usually work in pairs, although individual assignments are also common. Good effort and work is liberally praised and rewarded; conversely, the serious consequences of bad work are emphatically pointed out. In a reversal of regular procedure, with the Special Needs class theory follows application and practice. Necessary textbook material is read aloud by the teacher.

Course Content

I. Orientation

A. Explore program
B. Job opportunities

II. Safety

A. Personal safety
B. Shop safety

III. Shop orientation

A. Shop tools and equipment
B. Hand tools
C. Safety equipment

IV. Wheel bearing and seal service

A. Types of bearings
B. Removal and installation
C. Lubrication
D. Rear wheel bearing service

(Contd)

V. Cooling system service

A. Function of cooling system
B. Components
C. Testing the system
D. Servicing the system

VI. Battery service

A. Removal and installation
B. Cleaning
C. Testing
D. Charging

VII. Tire service

A. Types of tire repair
B. Tire balance
C. Shock absorbers

VII. Exhaust system service

A. Components
B. Heat control valve
C. Procedure for removing and installing parts
D. Air tools

IX. Vehicle lubrication and service

A. Lube equipment
B. Procedure
C. Oil change
D. Miscellaneous checks

X. Starting motors

A. Disassembly and assembly
B. Testing
C. Armature turning
D. Starter drives

XI. Brake service

A. Minor adjustments
B. Drum service
C. Wheel cylinder repair
D. Reline brakes

XII. PCU system

A. Purpose
B. Testing procedures and repairs

(Contd)

XIII. Minor tune-up

A. Plug service
B. Distribution service and ignition timing
C. Compression testing
D. Carburetor adjustment

Special Instructional Needs

Individual gauges and test equipment are preferable to the multi-purpose electronic engine analyzers. Attention must be given in the laboratory and, hopefully, in related classes to two important items:

1. Nomenclature and automotive terminology: reading and spelling
2. Facility in use of parts catalogs

Observations and Comments

1. Class characteristics
   Attendance: good
   Attention: usually good, but variable
   Discipline: no real problems
   Attitude: generally good

2. Given enough repetitive practice, performance can be quite satisfactory

Phase 2 School Year 1970-71

Addendum to:

Proposal Phase 1A Feb - June 1970
Previously Funded
Dated January 14, 1970

and

Proposal Phase 1B Summer School 1970
Previously Funded
Dated May 6, 1970

Introduction

This program is designed to provide a continuity in skill building for those students now participating in special education program at the Skill Center, which commenced in February, 1970.

Special Program Coordinating Committee

Joe Sventko	Instructional Specialist, Flint Community Schools
Gene Erickson	Consultant, Vocational Rehabilitation, Genesee Intermediate School District
Donald Lietzke	Special Education, Kearsley High School
James Carr	Supervisor, Division of Vocational Rehabilitation, State Department of Education
Marshall Mossman	Occupational Counselor, Genesee Area Skill Center

Advisers

Richard Loomis	Principal, Genesee Area Skill Center
Robert Kennon	Special Education Division, State Department of Education
Jan Baxter	Special Education Division, State Department of Education
Ervin Hoose	Regional Casework Supervisor, Division of Vocational Rehabilitation
Phillip Beauvais	Coordinator Special Education, Flint Community Schools
James Hilley	Director of Special Services, Genesee Intermediate School District
Neal Cason	Staff Specialist for Extended Services, Genesee Area Skill Center

GENESEE AREA SKILL CENTER

SPECIAL NEEDS PROGRAM

Addendum - Phase 2 School Year 1970-71

Background Information

An instructional skill building program for mentally handicapped, physically impaired and socio-genic disadvantaged youth. Persons served are high school students both boys and girls, between the ages of 16 and 19. Students are enrolled in one of 27 high schools served by the Genesee Area Skill Center. There are 4 Flint City high schools, 21 county high schools and 2 parochial high schools. The program was developed in 3 phases as follows:

Phase 1A was held from February through May 1970, 13 weeks.
Phase 1B was an 8 week summer session from June to August 1970.
Phase 2 is planned for the entire school year 1970-71 beginning about September 21, 1970.

Program Operation

During Phase 1A a maximum of 75 students were contacted and enrolled in the program with an average of 62 attending throughout the program. There were 52 students which received final grades and successfully completed the course.

During Phase 1B, the summer session program, some new students were added and the totals for the program are almost identical with Phase 1A.

Instructional programs were offered, selected by the students, and attended in automobile mechanics, automobile body repair, welding, small engine repair, beauty culture and business occupations. Two classes in automobile mechanics were necessary in Phase 1A. Also, a few students were served in a plant maintenance program.

The proposal, Phase 2, is written with the hope of offering three new programs; graphic arts, landscaping and health occupations. Graphic arts and landscaping are present courses offered during the regular day programs. Health occupations is a new instructional area being planned for the fall at the Skill Center. With these new additions we hope to be able to expand the number of students served to 100.

Information to special education teachers, counselors and others will be necessary along with a special effort in order to inform students and parents of opportunities in the graphic arts and landscaping areas.

Adminstrative and Teaching Responsibilities

1. Teachers - Will continue to have responsibility of instruction with aim toward employment or pre-employment skill.

   $10.00 an hr. (Contract Required) 2 hrs. per day x 4 days per wk. x 35 wks.

2. Clerical - Continue to handle all duties associated with Special Needs Program. Includes, Time sheets, attendance, typing, filing and all general office procedures.

   $1.60 an hr. (2 to 3 required for program) 2 hrs. per day x 5 days per wk. x 40 weeks.

3. Curriculum Specialist - The maximum amount of need for the assignment is figured into the program.

   With the cooperation of the Genesee Intermediate District this person will spend approximately 10% of his time (estimated minimum of $1,000 for inkind services). His responsibilities under this assignment will be as a consultant in curriculum development with the Special Needs Program Instructional Staff at the Skill Center. In addition, he shall complete the curriculum outlines in the areas of automobile mechanics, small engine mechanics, welding, automobile body repair, beauty culture, and business occupations, These curricula shall be tailored to the Special Needs Students from the present curriculum of the Skill Center.

   With the planned addition of three new areas of instruction to the program; graphic art, landscaping and health occupations, the 60 hours built into the program is based upon adding 3 areas, and completing curriculum in the other areas previously run.

   $10.00 an hour approximately 2 hours per week x 35 weeks.

   Amount based upon time necessary in addition to the regular contract working hours of Intermediate District Personnel. <u>This amount only necessary if new instructional areas are added</u>.

   During regular working hours this person is being directed to assist the Skill Center in the Special Needs Program. Replaced responsibilities of last year to be assumed by additional personnel to be hired by the Intermediate District.

4. <u>Psychologist</u> - This person has been serving as assistant to the program coordinator. With planned increase in Students to be served this season he will spend additional 10% of his time (estimated at minimum of $1,000 of in-kind services) over and above last years assignment. He will continue to provide continuity of program in cooperation with the various school districts, the parents, students and teachers. His previous assignments also will continue under the direction of the program coordinator.

   $10.00 an hour approximately 2 hours per week x 35 weeks amount based upon time necessary in addition to the regular contract working hours on Intermediate District Personnel.

   <u>This amount only necessary if new instructional areas are added.</u>

During regular working hours this person is being directed to assist the Skill Center in the Special Needs Program. Replaced responsibilities to be assumed by additional personnel to be hired by the Intermediate District.

5. Program Coordinator - His responsibilities shall continue to have overall responsibilities of the program.

   $10.00 an hour 2 hrs. x 4 days x 40 weeks.

6. Program Aide - This person is necessary to handle student behavior or discipline problems. He would refer problems for counseling to the psychologist or program coordinator. He would, hopefully, be a member of the Skill Center staff who would not be teaching. The need for this person is very important to the operation of the program. He would supervise the loading and unloading of buses at the Skill Center as well as their behavior outside the classroom, such as in the student lounges or in the halls. He will act as a liaison person in the transportation of students.

   $5.00 an hour (not instructional) x 2 hrs x 4 days x 35 weeks.

7. Student Personnel Service - Placement - NOTE: No cost at present, plans are to apply for Part G Funds of Vocational Cooperative Education Programs in January 1971.

   The Division of Vocational Rehabilitation will assume responsibility for placement of students when ready for employment. They will be assisted when possible by the type A teacher-counselor at their home school as well as the placement service of the Genesee Area Skill Center. It shall be the responsibility of the Program Coordinator to coordinate the placement effort by informing the agencies involved when a student is ready for placement.

Student Transportation

The cost of the budget listed under student transportation is based upon an average of $1,704.00 x 20 school districts (excluding Flint). This is a maximum amount. However, in all probability, not all districts will send students or provide transportation.

Since this is an extra school program, there is not reimbursement for the student transportation.

It is requested that Public Act 18 be explored at the local and state levels by participating school districts to secure funds possible to provide transportation. It might be possible for several school districts to share in the transportation of students, thus reducing the overall budget costs.

Program Advances

Since the inception of the program in February, 1970, there have been many successes that came about as the program advanced through Phases 1A and 1B. Some are listed on following page.

Health Occupations

Plans on a tentative basis are to offer a three part program as follows:

1. Home Nursing I (6 weeks)
2. Home Nursing II (6 weeks)
3. Nurse Aide (24 weeks)

The program will be on a pilot basis the first year with the aim of providing a clinical opportunity as the program progresses. It is hoped that all students will complete the home nursing courses and that some will progress in to the nurse aide program at various levels.

Program Flexibility

With past experience, the programs previously offered can serve as a broad base in which students now enrolled, as well as new students may change areas of instruction if necessary.

Program Time

The program will operate approximately from 3:00 to 5:00 P.M.

Credit - High School

1 credit per semester and 2 per year.

Student Age

16-19, all must be in school, enrolled at a constituent high school of the Genesee Area Skill Center

Preference will be given to those students previously enrolled and in the 11th and 12th grades.

Student Eligibility

All participating M.R. and physically handicapped students must meet D.V.R. criteria. All participating disadvantaged students must meet D.V.R. suggested guildelines.

1. Transportation - 4 school districts provided transportation for students to and from the Skill Center.

2. Credit - Most schools gave regular academic credit to participating students.

3. Programming - Some schools are scheduling the 3-5 program as part of the regular scheduling day for their students.

4. Personnel - The Genesee Intermediate District has assigned personnel to the expanded scheduled program for 1970-71.

The Flint District is realigning its personnel responsibilities so Mr. Sventko can spend more time on the expanded part of the program.

With all things considered, with the program involving a total of 21 weeks, of which 5 weeks were spent in a diagnostic program, the staff has been especially satisfied with the continued interest on the part of the students and the program's holding power.

Revenue - Note:

Upon completion of this budget, DVT is to consider their obligation to the overall budget costs. This will reduce the Eligible Funding Costs requirement. At this point, this is not considered in the budget.

Budget - Special Needs Program

Phase 2
School Year 1970-71

A. Eligible Funding Costs

1.	Salaries	
	a. Project director (R. Loomis)	----------
	b. Project coordinator (M. Mossman) (40 wks x 4 days x 2 hrs x $10, sometimes 5 days	3,500.00
	c. Student Personnel Services - Psychologist (G. Erickson) Assist. coordinator - 60 hrs x $10	600.00
	d. Student Personnel Service - Placement	
	e. Curriculum Specialist (Dr. Lohela) 60 hrs x $10	600.00
	f. Clerical (2) - 25 hrs wk x 40 wks x $1.50 hr.	1,500.00
	g. Program aide (not selected) 10 hrs wk x 35 x $5 hr (not instructional)	1,750.00
	h. Teachers (10 areas of instruction 2 hrs x 4 days x 35 wks x $10 hr (hourly rate - contract required)	28,000.00
2.	Employee benefits (5%)	1,797.50
3.	Approvable travel and inservice	
	a. Mileage (Director, Coordinator, etc.) Avg $10 wk x 40 wks	400.00
	b. Inservice $5 per hr (required) x 6 mtgs = $30 x 10 persons	300.00
4.	Duplicating and Printing	
	a. Duplicating cost	300.00
	b. Final report	50.00
5.	Supplies and Materials	
	a. Project materials (books, class materials coveralls, etc. - $25 per student x 100)	2,500.00
	b. Office supplies	100.00
	c. Communications (stamps,etc.)	100.00
6.	Student transportation (participating school districts student transportation costs - not including Flint students)	34,080.00
7.	Other services	
	a. Statistical	
	b. Testing	
	c. Data processing - research & computer use	500.00
	TOTAL	$76,077.50

B. Additional Project Costs
(100% local funds when listed)

1. Salaries

a.	Project Director	----------
b.	Student Personnel Services Psychologist (G. Erickson) Intermediate District Contribution (Additional personnel to be hired)	1,000.00
c.	Student Personnel Services - Placement Funds to be requested from Plan G (approximately February)	----------
d.	Curriculum Specialist (Dr. Lohela) Intermediate District Contribution (Additional personnel to be hired)	1,000.00

2. Test Materials (Psychologicals)

40 students @ $6 per students = 240 — 240.00

a. Wechsler Adult Intelligence Scale
b. Wechsler Intelligence for Children
c. Winegarten Picture Interest Inventory
d. Machower Human Figure Drawing
e. Wide Range Achievement Test
f. Durrell Paragraphs

Above cost reflects instrument to be used in evaluation of students who would participate in the program. To be provided by Genesee Co. Intermediate School Dist. from local tax funds.

3. Transportation

a. Cost provided by Flint Board of Education in transportation of student from Northwestern, Northern, Central and Southwestern; Flint City High Schools to and from Skill Center program. Funds provided from local tax sources. — 2,800.00

DVR material and clerical costs in application procedures
30 min. per case x 80 x $3 = $120 — non-allowable

Medical Evaluations
Cost provided by DVR in determining eligibility of students 40 x 20 = $800 — non-allowable

VT 012 347

McNamara, James F.

A Labor Market Information System for State-Local Program Planning and Evaluation in Vocational Education.

MF AVAILABLE IN VT-ERIC SET.

PUB DATE - Dec70 15p.; Based on presentation at the Annual American Vocational Association Convention (64th, New Orleans, La., Dec., 1970).

DESCRIPTORS - *EDUCATIONAL PLANNING; *MANPOWER NEEDS; *LABOR SUPPLY; *INFORMATION SYSTEMS; INFORMATION NEEDS; STATE DEPARTMENTS OF EDUCATION; INTERAGENCY COORDINATION; STATE SCHOOL DISTRICT RELATIONSHIP; VOCATIONAL EDUCATION; PROGRAM PLANNING; *EMPLOYMENT PROJECTIONS

ABSTRACT - As the labor market becomes more complex and the objectives of vocational education expand, the role of the State Departments of Education in designing unified state-local programs of vocational education is growing. In order to improve educational planning, the Pennsylvania Department developed a labor market supply and demand information system. Comparisons of supply and demand statistics for 142 occupational categories in the 16 major labor market areas in the Commonwealth provide an opportunity for local planners to evaluate present programs and design improved ones. By measuring manpower needs over time rather than current job vacancies, the system provides a basis for better long-range planning. The system also provides indirect benefits, by providing an opportunity for vocational educators to bring their programs to the attention of influential state and local policy-makers. (BH)

VT 012 347

ED0 54390

A LABOR MARKET INFORMATION SYSTEM FOR STATE-LOCAL PROGRAM PLANNING AND EVALUATION IN VOCATIONAL EDUCATION*

James F. McNamara

University of Oregon**

The recent literature on the emerging role of State Departments of Education clearly indicates that State Departments will be expected to exercise a position of leadership in effecting needed changes and improvements in education. These recommendations apply not only to the operation of the general education programs but also should be extended to the rapidly expanding occupational education programs administered and coordinated by State Departments.

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*This article is based on a presentation given by the author at the session on evaluation of vocational education programs sponsored by the American Vocational Education Research Association in conjunction with the 64th Annual American Vocational Association Convention in December, 1970, at New Orleans, Louisiana.

**The author is currently a research associate in the Center for the Advanced Study of Educational Administration at the University of Oregon. Prior to this appointment he was a research associate in the Pennsylvania Research Coordinating Unit for Vocational Education which is part of the Pennsylvania State Department of Education.

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As the labor force has grown and diversified, and its needs have been more clearly identified; as the philosophy and practices of vocational education have broadened to take into account the growing demands in agriculture related jobs, gainful occupations involving home economic skills, technical jobs, health occupations, sales and service jobs of many different kinds and office jobs; as the Federal, State, and local funds have been substantially increased particularly in the last five years; and as many other educational agencies and training programs have begun to play an increasingly important part in supplying trained manpower, the need for the SDE to assume a leadership role to design a total unified state-local program of occupational education becomes increasingly more desirable if not absolutely necessary.

This need for state level leadership to develop a state-local program plan can also be observed in the requirements of the new vocational education act, P.L. 90-576, The Vocational Education Amendments of 1968. Section 123 of this act dealing with new state plans makes it clear that each state will be expected to develop a state-local planning procedure that will assure the best use of funds in light of important training needs of all people as well as requirements of employers.

In an attempt to expand their current leadership activities in occupational education, many states have recently developed planning data basic to their role in helping local school districts and other educational institutions or training agencies within their state to establish better planning capacities or to cope with long range planning problems. Some states have attempted also to serve as interpreters of important

state and national studies which bear upon and have implications for better local level planning and evaluation.

While many recent developments in state-local program planning deserve the attention of vocational education program planners, I have chosen to illustrate only one of these. Hence, the balance of this article provides an overview of a labor market supply and demand information system developed by the Pennsylvania SDE. The development of this system represents one example of how a SDE has assumed the responsibility of exercising the leadership role that SDE's are expected to perform if vocational education is to be more effective in meeting current social and economic demands.

I have attempted here only to provide an overview of the information system. A complete documentation, including all the technical aspects of projecting labor market demand and supply, can be found in Planning Vocational Education Programs in Pennsylvania: Guidelines for the Use of Labor Market Information (Pennsylvania Department of Education, 1970). This overview is sufficiently generalized that the reader might utilize this approach in modeling his own system or adapt part of the scheme to meet his own particular information needs.

PURPOSE OF THE SYSTEM

The purpose of this system is to improve on the labor market information currently available for planning vocational education programs at the local and regional level. Several types of information are presently provided to vocational educators by various government agencies.

Current labor market demand information, however, has been of limited value for local level program planners for a number of reasons. For example, up to this point in time, planners in general have had to plan and evaluate programs based on (1) insufficient labor market information at the local level, (2) manpower publications which contained only state and national trends or (3) local area skill surveys which are obsolete prior to their dissemination.

To allow planners to design and evaluate programs based on more extensive local and regional information, the system generates current supply and demand data for each major labor market area in the Commonwealth. By comparing the supply and demand statistics for each of 142 discrete occupational categories, a set of occupations for which a critical shortage exists in that labor market can be detected. This information then provides local level planners an opportunity (1) to assess the relationship of present vocational education programs to labor market needs and (2) to develop a future program that will tend to reduce such discrepancies.

At this juncture it should be mentioned that supply-demand relationships constitute a type of mathematical model and as such they do not make decisions nor do they replace judgment on the part of the decision-maker. Rather, a mathematical model (and this one is no exception) is designed to aid and support the decision-makers by providing pertinent information for improving future decisions.

The reader should not interpret the author as asserting that the only criterion to be used in vocational education program planning and

evaluation is the productivity of labor market criterion. It should be quite clear, however, that program planning and evaluation cannot be totally effective without including some form of manpower planning that focuses on critical occupational shortages. The delivery of this type of information to the local decision-maker is the primary purpose of this system.

Once supply and demand information have been aggregated and analyzed for each labor market area, this information is also useful to the SDE (1) in projecting their own planning, (2) in determining better resource allocation strategies, (3) in making annual (or more frequent) requests to the legislature, and (4) in supplying the State Board of Education and the State Advisory Council with a source of information for making decisions about vocational education programs.

SYSTEM DEVELOPMENT

The information system is based on the recently developed publication, Vocational Education and Occupations, jointly sponsored by the Office of Education and the Manpower Administration. This document has provided state educational planners and manpower analysts a method for linking the Office of Education Instructional Program Classification System and the Dictionary of Occupational Titles Classification and Code. In this manner more realistic matching of educational output with occupational requirements of the labor force has been achieved.

In the system all statistics are gathered by county rather than by school districts. This allows aggregation of statistics across

counties to form labor market areas. Other geographic planning regions can be formed from the county basis. With the trend toward larger intermediate units and centralization of resources, the county division becomes a more realistic basis for planning. This is particularly true in the case of area-vocational technical schools which are usually designed to service a large number of school districts within a county or regional area.

The next two sections focus on the supply and demand components of a model. To appreciate the magnitude of the system a few statistics are given here. The system contains data for 67 counties on 142 occupational categories over a three year period. The statistics on graduates for each occupation and county are further classified by nine different types of training institutions. This leads to an important final point in this section.

School districts or other educational institutions cannot independently support the type of information system outlined in the discussion above. These training agencies have limited resources and these should be efficiently allocated at the institutional level to develop programs for their own community. Hence, in Pennsylvania, the SDE is viewed as the educational organization that can most efficiently provide <u>each</u> training institution in the Commonwealth with current and standardized labor market information that summarizes the occupational education program activity of <u>all</u> types of training institutions in a given geographic region.

SUPPLY INFORMATION

A complete analysis of the supply of occupationally trained graduates from preparatory programs involves the identification of all principal training agencies and their output of graduates by occupational areas. The agencies considered in this system are those offering preparatory programs for training students who will enter into full-time skilled employment upon completion of their program. Based on discussions with appropriate occupational educators, nine different agencies are included in the supply statistics. These are:

- Public Secondary Vocational and Technical Schools
- Community Colleges
- Private Trade and Technical Schools
- Private Business Schools
- State Trade and Technical Schools
- Manpower Development Training Programs
- State Retraining Programs
- Two-Year Programs in Four-Year Schools
- Private Junior Colleges

Other specialized training agencies have been recently contacted in an effort to determine their output of occupational graduates.

Several factors should be kept in mind in this analysis of trained manpower supply. First, no attempt has been made to evaluate the quality of programs or equate the output of one or more types of institutions. For example, no claim is intended that a technician graduated from a public secondary school was exposed to the same level of

instruction as that provided by a postsecondary institution. Of the agencies included in the analysis, the public schools and a few state-aided or privately endowed trade and technical schools offer occupational education at the secondary level. All other programs operate at the postsecondary level.

Secondly, for the purpose of this system, an occupational education graduate is considered as one who completed his training in a less than baccalaureate degree program. It is assumed that upon graduation the graduate is available to enter the labor force in the occupation for which he was trained. A final factor has to do with the identification of a graduate. The data in this system does not include those whose training has been accomplished on-the-job or with a specific employer or through apprenticeship training. Neither does the data include those already employed who received training supplementary to their occupation. These individuals are already included in the labor force and to enter them in the supply statistics would involve duplicate entries in the system.

DEMAND INFORMATION

Labor market demand information for each of the 142 occupations in each of the 67 counties in the system is supplied by the Pennsylvania Department of Labor and Industry. The demand information has been developed using the U. S. Department of Labor approach described in their document entitled Tomorrow's Manpower Needs: National Manpower Projections and a Guide to Their Use as a Tool in Developing State and Area Manpower Projections.

Based on these projections plus additional information on annual withdrawal and growth rates for each occupational category in the system, annual demands have been estimated for all 142 occupations in each county. The reader who wishes to explore the technical aspects involved in making these projections can find the documentation in the initial reference cited in the introduction.

It should be emphasized that this type of planning and evaluation data on manpower requirements represents a significant departure from the types of information used in the past. One reason for this is that labor market demands expressed in this system are not demands representing "current job vacancies" but rather they represent estimates of demands which are expected to occur over time. This type of information provides a basis for better long-term planning. Such data also allow for the evaluation of different alternative program strategies. Or put another way, this system provides information that can be used for simulating various alternative decisions about future program developments prior to implementation.

SUPPLY/DEMAND RELATIONSHIPS

Once the necessary information about the supply and demand components of the system are processed, supply-demand relationships can be established. The two components of the system are integrated using the matching procedure outlined in Vocational Education and Occupations. Discrepancies between the supply and demand statistics can then be easily determined almost by inspection.

Given the previously described dimensions of the system, it is

not possible to illustrate here the information outputs for the entire system. The information provided by the system for each training institution in any of the sixteen major labor market areas of Pennsylvania can be found in the publication Planning Vocational Educations Programs in Pennsylvania.

I would, however, like to illustrate the type of planning information that the system does generate. Assume for the moment you are responsible for the business education program in a particular school in the Philadelphia Labor Market Area. Assume further that you might wish to develop a new and innovative program within your school. The system could provide you with the type of information found in Tables One and Two.

Insert Tables One & Two

Table One shows the annual supply and demand of trained graduates in the clerical and kindred occupations for your labor market area. While the descriptions within the table are self-explanatory, the reader should note that Column Seven provides the shortage or excess of trained graduates in each occupational category.

Table Two represents an explanation of the source of supply of graduates listed in Column Six of Table One. Note that the system requires the local level planner to focus on all training activities and institutions within the labor market. In this manner the planner can evaluate the contribution of each type of training institution toward the improvement of the socioeconomic posture within the labor market.

TABLE ONE

PENNSYLVANIA MANPOWER AND TRAINING DATA

Summary of Clerical and Kindred Workers in the Philadelphia Labor Market Area for 1967

OCCUPATIONAL CLASSIFICATION	Census (1960) (1)	Projected Employment (1975) (2)	Annual With-Drawal (3)	Annual Growth (4)	Annual Demand (5)	Annual Supply (6)	Unmet Demand (7)
CLERICAL & KINDRED WORKERS	235,443	341,500	12,085	8,203	20,288	10,664	9,624
Accounting Clerks & Bkprs.	17,283	23,210	716	579	1,297	1,788	491*
Bank Tellers	2,545	5,270	177	124	301	--	301
Cashiers	9,938	20,270	769	484	1,253	225	1,028
Office Machine Operators	9,574	23,290	976	697	1,673	1,153	520
Postal Clerks	5,864	6,240	160	147	307	--	307
Receptionists	2,493	3,940	156	117	273	286	13*
Secretaries	37,415	61,960	2,600	1,982	4,582	2,989	1,593
Shipping & Receiving Clerks	9,945	10,390	268	247	515	22	493
Stenographers	5,384	8,800	366	278	644	643	1
Stock Clerks & Storekeepers	7,981	16,250	648	485	1,133	59	1,074
Telephone Operators	8,234	9,540	426	198	624	—	624
Typists	16,688	25,460	1,144	583	1,727	275	1,452
Other Clerical Workers	102,099	126,880	3,677	2,282	5,959	3,224	2,735

* implies excess supply over demand.

TABLE TWO

DISTRIBUTION OF SUPPLY OF GRADUATES IN BUSINESS EDUCATION PROGRAMS BY OCCUPATIONAL CATEGORIES AND TYPE OF TRAINING INSTITUTION - PHILADELPHIA LABOR MARKET AREA - 1967

OCCUPATIONS	TYPE OF INSTITUTION									TOTAL CONTRIBUTION BY OCCUPATIONS
	Public Secondary Schools	Community Colleges	Private Trade Schools	Private Business Schools	State Trade and Tech. Schools	Manpower Develop-ing Training Act	State Retrain-ing Act Programs	2-Yr. Programs in 4-Yr. Schools	Private Junior Colleges	
CLERICAL & KINDRED WORKERS	7,052	279	103	2,692	16	133	--	--	389	10,664
Accounting Clerks & Bkprs.	1,451	61	--	269	--	7	--	--	--	1,788
Bank Tellers	--	--	--	--	--	--	--	--	--	--
Cashiers	--	--	--	225	--	--	--	--	--	225
Office Machine Operators	131	--	--	1,016	--	6	--	--	--	1,153
Postal Clerks	--	--	--	--	--	--	--	--	--	--
Receptionists	--	--	--	286	--	--	--	--	--	286
Secretaries	2,164	201	99	136	--	--	--	--	389	2,989
Shipping & Receiving Clerks	--	--	--	22	--	--	--	--	--	22
Stenographers	--	17	--	529	--	97	--	--	--	643
Stock Clerks & Storekeepers	--	--	4	55	--	--	--	--	--	59
Telephone Operators	--	--	--	--	--	--	--	--	--	--
Typists	200	--	--	52	--	23	--	--	--	275
Other Clerical Workers	3,106	--	--	102	16	--	--	--	--	3,224

Note: Row Totals in Table Two correspond to appropriate entries in column six of Table One.

Tables such as those illustrated here provide a statistical base to determine the extent to which present vocational educational programs are meeting manpower needs in a specific labor market. Based on the information provided here, the business education planning specialist may wish to develop new programs for any one of a number of occupational categories for which critical occupational shortages are shown in Table One.

Although these two tables exhibit data only for 1967, the system can produce equivalent statistics for the next three years following this one. Hence, the system allows the planner to see program expansion in various types of training agencies over time. For example, the planner could monitor the progress of each of the 108 cells in Table Two for a three year period to assess the nature and scope of these program activities in his labor market.

Tables One and Two could have been further divided to illustrate the relative contributions of each of the five Pennsylvania counties (Bucks, Delaware, Chester, Montgomery and Philadelphia) that are contained in the Philadelphia Labor Market Area.

Based on information in the system, a similar set of tables could have been developed for a set of occupational categories in any one of the following major occupational classifications in the Philadelphia Labor Market Area:

- Professional, Technical & Kindred Workers
- Farm and Farm Workers
- Managers, Officials & Proprietors

- Sales Workers
- Craftsmen, Foremen & Kindred Workers
- Operatives & Kindred Workers
- Service Workers

Further, this system can now provide similar information for each of the sixteen major labor market areas in the Commonwealth or for any one of the 67 counties.

FUTURE DESIGNS

In the remaining portion of this article I would like to offer some summary remarks about the information system discussed here. These remarks are of a general nature. This strategy is used so that the remarks might provide some guidelines for the development of similar systems by other SDE's and occupational education planning agencies.

1. In light of the recent movement toward planning an occupational education program within a labor market area (or other regional basis) rather than on an individual community or school district level, there is a clearly defined need for more extensive planning information that can be simultaneously utilized by all training institutions and agencies in such a network.

2. Given the recent emphasis placed on long-term planning and evaluation by such influences as (1) federal and state legislation, (2) Programming-Planning-Budgeting Systems, and (3) the general notion of accountability on the part of public institutions, the need for better information to relate the performance of the total occupational education system to socioeconomic demands becomes increasingly more realistic.

3. Given the need to establish a large information system to support a total unified occupational education program plan, this author believes that the SDE is the logical educational organization who can most efficiently operate such a system within a state. Agreement on the comments made in (1) through (3) plus a willingness on the part of the state to assume a larger leadership role in the development of occupational education programs, prompted the Pennsylvania SDE to design, operate, and maintain the system illustrated here.

A similar occupational education information system has been developed by the Oklahoma SDE. The rationale for the development of their system follows a similar logic. I am equally sure this leadership role has been exercised by a number of other SDE's, and that more states intend to design similar systems in the immediate future.

4. It is also important to realize that state involvement (or leadership) does not terminate with the delivery (or dissemination) of labor market information to local level planners. In fact, from an implementation point of view, planning just begins a new cycle. For this reason the Pennsylvania SDE has designed some rather explicit strategies for the use of this information. These strategies include the identification of alternative plans and methods for using this data as well as the identification of other specific information sources that can be used for certain micro-level problems that arise (1) in long term planning, (2) in the selection of new program areas, and (3) in the evaluation of the existing operations.

5. Finally, there can be little doubt about the desirability

of informing other governmental agencies and socioeconomic planning commissions about the philosophy, objectives, purposes and recent developments in occupational education. The development and, even more importantly, the extensive use of a labor market information system within a state provides an excellent opportunity for vocational educators to bring their programs and activities to the attention of influential state and local policy experts and decision-makers.

In Pennsylvania, for example, throughout the development design and dissemination phases of the system, a large number of agencies and decision-makers have for the first time acquired a clear picture of the true nature and scope of occupational education. These agencies include the State Planning Board, the State Department of Labor and Industry, the State Department of Community Affairs, the Appalachian Regional Commission and several county planning commissions.

I would like to leave the following message for SDE's who wish to assume a more active role in shaping the future of state-local planning policies for occupational education. While it is true that necessity is the mother of invention, it can also be said that genuine interest and active involvement can be properly called the father of change.

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McKinney, Floyd L.
An Evaluation of Citizens' Advisory Committee Operation and Function.

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ABSTRACT - In an attempt to determine opinions held by citizens, vocational educators, and school administrators concerning the operations and functions of the vocational citizens committee, a questionnaire was distributed to members of each group. A 5-point scale was used to measure respondents' feelings on organization and functions. The respondents, who were classified according to age, education, and committee experience, represented 85 percent of the 298 persons contacted. The study found several areas in which the three groups differed, although opinions sometimes were similar. Recommendations were made regarding committee size, memberships, and organization, and priorities for further research were identified. This paper is based on the findings of a Ph.D. dissertation submitted to Michigan State University. (BH)

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16p

AN EVALUATION OF CITIZENS' ADVISORY COMMITTEE OPERATION AND FUNCTION

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Paper Presented at the
American Vocational Education Research Association
Program on Vocational Education Evaluation

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American Vocational Association
New Orleans, Louisiana

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AN EVALUATION OF CITIZENS ADVISORY COMMITTEE OPERATION AND FUNCTION*

INTRODUCTION

Vocational education, at all levels, is confronted with a fast changing scene. This phenomenon is identified by the changes occurring in the nature of jobs, the advancement of technology, population mobility, and an incessant demand for new skills and new knowledge. If vocational education is to provide the opportunity for each individual to develop to his fullest potential it is essential that the program offered in the schools be based at least in part on the complexities of the world of work. The superintendent of schools and the board of education have the authority and the responsibility for providing an educational program to prepare youth and adults for the occupational world. One of the techniques frequently utilized for assisting administrators and boards of education is the vocational citizens advisory committee.

NEED FOR THE STUDY

Much has been written and said regarding citizens committees and their use. However, as Campbell notes there is great need for invention and evaluation. He further writes

> I am convinced good practices are still to be born. In all probability a good practice in one locality may not be so good in another. In other words there is no royal road to public participation. There is however, a great resource in the part citizens can play in shaping educational policy for the public schools.[1]

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*This paper is a report of the findings of a thesis for the Ph.D., "Citizen Perceptions and Professional Educators Expectations Regarding the Vocational Citizens Advisory Committee," which was completed at Michigan State University in 1969.

[1]Roald F. Campbell, "Public Participation Can Be More Constructive," Nation's Schools, 51:60, February, 1953.

The functions and/or operation of the vocational citizens advisory committee can be an involved pattern of relationships and has at times been confusing and frequently totally neglected. Burt has noted that

> . . . there is little documented literature concerning actual functioning of general advisory committees, superintendents, their supervisory staff, and . . . Boards [of Education] will find themselves in an experimental area.[2]

Griffiths in writing about the citizen committee as a method of working with the community was concerned about " . . . the lack of definite studies on which to make decisions on the issues at stake."[3] Anderson shows concern about the amount of research available regarding citizens advisory committees by stating "there is a dearth of research dealing with the topic."[4]

If the differences of opinion between citizens and educators can be minimized regarding citizens committee operation and functions the prospects are much better for substantial contributions to be made by the citizens committees. There is a dearth of research dealing with citizen and educator opinion regarding citizen committee operations and functions. If the differences between citizens and educators regarding citizens committees can be determined then steps can be taken to contribute to more effective use of citizens committees.

STATEMENT OF THE PROBLEM

The broad purpose of this study was to determine opinions held by citizens, vocational educators, and school administrators concerning the operations and function of the vocational citizens committee.

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[2]Samuel M. Burt, Industry and Vocational-Technical Education (New York: McGraw-Hill Book Company, 1967), p. 351.

[3]Daniel E. Griffiths, Human Relations in School Administration (New York: Appleton-Century-Crofts, Inc., 1956), p. 302.

[4]Vernon E. Anderson, Principles and Procedures of Curriculum Development (New York: Ronald Press Company, 1956), p. 183.

Vocational education, at all levels, is preparing students to work in a highly industrialized and quickly changing economy. To help keep vocational education programs modern and in step with the needs of our economy vocational educators have frequently utilized the services of community citizens to provide advice and direction to their programs.

If educators are to work effectively with citizens advisory committees it is important that they possess an understanding of how various groups perceive and expect the vocational citizens advisory committee to function and operate. Probably the more important groups holding perceptions and expectations regarding the functions and operation of the vocational citizens advisory committee are citizen members of vocational advisory committees, vocational teachers, vocational directors or coordinators, and school administrators.

The extent of agreement on the functions and operation of vocational citizens advisory committees by the citizens serving on these committees and the professional education personnel with whom the citizens work and with whom they come in contact, is important to the conduct of committee responsibilities. The basic problem of this study was: What are the differences between citizen members of vocational advisory committees and members of selected professional education groups concerning the function and operation of the vocational citizens advisory committees?

OBJECTIVES OF THE STUDY

(1) To identify differences in the perceptions of citizen vocational advisory committee members and the expectations of vocational teachers, vocational administrators, and school administrators concerning the functions and operation of the vocational citizens advisory committee, and (2) to identify relationships between certain functions and/or operations as perceived by the citizens and as expected

by the school administrators, citizens, or vocational teachers, directors, and coordinators and the selected background variables of age, years of experience with vocational citizens advisory committees, years of schooling, previous enrollment in vocational education classes, training in vocational courses in a post-high school technical institute, business, or trade school, and college or university courses in the administration, philosophy or teaching of vocational education.

DEFINITIONS

The following definitions or explanations are given to prevent any possible misunderstandings.

1. Vocational Citizens Advisory Committee: In this study we were referring to a school-initiated committee composed of local citizens. The term is used quite broadly to encompass what is commonly called craft committees, departmental committees, and general vocational citizens advisory committees. The committees were associated with schools participating in the Evaluation Systems Project.

2. Citizens Committee Members: Citizens of a local school district who have served at least one year on a vocational citizens advisory committee.

3. Educators: Superintendents of schools, senior high school principals, vocational directors and/or coordinators, and teachers of vocational education in the local school systems.

4. School Administrator: A chief school administrator official or his chief administrative associates and high school principals in the schools participating in the Evaluation Systems Project.

5. Position Group: Refers to either school administrators, citizens, or vocational teachers, directors, and coordinators.

6. Citizens or Citizen Member of Advisory Committee for Vocational Education: A local community resident who served on local citizens advisory committee of the schools participating in the Evaluation Systems Project.

7. Vocational Teacher: An educator in the local school system responsible for conducting vocational education classes and who worked with citizens advisory committees in those schools participating in the Evaluation System Project.

8. Vocational Director or Coordinator: The chief administrative official for the local program of vocational education in the schools participating in the Evaluation Systems Project.

9. Vocational Educators: Vocational teachers, directors, and coordinators in the local school system who worked with citizens advisory committees in those schools participating in the Evaluation Systems Project.

10. VTDC: Vocational teachers, directors, and coordinators.

11. Evaluation Systems Project: A project in the Research and Development Program in Vocational-Technical Education in Michigan State University. Project personnel worked with local schools having comprehensive programs of vocational education in an attempt to develop and tryout a systematic approach to local program self evaluation.

RESEARCH PROCEDURES

Population

For the purpose of this study the population included citizen members of vocational advisory committees, vocational teachers, vocational administrators, and school administrators associated with schools which participated in the Evaluation Systems Project[5] and which have used vocational citizens advisory committees. The Evaluation Systems Project was a part of Michigan State

[5]Harold M. Byram, Evaluation Systems for Local Programs of Vocational-Technical Education, Final Report of Project No. 7-0211 (East Lansing: Michigan State University, 1968).

University's Research and Development Program in Vocational-Technical Education.[6]

The schools associated with the Michigan Evaluation Systems Project were selected for this study because

1. They presented an opportunity to sample schools from different regions of Michigan (Figure 1),
2. They represented a cross-section of the various sizes of school systems in Michigan (Table 1),
3. The schools utilized vocational citizens committees during the project year,
4. All of the schools had at least three vocational education programs underway in vocational reimbursable fields (Table 2), and
5. Further study of citizens advisory committees contributed to a greater body of knowledge relative to the Evaluation Systems Project.

Six of the schools organized citizens advisory committees. These six schools involved 303 citizens for an average of 50.5 citizens per school.

Questionnaire

The questionnaire used for this study was divided in two major parts. Part I of the questionnaire provided information about the respondent. Each respondent was asked to provide information regarding his age, years associated with a citizens advisory committee, years of schooling completed, years enrolled in high school vocational education classes, years enrolled in a post-high school technical institute, business or trade school, and whether they had taken college or university courses in the administration, philosophy or teaching of vocational education.

Part II of the questionnaire contained items relative to the activities of a vocational citizens committee. Items were developed according to the following areas.

---

[6] A Developmental Vocational Education Research and Teacher Education Program Based on a Clinical School Concept, A Final Report of Contract OE 5-85-111 (East Lansing: Michigan State University, 1967).

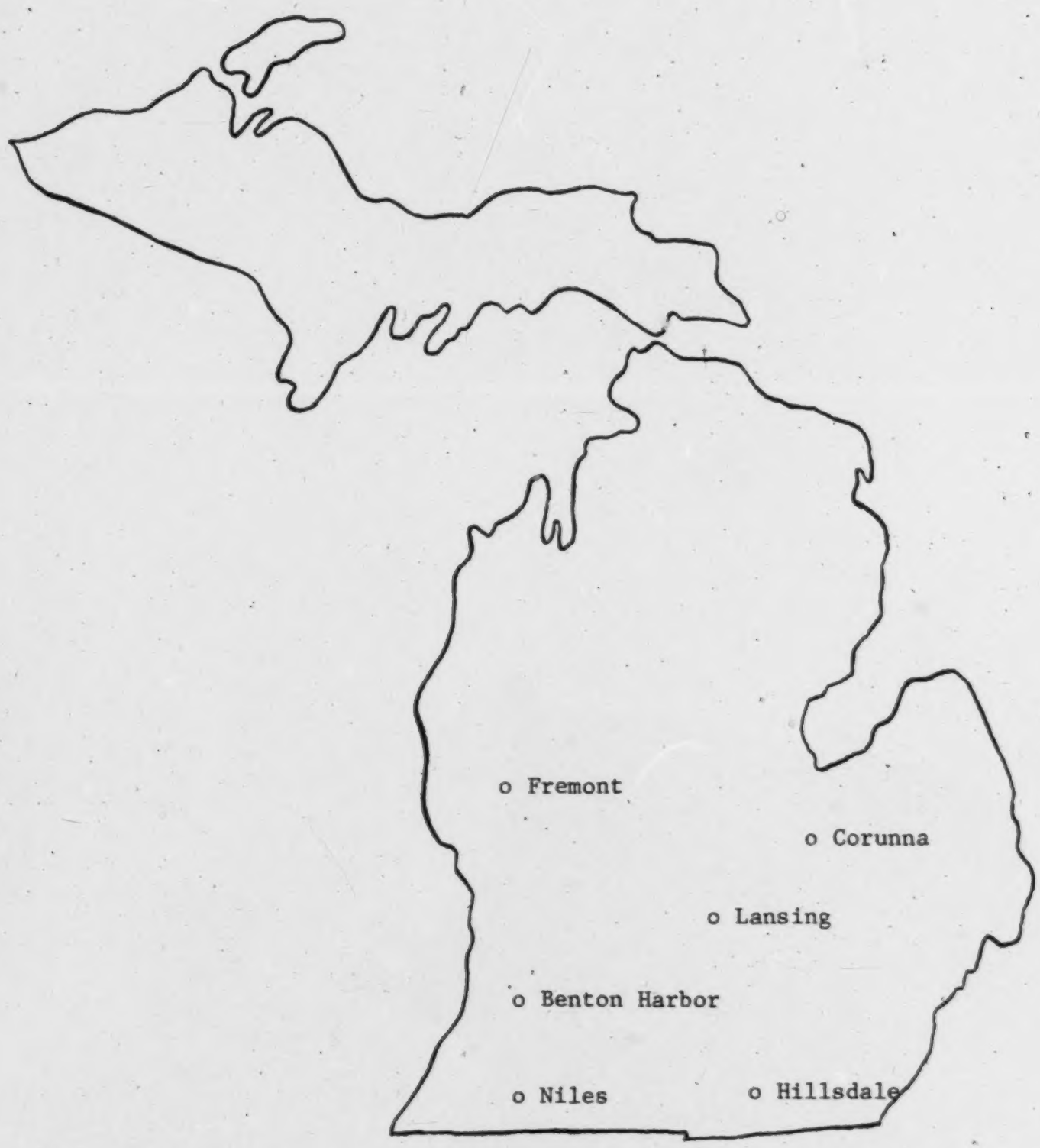

Figure 1

LOCATION OF THE SCHOOLS STUDIED

TABLE 1

SIZE OF SCHOOLS IN 1966-67

Name of School	K-12 Enrollment
Benton Harbor	11,900
Corunna	2,460
Fremont	2,600
Hillsdale	2,675
Lansing	32,109
Niles	6,510

TABLE 2

VOCATIONAL EDUCATION PROGRAMS IN THE SCHOOLS

School	Agricultural Education	Business Education	Home Economics	Industrial Education	Cooperative Education
Benton Harbor	x	x	x	x	x
Corunna	x	x	x		x
Fremont	x		x		x
Hillsdale	x		x	x	x
Lansing		x	x	x	x
Niles	x	x	x		x

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1. Committee member selection
2. Committee organization
3. Committee member orientation and information processed
4. Committee functions

The questionnaire was designed using a five-point scale and the respondents were asked to indicate the importance of the item along this scale. As respondents recorded their evaluation of each item their response was measured as follows:

5 - Strongly Agree

4 - Agree

3 - Undecided

2 - Disagree

1 - Strongly Disagree

Draft copies of the questionnaire were submitted to a panel of six jurors. Included on the panel of jurors were a superintendent of schools, two university professors who also serve as their vocational area coordinators, a dean of vocational-technical education at a community college, a university vocational education department chairman, and a noted researcher and author of many publications about citizens advisory committees.

Data Collection Procedures

The key to successful data collection in this study was the cooperation of the superintendent in each of the schools. Each superintendent endorsed the study by sending a personal letter to the prospective respondents in his school district.

All mailings were made from East Lansing, Michigan at a ten-day interval. Items were mailed to the prospective respondents in the following order:

1. Questionnaire, appreciation card, addressed-postage paid return envelope, and a cover letter signed by the superintendent of schools

2. Thank you - Reminder card signed by the superintendent of schools
3. Second questionnaire, appreciation card, addressed-postage paid return envelope, and a letter from the study director
4. Reminder card signed by the superintendent of schools.

The effectiveness of this procedure is revealed in the per cent of returns. The population represented 298 individuals who could be contacted. A total of 254 questionnaires were received for an 85.2 per cent return. School administrators returned 100 per cent of the questionnaires; while citizens returned 83 per cent and the vocational educators returned 87 per cent. (Table 3).

TABLE 3

POPULATION AND PER CENT OF RETURNS OF STUDY RESPONDENTS

Position Groups	No. Sent Questionnaires	No. of Returns	Per Cent Responding
School Administrators	18	18	100
Citizens	218	182	83
VTDC*	62	54	87
Totals	298	254	85.2

*Vocational Teachers, Directors and Coordinators.

Procedures for Treatment of Data

The one-way analysis of variance the chi square test were used in this study.

RESPONDENT BACKGROUND INFORMATION

Most of the respondents were twenty-five to fifty-four years of age. Slightly over three-fourths of the respondents had served on or worked with citizen committees

for two years or less. The respondents were a well educated group. School administrators reported the greatest amount of education while the citizens indicated the least. Nearly 40 per cent of the respondents had no vocational education classes in high school and 59 per cent had no post-high school vocational education. Nearly 85 per cent of the vocational educators had been in college or university courses in the administration, philosophy or teaching of vocational education, while only 15.5 per cent of the citizens and 55.6 per cent of the school administrators had been enrolled in such courses.

FINDINGS

Since only schools associated with the Evaluation Systems Project which had vocational citizens advisory committees were included in the study the findings must necessarily relate only to these schools. The schools represented in the study are diverse in their vocational program offerings and in their approach to citizen advisory committees. Because of this diversity, it seems reasonable to assume that the findings of this study may be generalized to situations where citizens advisory committees are used for purposes other than those related to program evaluation or to vocational education.

Citizens, vocational educators, and school administrators differ in their opinions concerning citizens' committee selection and organization. Generally, the respondents tended to support a committee size ranging from five to nine persons. Although there are distinct differences between educators and citizens regarding their choice of time for the annual organizational meeting of the citizens' committee, the date chosen most frequently was September 1.

Support for persons of various levels of education being represented on the committee was stronger by school administrators and vocational educators than by citizens. Vocational educators and citizens expressed less agreement than the school administrators regarding committee membership, including repre-

sentatives from the community labor force.

Reaction to whether a committee member should accept appointment to a citizens' committee only after he is sure the school is actually seeking advice was quite varied, but a distinct difference was evident. The citizens most strongly favored a committee member accepting appointment to a committee only after he is sure the school is actually seeking advice followed by the vocational educators, with the school administrators exhibiting the most agreement. The citizens registered the greatest support for the local board of education making the final selection of committee members as contrasted to vocational educators who expressed the most disagreement.

The most support for regularly scheduled citizens committee meetings was indicated by citizens followed by the school administrators and the vocational educators. Generally, all respondents favored committee officers coming from the lay members of the committee.

The general concensus of the respondents was that the vocational director or coordinator should be the school representative to the citizens advisory committee. However, nearly 50 per cent of the vocational educators favored the vocational teacher as the school representative. School administrators, followed in order by citizens and vocational educators, favored liaison persons from the school working with the citizens committee, a person from the school keeping committee members informed about the school's vocational programs, and a liaison person keeping committee members informed about trends in vocational education.

The citizens agreed more than the school administrators or the vocational educators that a committee should consider only the problems assigned to it by the board of education or the school administration. General support was evidenced in the responses of the groups for a citizens committee to evaluate local vocational education policies, local long-range plans for vocational education,

facilities planning and improvement, and equipment planning and improvement. The respondents were almost unanimous in their agreement that citizens committees should annually evaluate their own work and effectiveness.

RECOMMENDATIONS

The following recommendations regarding citizen advisory committee operation and function are based on the findings of this study, review of the current literature, and the experience of the writer.

--Citizen advisory committee size should range from five to nine persons.

--September 1 is the most ideal time for the annual organization meeting of the citizen advisory committee.

--Persons of various levels of education should be represented on the citizen advisory committee.

--Citizen advisory committee membership should include representatives from the community labor force.

--Citizens should accept membership on a citizen advisory committee only after they are sure the school is actually seeking advice.

--The local board of education should make the final selection of individuals to serve on the citizen advisory committee.

--The citizen advisory committee should hold regularly scheduled meetings, with the qualification that there must be a recognized need for meeting.

--Citizen advisory committee officers should be chosen from the lay members of the committee.

--The vocational director or coordinator is the most logical choice of school representative to the general vocational education citizen advisory committee.

--Liaison persons from the school should work with the citizen advisory committee, should be responsible for keeping the committee members informed about the school's vocational program, and should keep committee members informed about trends in vocational education.

--Citizen advisory committees should not be limited to considering only those problems assigned to it by the school's board of education or by the school administration.

--A primary function of a citizen advisory committee is the evaluation of local vocational education policies.

--Citizens advisory committees should make evaluations regarding local long-range plans for vocational education, should make evaluations regarding facilities planning and improvement, should make evaluations regarding equipment planning and improvement, and should annually evaluate their work and effectiveness.

IMPLICATIONS

It would appear that educators should encounter educational experiences during their formal years of schooling that would better prepare them for work with citizen groups. Teacher educators in vocational education should be aware of the need for prospective vocational education teachers, directors, and coordinators to possess a knowledge of citizen committee operations and functions sufficient to allow them to effectively work with citizen groups. Many educators agree that administrative commitment to the need for citizen groups is crucial to the successful operation of a citizen advisory committee. This would seem to make it crucial that prospective school administrators receive training in the techniques and procedures of working with citizen committees.

Another educational implication is in the area of in-service training. Based on the findings of this study it can be assumed that important differences do exist between citizens and practicing educators. In-service education programs for educators could prove to be a profitable means of securing better understanding in regard to the use of citizen committees.

The findings of this study seem to suggest that the school representative working with citizen groups could improve the effectiveness of citizen groups

by an educational and informational program for the citizen committee members. Perhaps a good many of the differences existing between the citizens and the educators could be overcome by a better understanding on the part of the citizens in regard to the purposes of the citizens committee.

RECOMMENDATIONS FOR FURTHER STUDY

The following recommendations for further study are suggested:

A. It is helpful to those individuals working on and with citizens committees to know where differences of opinion might occur, but it would also be helpful to know the factors contributing to these differences. In-depth studies should be conducted to determine more adequately the factors contributing to the opinions held by those individuals associated with the serving on citizen advisory committees.

B. It is evident from this study and from the review of literature that there is a divergence of opinion concerning the effect of citizen committees on school-community relations. Where it can be determined that an effective citizen advisory committee has been operating, studies need to be conducted to determine what the effect has been on school-community relations.

C. Experimental studies need to be conducted which would involve citizens and professional educators in various types of situations and kinds of roles in an attempt to discover the best possible working relationship between these two groups. Different approaches should be tested regarding committee member orientation and information processes, and committee functions.

D. There is a dearth of information available regarding the functions of citizens advisory committees. Studies which would investigate the activities of successful citizens advisory committees would be most helpful to citizens and educators in planning and conducting advisory committee activities. This area is also in need of experimentation. Different kinds of activities should be tried and evaluated.

VT 012 361

De Koning, Richard

A Study to Identify and Determine Ways of Meeting the Vocational Education Needs in Madera County, California.

Fresno City Coll., Calif.

California Coordinating Unit for Occupational Research and Development, Sacramento

MF AVAILABLE IN VT-ERIC SET.

PUB DATE - Jul69 87p.

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ABSTRACT - This study was undertaken to identify vocational education needs in Madera County and determine ways to meet these needs. Information gathered on potential students through questionnaires and combined with job information obtained through the State employment department, revealed deficiencies in existing programs. Evaluations of existing facilities and equipment were made by a team of 15 college instructors. The compiled data, including information on available financial assistance, were analyzed to determine the most favorable areas of training and the need for additional equipment. The study concluded that public interest is great enough to warrant initiating the program in several areas of training. Existing facilities, however, were found to be generally inadequate, requiring programs to be either off campus or in mobile units. (BH)

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A STUDY TO IDENTIFY AND DETERMINE WAYS OF MEETING THE VOCATIONAL EDUCATION NEEDS IN MADERA COUNTY, CALIFORNIA

State Center Junior College District

Fresno, California

VT012361

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MEMORANDUM

TO: The ERIC Clearinghouse on Vocational and Technical Education
The Ohio State University
980 Kinnear Road
Columbus, Ohio 43212

FROM: (Person) Robert F. Barnes (Agency) Research Coordinating Unit
Vocational Education Section, California State Dept. of Education
(Address) 721 Capitol Mall, Sacramento, California 95814

DATE: December 7, 1970

RE: (Author, Title, Publisher, Date) Richard De Koning, State Center Junior College District, Fresno City College, "A STUDY TO IDENTIFY AND DETERMINE WAYS OF MEETING THE VOCATIONAL EDUCATION NEEDS IN MADERA COUNTY, CALIFORNIA."

California Research Coordinating Unit for Vocational Education, July 1969.

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A STUDY TO IDENTIFY AND DETERMINE WAYS OF MEETING THE VOCATIONAL EDUCATION NEEDS IN MADERA COUNTY, CALIFORNIA

By

Richard De Koning, Director
State Center Junior College District
Fresno City College
Fresno, California

July 1969

The research reported herein was pursuant to a grant with the Research Coordinating Unit, Vocational Education Section, State Department of Education, Sacramento, California. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

California Research Coordinating Unit for Vocational Education
Kenneth G. Densley, Consultant
Sacramento, California

FOREWORD

Since the mid 1960's, a sincere concern about the unemployment of young people in Madera County has been expressed by many of the County's agencies, governmental officials and schools. The people of Madera County have become aware that if the County is to progress, it will have to change from a solely agricultural economy to a combined agricultural-industrial economy. In the 1968 Overall Economic Development Program Report, Madera County, it was stated:

> The most significant achievement in the industrial category this year has been the coordination of the city and county governments to jointly fund an industrial development program for Madera County. This response to the obviously critical need for such development is encouraging because, apparently the public and its representative legislation in the County is prepared to take some drastic action to get new industries and provide new jobs in this area.[1]

In the latter part of 1968 Bud Boqua, Director, Madera County Action Committee, O.E.O., contracted with Delbert L. Barnett of San Bernardino to conduct a study within Madera County to evaluate the manpower situation and to report the feasibility of activating special employment training programs. This report, presented to Boqua on February 7, 1969 stated that (1) Madera County has the highest rate of unemployment of any county in the State (10.7% in November, 1968), (2) the lowest median income per family in the State (32% at poverty level), (3) 53% of its population under the age of 30, and (4) an extremely high percentage of high school dropouts (38% of students in the 9th grade do not complete high school).[2] It also stated several ways

---

[1]Overall Economic Development Program, Madera County, 1968, prepared by the Madera County Planning Department, Madera, California.

[2]Delbert L. Barnett, "Feasibility Report", February 7, 1969.

that agencies in Madera County have tried to remedy these problems. On page two of this report Barnett wrote:

> 3. Aside from the slim prospects that new industry would generate many of the solutions to the above problems, the most visible prospect lies in the development of an employability training center. All persons talked with by this consultant seemed concerned in their desire for some type of comprehensive manpower program. Reservations became evident however, when trying to [answer] the following questions:
>
> a. What kind of program?
> b. Where it would be?
> c. Who would run it?
> d. How such a program can be financed?
>
> 4. The prospects of recruiting new industry would be enhanced by the existence of a local training facility and provide a stronger potential for increased economic prosperity than either approach could do alone.

Barnett indicated a potential of over 800 persons in Madera County who could benefit from "an effective and economically feasible vocational training program." This figure was documented from information compiled on welfare recipients, unemployed, out-of-school youths, potential drop-outs, residents living in poverty and volunteer enrollees.

It is apparent from this report, therefore, that some training is necessary if this young population is to prepare itself to enter job areas which will provide a living wage.

In a letter to Ricardo Morada, Field Representative, Regional Office of Economic Opportunities, San Francisco, Barnett requested that O.E.O. assist in the study for developing plans of a training program, thus giving "an opportunity for O.E.O. and the local C.A.A. to be involved in a program which would reflect the real value and intent of the Economic Opportunity Act."[3]

---

[3]Delbert L. Barnett, Letter to Ricardo Morada, February 26, 1969.

Upon the request of Boqua, a meeting was held on February 25, 1969 at the Madera Unified School District Office to discuss vocational education needs in Madera County. In addition to Boqua, the following persons were present:

Delbert L. Barnett of San Bernardino, a consultant employed by the Madera County Action Committee

John R. Daughenbaugh, Superintendent, Chowchilla Union High School District

Duane Furman, Superintendent, Madera Unified School District

Norman M. Gould, Superintendent of Schools, Madera County

John S. Hansen, Assistant Superintendent, Education, State Center Junior College District

Stuart M. White, Superintendent, State Center Junior College District

Consideration was given at this meeting to the report prepared by Mr. Barnett and the feasibility of establishing "a special job or employment training program" in Madera County. Following discussion, it was concluded that a short intensive study should be conducted to obtain relevant information which would lead to the creation of appropriate vocational education programs to be commenced this fall.

Two other conclusions were reached at this meeting:

1. Local district funds were not available to finance such a study; hence, other sources of financing for the study should be sought.
2. State Center Junior College District personnel should be asked to conduct the study.

A subsequent meeting was held on March 12, 1969 in the Madera County Superintendent of School's Office to examine the outline of a study which,

it was proposed, would be submitted for funding consideration by the Research Coordinating Unit, Vocational Education Section, State Department of Education. The study proposal incorporated suggestions made at this meeting which was attended by Messrs. Boqua, Furman, Gould, Hansen, and the following personnel from Fresno City College: Gervase A. Eckenrod, Associate Dean, Business Division, Richard H. Handley, Associate Dean, Technical and Industrial Division, and Richard M. De Koning, Technology Coordinator and proposed director of this study.

The State Center Junior College District was asked by the Madera County School Officials at this meeting to conduct a survey and to make application through the Research Coordinating Unit, Vocational Education Section, State Department of Education, for funding. This application was submitted and Dr. Kenneth Densley, Research and Evaluation Consultant, State Department of Education, processed the application and informed the District of its acceptance for funding.

On April 24, 1969 the Board of Trustees, State Center Junior College District adopted the following motion:

> The Board of Trustees of the State Center Junior College District authorizes execution of Standard Agreement No. 3917 with the California State Department of Education calling for this District to conduct a vocational education study in Madera County; and the Board further authorizes Superintendent Stuart M. White or Assistant Superintendent, Business, Garland P. Peed, to sign this agreement and any other appertaining documents in behalf of the Board.[4]

At this point the study commenced.

John S. Hansen
Assistant Superintendent, Education
State Center Junior College District
Fresno, California

---

[4]State Center Junior College District, Board of Trustees Minutes, Meeting of April 24, 1969.

ACKNOWLEDGMENTS

The study director wishes to express his sincere appreciation to all persons who assisted in any way to make this study possible and successful.

Special appreciation is offered to Dr. Kenneth Densley, Research and Evaluation Consultant, Research Coordinating Unit, Vocational Education Section, California State Department of Education, for his assistance in funding this study and further in his assistance and participation in the study.

The services of Mr. Bud Boqua, Director, Madera County Action Committee, were deeply appreciated. It was through his efforts that the initial action for such a study was created. During the study many hours of time were contributed by him in acquainting the author with people and vocational needs of the county.

The author is indebted to the school superintendents, Mr. Norman Gould, Madera County Schools District, Mr. Dwayne Furman, Madera Unified School District, Mr. John Daughenbaugh, Chowchilla Union High School District, and Dr. Vernon Carter, Sierra Joint Union High School District, for their cooperation and interest in the study.

Thanks are extended to the evaluating team from Fresno City College and Reedley College: Business Education: Al Pauls and Norma Blackburn; Home Economics: Frances Sakata and Barbara Thompson; Industrial and Technical Education: David Dickie, Leo Takeuchi, Jerry Fries, Don West, Merle Sons, Gay McCline and Bill Ochinero; Vocational Agriculture: Bob Bristow and Ken Houtby.

It was through the kind cooperation of the following people that the majority of the data was collected: Mr. Bill Reedey, Community Work and Training Coordinator, Madera County Welfare Department, Mr. Gene Holman, Manager, Department of Employment, Madera, Mr. Paul Spraetz, Executive Vice President, Madera County Chamber of Commerce, Mr. Jerry Hill, Madera County Probation Office, Mr. Jack Smith, Industrial Development Commission of Madera County, Mr. Phil Brown, General Manager, City of Madera, and Mrs. Maria Harkins, Administrative Assistant for Urban Development, City of Madera.

A special thanks goes to Mr. Mack Stoker, Retired Regional Coordinator, Bureau of Vocational Education, California State Department of Edcuation, who served as the Research Consultant for the study.

Many other people too numerous to mention were involved either directly or indirectly in this study. Sincere appreciation is extended to each even though space does not allow a listing of their names.

Richard M. De Koning
Director

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CHAPTER I

INTRODUCTION TO THE STUDY

Madera County is divided geographically into two distinct regions--timbered mountains and an agricultural valley. Though the timber of the mountain region has a definite affect on the economy of the County, 49 million board feet cut in 1968, the County's economy is basically tied to agriculture. This agricultural economy has been extremely prosperous with eleven crops in 1968 that yielded over a million dollars each and a total agricultural crop value that year of nearly $80 million.[5]

Madera County's total population in 1968 was 43,400 or 400 less than the previous year. The projected population figure for 1980 is 51,500, or an 18.7% increase over a 12 year period. This amounts to about a 1.3% increase per year.[6]

The greatest population concentration exists within the metropolitan area of Madera City. Here, 22,500 persons reside, slightly over one-half of the total County population.[7]

It should be observed that population figures verify what had been indicated by many people during the study; namely, that upon graduation from high school, a large percentage of the students leave Madera County and seek work elsewhere. According to the 1960 Census, 17,283 persons were under the age of 20. However, in the next 20 year age bracket, there were only 9,323. This is a 46% decrease. The median age for the County is 26.8 years.

---

[5]Agricultural Commissioner, Madera County.

[6]Projected by the California State Department of Finance.

[7]Planning Department, Madera County.

Agriculture crops for some time have been cultivated and planted mechanically, and this mechanization is currently extending into the harvesting of almost all crops. With this increase of mechanization, the common farm laborer is in less demand each year and the demand which exists is seasonal for only five to six months of the year. This is the basic cause for Madera County's high unemployment rate, an annual average in 1968 of 1300 persons or 8.2% of its 15,900 work force. It should be observed that though the unemployment had peaked to 12.5% in March when agriculture is at a standstill, it had decreased to 3.3% i. September when agriculture is in full swing.[8]

I. PURPOSE OF THE STUDY

The purpose of this study is to identify and determine ways of meeting vocational education needs in Madera County. Included will be a study of the existing high school, county, and industrial facilities for housing selected programs, evaluation of existing equipment, and the available State Center Junior College District's participation. The plan will be directed toward the non-school student (the dropout and terminal student) as well as the in-school student.

It is not the purpose of this study to make another manpower and employment survey. Existing studies such as the MERI Report of Fresno County, the EDICT Vocational Occupational Survey of Fresno County, and the Manpower Needs Survey, all of which were recently completed, and any other studies being made by the California State Department of Employment will be used as resource materials.

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[8]California State Department of Education, "Total Work Force, Unemployment and Employment Data--Madera Labor Market Area," 1968.

The study is to be conducted in three phases. The first phase of the study is to be the collecting of data on existing factors affecting the establishment of a vocational education program:

1. Information will be compiled about the potential students including their occupational interests and educational backgrounds. This information will be obtained from the Madera County Department of Welfare, the California State Employment Office and the high schools serving Madera County. This will not be a cost item to the study.

2. Information will be compiled on job opportunities in Madera County and in the counties surrounding Madera. Manpower studies along with the information available from the California State Employment Office will be used. This will not be a cost item to the study.

3. Information will be gathered pertaining to existing vocational training programs in Madera County. This information will be gathered through interviews conducted by the Director.

4. An evaluation of existing facilities and equipment used in vocational and industrial arts education programs in Madera County will be conducted by a Team from the Fresno City College instructional staff. The Team will conduct a similar evaluation of publicly owned facilities which would be available for housing a training program.

5. Information pertaining to available financial assistance for the implementation of a vocational training program if and when adopted would be obtained from the State Department of Education and would not be a cost item to the study.

Phase two of the study is to be a critical evaluation of the compiled data to determine:

1. Areas of training which would yield the most favorable results.

2. Which facilities would be the best suited for housing such programs.

3. What additional equipment would be required to conduct the training programs.

Phase three of the study will consist essentially of a report to Messrs. Boqua, Daughenbaugh, Furman, and Gould of specific recommendations concerning vocational education needs in Madera County and feasible ways of attempting to meet these needs.

2. PROCEDURE FOR GATHERING DATA

The first phase of the study, the collecting of data on existing factors affecting the establishment of a vocational training program, was conducted in the following manner:

Potential Students

A questionnaire, titled "Vocational Training Survey May 1969" was used to gather information about potential students for a Madera County Training Center.[9] The survey was conducted through the cooperative efforts of the high schools serving Madera County, the Madera County Welfare Office, the Madera County Probation Office, the Madera County Action Committee, the Madera Office of the California Department of Employment, the Recreation Department in Oakhurst, and ads in two newspapers, The Chowchilla News, Chowchilla and The Sierra Star, Oakhurst.

The high schools included Madera High School, Sugar Pine Continuation School, Chowchilla High School and Sierra Joint Union High School. All but Sierra Joint Union High are located in Madera County. Since Sierra Union serves the mountain area of Madera County, and since at least one-half of its students live in Madera County, it was included.

The questionnaires were answered by all of the twelfth grade students. At the Sugar Pine Continuation High School, all students were polled since many of them already were employed on part-time jobs.

The other agencies assisted by collecting information on out-of-school people. The work done through the Welfare and Probation Offices was with the assistance of case workers who screened their people so as to main-

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[9]See APPENDIX A.

tain a valid study by including only persons who would benefit from and cooperate in a training program. This extra effort was greatly appreciated.

The survey conducted by the Madera County Action Committee was done through its several Community Centers. Special meetings were held so that the purpose of the study could be explained. A great number of the people attending these meetings were from farm labor families of the minority ethnic groups who could greatly profit from additional intensive training.

Job Opportunities

Information on job opportunities in Madera County and surrounding counties was gathered through the California State Department of Employment. An inquiry was made at the Madera County Chamber of Commerce as to whom they thought were the most likely prospects as future employers. At this point the Chamber offered to conduct an Employment Opportunities Survey of the industries, businesses, farms and ranches in Madera County to determine employment needs. The survey also asked if the employers would be willing to cooperate on an on-the-job training program, if they currently conduct a training program for their employees and if the schools could assist in this training. This questionnaire along with a cover letter by Paul Spraetz, Executive Vice President of the Chamber of Commerce, was mailed to 98 firms.[10]

In addition, personal interviews in relation to job opportunities were conducted with persons representing public and governmental agencies, industries, businesses, farms and ranches. Also, the "help wanted" sections of local newspapers were scanned periodically.

Existing Vocational Training Programs

Information on the existing vocational training programs was gathered

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[10]See APPENDIX A.

through interviews with the high school personnel, representatives from the Madera County Welfare Department and the California State Department of Employment and through the survey made by the Madera County Chamber of Commerce.

Evaluation of Existing Facilities and Equipment

An evaluation of the existing facilities and equipment used in vocational agriculture, industrial arts, business and home economics programs at Madera High School and Chowchilla High School was conducted by a Team of 15 instructors from Fresno City College and Reedley College. This Team also evaluated the fairgrounds at Madera and Chowchilla and a building in the 400 block of C Street, Madera, which had housed a Ford Motor Company agency.

An evaluation guide was prepared and issued to the team members to assist them in their evaluations.[11] In the areas which indicated interest and need for a training program, special interviews were conducted and written reports were requested from team members.

Financial Information

Probably the one most necessary ingredient for initiating a vocational training program in Madera County is money. Dr. Kenneth Densley, Research and Evaluation Consultant, Mack Stoker, Consultant, Los Angeles, Richard Handley, Associate Dean, Technical and Industrial Division, Fresno City College, were called upon to provide information as to what funding was available and which would be most apropos for the programs selected.

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[11] See APPENDIX A.

CHAPTER II

REPORT OF THE STUDY

In reporting the findings of this study, the data will be presented in the following sequence: Identification of students interested in attending a vocational training program, the vocational interests of these students, employment opportunities, existing vocational training programs, facilities and equipment required and financial aids available.

1. Identification of Students

Number of Interested Students

In the process of identifying students who would be interested in participating in a vocational training program, a total of 763 completed questionnaires were collected. Of this number, 595 came from the twelfth grade high school students. The remaining 168 were collected on the out-of-school people by the previously mentioned agencies.

TABLE 1

NUMBER OF SURVEY FORMS RETURNED

Females		Males		Total	
No.	%	No.	%	No.	%
395	52	368	48	763	100

It should be mentioned that the timing for collecting information on the out-of-school people was a little late in regards to getting the maximum number of responses. The Department of Welfare and the Department of Employment were the two agencies selected to assist in identifying unemployed persons

who could benefit from the training program. Since the seasonal agricultural work commenced at about the same time as this study, many of these people had gone to work and did not appear at these offices for financial assistance. It is recommended, therefore, that these offices renew the use of the questionnaire after the seasonal crops have been harvested which would be somewhere near the middle of October.

The questionnaires were initially separated into four groupings; males interested in attending a vocational training program, females interested, males not interested and females not interested. This grouping showed that 523 men and women, or 69% of all the responses, were interested in attending some area of vocational training. The interest by sex was 69% of the men (253) and 68% of the women (270).

TABLE 2

NUMBER OF PERSONS WILLING TO ATTEND A VOCATIONAL TRAINING PROGRAM

	No.	%	Sub Total	%
Male Yes	253	33	523	69
Female Yes	270	36		
Male No	115	15	240	31
Female No	125	16		
Total	763	100	763	100

The next grouping was to separate the questionnaires into people in-school and people out-of-school. Of the students, 192 males, 63%, and 170 females, 59%, indicated interest in vocational training. The students who indicated that they were not interested in many cases expressed interests in areas of study which necessitate a baccalaureate degree. However, 112 of the 233 students not interested gave no indication of what their vocational interests were. In other words 48% may not have made up their minds as to what vocation they wish to pursue. Comparing this with the students interested, 116 of these 362 students, or 32%, did not indicate a vocational interest. Of course there is always the possibility that the word "vocational" was not understood, but with this large a per cent such an explanation appears very doubtful.

TABLE 3

INTEREST IN THE PROGRAM AMONG IN-SCHOOL PERSONS

	No.	%	Sub Total	%
Male Yes	192	32	362	61
Female Yes	170	29		
Male No	113	19	233	39
Female No	120	20		
Total	595	100	595	100

The percentage of the out-of-school people who were interested in attending a vocational training program was high primarily because of the screening done by the agencies. The results showed that 61 of the 63 men, 97%, and 100 of the 105 women, 95%, who were not in school were interested. Of these people only one man and five women did not indicate their vocational interest.

TABLE 4

INTEREST IN THE PROGRAM AMONG OUT-OF-SCHOOL PERSONS

	No.	%	Sub Total	%
Male Yes	61	36	161	96
Female Yes	100	60		
Male No	2	1	7	4
Female No	5	3		
Total	168	100	168	100

Of the 100 women who were out of school and were interested in a vocational training program, 39 had pre-school children. The total number of pre-school children was 53. These figures might well justify the need for a day care center which should be located near the training center. This service might be a community project rendered by the Madera County Action Committee, and could be a training ground for a Nursery School Licensing program, nursery school teachers and teacher aides. Mrs. Daisy ExHenry, the coordinator of the Head Start program in Madera, indicates that there is a reel need and interest for such a training program. More study in this area appears warranted.

Ethnic Grouping

The ethnic grouping percentages for all people answering the questionnaire were as follows: White Caucasian 56%, Mexican-American 28%, Negro 12%, and all others 4%. However, of those indicating interest in a vocational training program, the percentage distribution changed; White Caucasian 48%, Mexican-American 33%, Negro 16%, and all others 3%.

A study was made within each of the ethnic groups as to interest in the program. The following was learned: 58% of all the Whites, 82% of all the Mexican-Americans and 89% of all the Negroes were interested.

TABLE 5

ETHNIC GROUPING OF PERSONS INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM

	No.	%
White	249	48
Negro	84	16
Mexican-American	175	33
Other	15	3
Total	523	100

Age Grouping

Of the people interested in a vocational training program, the largest number of them fell into the 21 years and under age group. This number was 402 of the 523, or 77%. The next grouping, 22 to 35 years accounted for 66 people, 13%, and in the 36 to 60 years group there were 33 people, 6%.

There were no people over 60 years. Another 22 people, 4%, did not give their age.

The questionnaire collected through the agencies were from a slightly older group. The under 21 year group was 33%, the 22 to 35 group was 38%, the 36 to 60 group was 19% and the group that did not indicate their age was 10%. Since a larger per cent did not give their age, it would be suspected that they were over 21 years of age rather than under.

TABLE 6

AGE GROUPING OF PERSONS INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM

	No.	%
Under 18	175	33
18 - 21	227	44
22 - 35	66	13
36 - 60	33	6
Over 60	0	0
Not Indicated	22	4
Total	523	100

TABLE 7

AGE GROUPING OF OUT-OF-SCHOOL PERSONS INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM

	No.	%
Under 21	53	33
22 - 35	61	38
36 - 60	30	19
Over 60	0	0
Not Indicated	17	10
Total	161	100

Handicaps

There was a total of 31 people who indicated they had a physical handicap. Of these, 20 indicated an interest in attending a vocational training program. The names of these people and the nature of their handicaps will be made available when student screening begins; there identification is not included in this report.

TABLE 8

NUMBER OF PERSONS INDICATING A HANDICAP WHO ARE INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM

	No.
Male	14
Female	6
Total	20

Languages Spoken

English appears to be the predominate language spoken. Only six people stated that they did not speak English and five of these were interested in the program. The number of persons who speak Spanish as well as English was 176, or 34%.

Several agencies observed that there is a larger per cent of people who do not speak English and who could profit from such a training program than indicated by this study. This group would be among the out-of-school people.

Currently, a class in English for non-English speaking people is being offered by the Madera High School Adult Education program in the community center at Cinco, a small settlement of Spanish speaking people about seven miles south of the city of Madera on Highway 145. The class was initially scheduled to be conducted at the Ripperdan Elementary School which is less than a mile due west of the community center. However, upon the request of the prospective students, the class was re-scheduled in the center with the stipulation that at least 20 persons must attend. The reason expressed by the people for wanting the program in their own center rather than the school was that the school was representative of the "establishment", a place of rigid formal education which had been a place of frustration and failure to many of them. The center on the other hand had a relaxed atmosphere with informal seating and no psychological "hang ups". At the first meeting 28 attended and within a few weeks the number increased to 35.

TABLE 9

LANGUAGES SPOKEN BY PERSONS INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM

	No.	%
English	518	99
Spanish	176	34
German	12	2
French	10	2
Spanish Only	5	1

A group of young Mexican-American men at this center expressed an interest in a course in public speaking which they would like the adult education program to offer at the center. The important part of the request was that they wanted the course to be in English, not Spanish. The reason expressed was that dialogue in Spanish was very easy for these young men because Spanish was their first language. However, to conduct the center's business meetings in English was almost impossible because the young people became very self-conscious and embarassed. They hope that if a speech course could be offered where everyone would have to use the English language, these sub-conscious ill feelings could be eliminated and their ability to use English would improve.

Of importance to the vocational training program would be the fact that since Spanish is the first language to many of these Mexican-American youths, a large per cent of their thought processes are done in Spanish rather than English. Consequently, for those courses in which there are a reasonable number of these people, the instructor should be bilingual in English and Spanish.

Transportation

In answer to the question about a driver's license and transportation, 529 persons, 69%, have a driver's license and 542, 71%, have transportation. In regards to the people interested in attending a vocational training program, 190 men, 75%, and 150 women, 55%, have a driver's license. Breaking this figure down into in or out-of-school, a greater per cent of the men in school have licenses; 82% in-school compared to 51% out-of-school. However, the reverse is the case of the women, 50% in-school compared to 62% out-of-school. As to having transportation, 79% of the men in-school have transportation compared to 75% out-of-school, and 68% of the women in-school compared to 69% out-of-school.

TABLE 10

NUMBER AND PERCENTAGE OF THE PERSONS INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM WHO HAVE A DRIVER'S LICENSE AND TRANSPORTATION

	Driver's License		Transportation	
	No.	%	No.	%
Male	190	36	199	38
Female	150	29	188	36
Total	340	65	387	74

From these figures it is evident that transportation will have to be provided for a third to a half of the students. It would seem reasonable that the high school buses could transport high school students to programs not located on the high school campus. As for the out-of-school people, car pooling, high school buses or leased vehicles could be used at the discretion of the school administrators.

Relocating for a Better Job

It was commonly expressed by people interviewed that the majority of the young people in Madera County would have to leave the County in order to find a liveable wage-paying job. Their reason was always the same--the lack of industry in the County. Knowing this sentiment and the fact of the very high unemployment rate of the County, the survey included the question, "Would you relocate for a better job?" In answer, 512 of all the returns, 67%, said they would relocate. Of those interested in attending a vocational program, 394 persons, 75%, said yes.

As might be expected, a greater number of the interested men, 87%, were willing to relocate than were the interested women, 56%. The same was true of the men and the women not interested in a vocational training program, 90% compared to 68% respectively. It was also noted that a slightly larger per cent of those people not interested in a vocational training program would be willing to relocate.

Further, 85% of the in-school men were willing to relocate compared to 90% of the out-of-school men, whereas 72% of the in-school women were willing compared to only 53% out-of-school women. This greater reluctance upon the part of the out-of-school women to relocate might be that most of these women are married with husbands working in Madera County, which is not the case with the in-school women.

Taking an over view of all these figures on relocating, it is obvious that people in Madera County also realize that if they are to improve themselves at this time, they will have to leave the County and find work in some other community.

Distance Willing to Relocate

Over one third, 36%, of those people willing to relocate for a better job would be willing to go anywhere. Only 16% wanted to stay within 25 miles of tneir present home. However, 26% of these people were either undecided or did not indicate how far they were willing to move.

It can be concluded then that the vocational training program would not have to be aimed toward the needs of the County, but easily could be as far reaching as the San Francisco Bay area or metropolitan Los Angeles.

TABLE 11

NUMBER AND PERCENTAGE OF THE PEOPLE INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM WHO WOULD BE WILLING TO RELOCATE FOR A BETTER JOB AND THE DISTANCE THEY WOULD MOVE

	Persons Willing to Relocate for a Better Job		Distance Would Move							
	No.	%	Up to 25 miles	25 - 50 miles	50 - 100 miles	100 - 200 miles	In Calif.	Anywhere	Undecided	Not Indicated
In-School Males	164	31	24	8	4	10	12	70	6	30
Out-of-School Males	55	11	5	3	2	0	9	13	2	21
Sub-total	219	42	29	11	6	10	21	83	8	51
In-School Females	122	23	20	13	0	2	12	40	14	21
Out-of-School Females	53	10	15	8	0	3	2	8	1	16
Sub-total	175	33	35	21	0	5	14	48	15	37
TOTAL	394	75	64	33	6	15	35	131	23	87

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2. Vocational Interests

The questionnaires of the people willing to attend a vocational training program were separated from those not willing. The vocational interests of the people willing to attend were then tabulated under two headings: men willing to attend, and women willing to attend. Several expressed vocational interests in more than one area of training. However, 24% of these people (123) did not indicate any vocational interest. Included were 106 in-school students and only 17 out-of-school people. It would appear from this that many people do not decide what their vocational interests are until after they leave school.

Vocational Interests - Women

The women expressed the greatest interest in four areas. There were 108 women, 40%, who expressed interest in office-related training. Interest was expressed in the field of nursing by 43 women, 16%, data processing by 21 women, 9%, and cosmetology by 15 women, 6%.

The nursing category included 16 women who indicated interest as a nurse's aide, 16 as an L.V.N. and 11 as an R.N. Mrs. Mildred Bosteder, Director, L.V.N. program at Fresno City College, indicated that as soon as the new hospital is completed in Madera, Fresno City College will initiate an L.V.N. program in the hospital. The present hospital facilities in Madera do not meet the standards set up by the State Board of Nursing. She also stated that many of the women who apply for admission into the L.V.N. program at Fresno City College do not qualify, but would qualify for nurse's aide training. Therefore, she believed that a nurse's aide program in Madera could be justified not only by the interests of the women, but also the needs of the San Joaquin Valley.

Mr. Reedey of the Welfare Office stated that interest in Cosmetology would have been greater if more questionnaires had been completed through his office. Due to the time of the season, few people were coming into the Welfare Office for assistance. It is very likely that the number might be increased from 15 to 30.

Beauty colleges located in Fresno conduct their courses for 1600 hours or nine months and the tuition ranges from $302 to $393. If $400 per student was used to calculate the total cost for training 30 students, this would come to only $12,000. It is very questionable that the Madera schools could afford to compete at this time with these commercial schools.

Fresno City College has a two year data processing curriculum leading to the Associate of Science degree. The only prerequisite is that the student is either a high school graduate or 18 years of age or older. After enrollment in the program an aptitude test is given to the student to assist in counseling. Again, because of the small number of people interested in data processing, it would seem too costly to develop this program at the present time.

Therefore, from the student's interest standpoint, the most logical programs to initiate for the women would be first, office training, and second, nurse's aide training.

Vocational Interests - Men

The men expressed the greatest interest in five areas. There were 57 men, 23%, interested in auto mechanics; 30 men, 12%, in farming and tractor driving; 27 men, 11%, in a building trade; 26 men, 10%, in electronics; and 15 men, 6%, in metal working trades.

TABLE 12

VOCATIONAL INTERESTS MOST FREQUENTLY INDICATED BY WOMEN WILLING TO ATTEND A VOCATIONAL TRAINING PROGRAM

	No.	%
Office Training	108	40
Nursing	43	16
Data Processing	21	9
Cosmetology	15	6

TABLE 13

VOCATIONAL INTERESTS MOST FREQUENTLY INDICATED BY MEN WILLING TO ATTEND A VOCATIONAL TRAINING PROGRAM

	No.	%
Auto Mechanics	57	23
Farming and Tractor Driving	30	12
Building Trades	27	11
Electronics	26	10
Metal Working Trades	15	6

The greatest interest was in auto mechanics which reinforces the information gathered through interviews with business people, farm advisors and government office representatives who were asked: "What one vocational training program would you recommend being offered for men?" Their answer was always the same--auto mechanics.

Entering into one of the building trades normally necessitates going through an approved apprenticeship program. Currently, the number of openings into these programs is limited and are offered through Fresno, not Madera County. During the last year there was a definite decline in construction throughout the valley due to excessive rain, increase in material costs and the increase of interest rates. Hence, the unions have had a surplus of tradesmen looking for work. When these conditions exist, an increase in the apprenticeship programs is not very likely. The students, nevertheless, should be made aware of the proper channels which they should follow to enter these programs. Pre-trade training which could be offered at the high school level will be discussed later.

Fred Hansen, Head of the Agriculture Department, Chowchilla High School, says that the current need for tractor drivers in the Chowchilla area was at least 50. He says this shortage most likely would continue most of the summer causing the farm and ranch owners often to operate their own tractors. If they could find competent drivers, they would hire them.

TABLE 14

LAST SCHOOL GRADE COMPLETED BY
THE OUT-OF-SCHOOL PEOPLE

	Last School Grade													
	3	4	5	6	7	8	9	10	11	12	13	14	15	16
No. of Persons	4	1	0	10	5	19	24	26	23	34	4	0	1	1

TABLE 15

NUMBER OF RESPONSES INDICATING REASONS FOR
LEAVING SCHOOL BY THE OUT-OF-SCHOOL PEOPLE

Reason	No.
Had to Work	36
Got Married	23
Didn't Like School	7
Graduated	3
Moved	3
Suspended	2
Illness in Family	2

3. Employment Opportunities

As previously mentioned, year-round employment opportunities within Madera County are very limited due to the lack of large industries. The County has only four companies who hire over 200 persons. Due to the nature of these businesses, all four are seasonal employers with their peak employment during the summer months.

The "Goals for the Community" was prepared for the City of Madera by the General Plan Citizens Advisory Committee. Under the title "Employment" the following was written:

> The economic strength of the community is dependent upon employment opportunities available to the labor force . . . The City should seek to diversify employment opportunities by encouraging the location of non-agriculturally oriented industries. Such industries would ideally have stable employment levels or peak labor demands that would be complimentary to peak labor demands for agriculture . . . In general, as many jobs are created by the expansion of existing industry as are created by the location of new industries. Local industry should be supported.[12]

A major step was made in the City of Madera on June 3, 1969. The citizens approved a bond issue for the construction of a new sewer farm. The existing farm had reached its limit, hence, it was nearly impossible to encourage new industries into the area. It is the City's plan to develop the land of the present sewer farm into a heavy industrial site.

In like manner, Chowchilla is also developing an industrial site adjacent to its airport. The landing runway is to be increased from 2,000 feet to 3,400 feet to accommodate executive aircraft. A new sewer farm of four million gallons per day capacity has just recently been completed. Currently only one million gallons per day is being used.

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[12] Report of the General Plan Citizens Advisory Committee, Goals for the Community, Madera City Hall, Madera, California, August 1967.

Coupled with this progressive planning, the newly created County Industrial Development Commission has been inaugurated to encourage new industry to settle in the County. But at the present time no new industry has elected to come into these areas.

In response to the survey conducted by the Madera County Chamber of Commerce to determine employment needs within the County, 23 of the 98 employers surveyed returned the questionnaires. Only nine of these indicated they had needs for employees. Jobs which needed to be filled between now and the next three months included:

General wine worker	50
Basic laborer or helper	18
Tractor driver	12
Harvest hand	6
Cannery mechanic	2
Office clerk	2
Seamer mechanic	1

It should be noted that these are jobs which need to be filled during the summer months and all but the office clerks are seasonal.

Jobs which need to be filled within three to six months from now include:

Irrigators	6
Irrigation pipe salesman	1

Jobs which need to be filled within six to twelve months from now included:

Tractor driver	2
Advertisement salesman	1
Bank teller	1
Concrete pipe layer	1
Concrete pipe repairman	1
Linotype operator	1
Office clerk	1
Reporter	1

Looking into the future, only two companies indicated there would be job openings within one to three years from now. These jobs were:

Office clerk	3
Printer and press Operator	2

These figures are not to imply that these are the only jobs which will need filling within the next three years. It is significant that only 9 out of 23 companies will need help and that 97 out of the 112 openings are for seasonal workers.

Eight of these companies reported that they conduct their own training programs. Eleven said their present employees need additional job skill training in the following areas:

Auto Mechanics	3
Office skills	3
Public relations	3
Welding	3
Equipment operators	2
Sales	2
Electronics	1
Machinists	1
Math	1
Name memory	1
Type setting, lino-type operator	1

Five of the companies stated they would be willing to participate in an on-the-job training program. The areas for such training included tractor driving, printing trade, news reporting and advertising, and grocery clerking.

Eleven of the companies indicated that they have jobs which could be filled by physically handicapped persons. These jobs included office work as reported by seven companies and the printing trades by two newspapers.

In answer to the question, "What were the most common causes for discharging persons in the past 12 months?", ten companies gave the following causes:

Incompetency	6
Absenteeism	3
Lack of work	2

Mr. Holman of the Employment Office in Madera provided additional employment information from his office which gives more insight into the employment problems of Madera County. The average annual working force of the County consists of 15,900 gainfully employable people. During the year of 1968, the average annual unemployment rate was 1300 persons which is 8.2% of the gainfully employable people. This was the next to the lowest annual unemployment rate for Madera County in nine years. The lowest was 7.8% in 1966 and the highest was 10.9% in 1962 with an average for the nine year period of 9.4%. Comparing this with the State of California's average annual unemployment rate for 1968 which was 4.5%, Madera County is well above the State's unemployment rate.

The monthly unemployment rate during 1968 was as follows:

	% Unemployed	No. Unemployed
January	11.3	1750
February	11.6	1800
March	12.5	1875
April	10.8	1600
May	7.7	1275
June	8.3	1325
July	7.8	1175
August	6.8	1025
September	3.3	650
October	3.4	625
November	8.0	1125
December	8.2	1225

From these figures it might be observed that in only two months of that year was the average unemployment below the average annual unemployment for the State. It also shows that when there is work available, the people get out and work. In the months of September and October is when the peak of the agricultural harvest takes place.

Other figures which are significant of the work force in Madera County were the number of migrant workers. The minimum work force for the County during 1968 was 14,100 persons which occurred in November. The peak

force was 19,900 in September. This indicates a difference of 5,800 workers plus their families who move in and out of Madera or 36% of the County's average annual work force.

During 1968 there were 1,217 job openings reported to the Employment Office in Madera. A total of 1694 referrals were made and 886 placements completed as shown in the following tabulation:

	Openings	Referrals	Placements
Prof. Tech. & Mgr.	12	22	4
Clerical	81	196	43
Sales and Merchandising	51	105	26
Domestic	230	261	164
Services	197	301	112
Fishing and Forestry	37	49	24
Food Processing	197	264	180
Machine Trades	23	35	13
Bench Work	9	10	7
Structural Work	77	65	44
Miscellaneous (Including Motor Freight Occupations, Packing and Material Handling, Mining, Logging, Utilities, Amusement, Graphics)	303	386	269

The large number of domestic openings were part-time baby sitting jobs which occurred during the harvest season. It is also a shame that the miscellaneous classification included a grouping of a number of vocations which relate directly to a vocational training program.

Recalling from earlier in the report, 75% of the people interested in attending a vocational program were willing to relocate for a better job. This is very fortunate and therefore an attempt was made in securing information which would assist in determining employment needs in adjacent counties and elsewhere in the State. The Bibliography includes a number of bulletins and studies which were used to determine these needs.

As an aid for counseling students, the State of California Department of Employment has prepared over 400 occupational guides which are free of

charge for use by high school and college counselors. An Occupational Guide Index is available from the office at 800 Capitol Mall, Sacramento, California, 95814.

These references indicate that there are adequate employment opportunities to justify vocational training programs in any one of the nine interest areas as reported previously. These were office-related training, nurse's aide training, data processing, and cosmetology programs for women, and auto mechanics, farming and tractor driving, building trades, electronics and metal trades programs for men.

4. Existing Vocational Training Programs

The only vocational training programs offered during the day at the high schools are in agriculture. The Madera High School Adult Education conducts additional courses in Welding, 3 hours, one night per week; Farm Machinery, 3 hours, two times per month; and Ornamental Horticulture, 3 hours, two times per month.

A Tractor Driving program was conducted last spring at Madera as an M.D.T.A. program. The program was 16 weeks in length and budgeted for $22,000 for the rental of equipment, purchase of supplies and teacher salary. In addition, the students received a stipend for attending this program.

Dino Petrucci, Vice Principal of Madera High School, reports that the tractor driving was done on farms around town. He feels that, while a simulated situation might be all right for a beginning period, the true feel of the working cannot be sensed until the disc or plow is dropped into the ground, creating a dragging pull.

The Madera County Welfare Department is sponsoring an office training program which is conducted in their own offices, and are working in cooperation with the Self-Help Enterprises who are currently assisting 12 families to

build their homes. For both programs, welfare recipients are interviewed and screened by the Welfare Department. If the recipient qualifies for the job training he remains on Welfare and is given an additional $25 per month as an incentive to stay in the program. When necessary, up to 10¢ per mile is paid for transportation.

The Welfare Department's educational training programs had the following enrollment during the past school year:

November	102
December	123
January	133
February	147
March	125
April	93

William Reedey, Community Work and Training Coordinator, Madera County Welfare Department, stated that after October there will be a potential of 50 to over 100 trainees for state approved Educational Training programs. The Educational Training program's objectives and requirements for qualification have been prepared and are available from Reedey's office. The publication is titled "The Educational Training Program" and dated July 30, 1968.

Tom Savala, Director, Fresno County Self-Help, said that the existing program includes 12 homes on Highway 99 south of Madera. The buyers purchase these three bedroom homes, including lot and water well, for around $8,000.00. In addition, the buyer must contribute a minimum of 30 hours per week, a total of 1200 hours. Other welfare recipients in addition to the owners are also hired to work on these homes. These workers must be at least 16 years of age and work through the Neighborhood Youth Corp (NYC).

In a similar program recently completed in Reedley, Self-Help was able to place two persons in the sheet metal trade and two persons in the tile setting trade.

The next Self-Help program will be in Parksdale, a senior citizens community located about five miles southeast of the City of Madera. There will be 21 homes built and the building should start sometime near the end of the summer after the harvest season comes to an end.

The NYC also hires 17 young people who work in government offices in Madera. There appears to be mixed emotions as to the success of the program.

Northeast of the City of Madera, the Philco-Ford Foundation has established a vocational training center for hard-core, unemployed Indians. Seldom do the Indians in this locality attend the school for the school draws its students from all over the United States. The most unique part of this program is the fact that adequate financing makes it possible to maintain at a student-teacher ratio of 8 to 1 or less. All of their courses have programmed instruction and are open-ended. Because it is a live-in school, most of the courses have a direct application to the maintenance and repair of the facilities, equipment and appliances located on the grounds.

5. Evaluation of Existing Facilities and Equipment

School Facilities and Equipment

With few exceptions, it was the consensus of the evaluating Team members that it would be unwise to house a vocational training program for out-of-school people within the already crowded school facilities unless extensive remodeling of the facilities and a total updating of the equipment were done. The industrial arts, business education and home economics

laboratories are not vocationally oriented and much of the equipment is either too small or obsolete.

Vocational Agriculture. The best equipped shop for vocational training is in the Madera High School Agriculture Department. However, the shop is already over crowded with its present students. The Team recommended that at least two more MIG (metal inert gas) welders and one TIG (tungsten inert gas) welder should be added to fill out the welding area. Also, though space does not exist for a tractor maintenance program except on a demonstration basis for a small number of units, it is suggested that this area should be studied for possible expansion in the program. A steam cleaner should be added in that case. The last recommendation was that additional welding classes be offered at night. Presently, welding is taught only two nights per week.

The Team reported that in the Chowchilla High School Agriculture Department much of the equipment is either obsolete or worn out and the welding equipment is very limited. Student project storage is inadequate for this busy and productive shop. It would be advisable to call a meeting of the department's advisory committee and have it evaluate the existing equipment in relationship to what is currently being added to farms and ranches in the valley and recommend what equipment should be added or replaced. Being in an agricultural area, this should be the school's most advanced program.

Home Economics. In both Madera and Chowchilla High Schools, the Team found the facilities and equipment inadequate for conducting a vocational program in either foods or clothing. They are well equipped for the home economics programs for which they are designed. The Team recommended that restaurants and cafes within Madera County should be contacted to conduct an -the-job training program. During the study it was learned that the

"Fruit Basket" in Madera is willing to conduct such a program. The equipment here is new and up-to-date and the facilities are modern.

The Madera County Action Committee is currently conducting sewing classes in several of the community centers. There is the possibility that power sewing machines as used in production sewing of garments and heavy weight materials could be acquired through GSA and taught in the centers. There is a need for sewing machine operators in the Los Angeles, Long Beach and San Diego area.

Industrial Arts. The Team recommended that two of the industrial arts shops at Madera High could be converted for a vocational program at the high school level. The first was the electronics shop, room 83. Only minor alterations would be necessary for the location of additional equipment. A vocational electronics program would have to include the equipment listed in Appendix D.

The program should be in two hour blocks. It would include the following topics: basic electricity, Ohm's Law, solution of formulas, and a non-technical mathematical approach to electronics. The basic purpose of the course would be to stimulate interest in electronics. The program should be articulated with Fresno City College so that college credit would be granted to a student upon successfully completing the high school course.

Another phase of the program could be devoted to training electronics assemblers. There is a large demand for people with this training in the San Jose area as well as other parts of the State.

The second recommendation is to convert one of the two wood shops into a carpentry-cabinet making shop. In the past, there was a carpentry program at Madera High, but was dropped when the teacher left. With the interest expressed in the construction trades and with the forthcoming

building programs within Madera ($389,000 neighborhood facility to be located near the Millview School, the new hospital, the 160 acre industrial site development, and the Madera City Housing Authority's 400 unit Turn-Key housing project) it would appear that there would be employment for many persons. Also, the training program should be directed toward plant and building maintenance. At the present, the City of Madera has not made plans for maintaining housing projects. But since the houses will be leased and not sold, the City will need a fairly large maintenance crew.

The Team also recommended that a building trades advisory committee should be selected so that agreements with the contractors and labor unions can be made for the benefit of the students.

At Chowchilla High School a vocational electronics program could be initiated. However, the team did not recommend using the existing facilities as they already are too crowded. Room 15, in which the electronics program is taught, is only an average size classroom and is inadequately equipped for a vocational training program. The equipment is not the type used in modern industry, and the electrical service would be inadequate. Further, there is not ample storage area for projects, supplies, portable and hand tools and personal belongings. The equipment recommended for Madera High should be included. Also, the program should be articulated with Fresno City College.

The wood shop, room 33, has the space for converting to a vocational program, but lacks many of the necessary machines. The Team recommended the following pieces be added if converted:

Shaper with 1" spindle
Boring or doweling machine
Grinder with 6" wheel
Edge sander
Disc sander
Jig saw

Also, the following equipment needs replacement:

12" tilt table saw - should be a variety saw.
10" radial arm saw - should be replaced with new equipment.

The Team questioned whether the cost of converting the program would be warranted since the need for cabinet makers is limited.

Since auto mechanics was the area of greatest interest expressed by the men, the auto programs at both schools were carefully examined. The conclusion arrived at by the Team was that neither facility was adequate for a vocational program. There were not enough stalls for working on cars, and most of the equipment is old, worn out or obsolete, and does not conform to the equipment used in the automotive industry today. Hence, a complete inventory of new equipment and tools would be necessary. It was recommended that if a vocational auto mechanics program is to be offered, it should be housed at some location other than in one of the existing high school shops.

Business Education. Both business education programs were commended by the Team. It was recommended, however, that for the most effective vocational office training, the manual machines and typewriters should be replaced with electric ones. Also the facilities at Chowchilla were much too crowded and the stationary desks were uncomfortable for adult seating. At both schools, storage is inadequate for a vocational program.

Neither of the schools have an office oriented laboratory. It was suggested that when remodeling or relocating the present programs, a laboratory be planned to incorporate all of the elements of a modern office. At the present, a program of this type is located at Clovis High School. One of the large business firms in Fresno also is using this lab to train new employees.

Since the present facilities of both schools are crowded and new equipment would be required to bring the program up to present office standards

another alternative was offered. This was the same as for the auto program; it should be housed in some location other than in one of the high schools.

Industrial Buildings

Of the many vacant office buildings within Madera and Chowchilla, the one which had the most to offer for housing a vocational training program was the auto agency building on the west side of the 400 block of C Street, Madera. This building until just recently housed the Ford agency. On the east side of the street, there are three other buildings which are also available. The first one at the north end has 5,000 square feet containing one large room. The second to the south is an air conditioned office building. The third, farther south and across the street was an auto body and spray shop.

The display and storage area of the auto agency building easily could be remodeled into a classroom for the auto mechanics program, and the remainder of the area could be used for another program.

The shop areas would provide sufficient space for two automotive training classes. The shop on the south would accommodate eight vehicles with ample room provided immediately east of the structure for additional work area. Work benches with piping for air and gas are already provided the full length of the building. This shop would be adequate for on-car instruction and could easily accommodate 15 students.

The other shop area has four stalls with two hydraulic lifts. A large door is provided for each stall through which even trucks and tractors could be driven. This shop could be used for concentrated instruction in the basics of automotive mechanics and automotive machine operation. Ideally, the shop would accommodate ten students.

An additional area is provided north of the shops for steam cleaning and storage. A sump with an oil trap is already installed.

An equipment list as recommended by the Team is included in Appendix B.

It was the recommendation of the Evaluation Team that the auto agency be used for an auto mechanics program. The building provides the proper environment and space necessary for a worthile program.

New equipment would be necessary to up-date either of the high schools if a vocational program were to be taught there. This way, through a joint effort, the agency building could be equipped with the latest equipment and both high schools, within minutes, could transport their advanced students to it. Further, since it is away from the high school, many of the out-of-school people could also be trained during the day. In the evenings and on Saturdays, retraining of currently employed mechanics could be conducted on the latest equipment.

The other portion of the display area of the auto agency building could be used for a nurse's aide program. Such a program was conducted by the Fresno Unified School District last year through an M.D.T.A. program. The program was for two sessions, each 30 hours per week for 12 weeks. Forty students were trained. The total cost was $10,404 of which 90% was contributed by M.D.T.A. A copy of the application will be submitted to Mr. Gould's office.

Either the north building on the east side of the street or the air conditioned office building was recommended to be used for an office training program. Again, the high school students who had completed their basic training could be transported to this facility for additional training.

It is feasible that concurrent with the high school student's training, an office training program for out-of-school students could also be offered.

This program would be conducted six hours a day, five days a week for nine months. The student-teacher ratio should not exceed 15 to 1.

The program would consist of English grammar, typing, filing, bookkeeping, shorthand, dictation and transcription. Machines on which training should be provided would include calculators (rotary, 10-key, full-key) and duplicating machines (ditto, mimeograph and offset).

It was recommended that two teachers who have both teaching credentials and office experience be hired. After the first half of the program, the students should be divided according to their aptitude and interest into either secretarial training or clerical training.

An equipment list as recommended by the Team is included in Appendix C.

Fairgrounds

It was suggested that the fairgrounds at Madera and Chowchilla be investigated as possible training sites. The evaluating Team was taken to both sites and have offered the following recommendations.

Madera Fairgrounds. There is presently only one building that would lend itself to a training program at the Madera fairgrounds. It has 6,000 square feet of floor space. The floor is concrete, sealed and waxed. The two sides and the one end of the building are entirely glass except for the doors. The doors are limited in size and hence would restrict what equipment and machinery could be moved in and out of the building.

A new livestock building 60 x 140 feet is to be constructed on the grounds in the near future. It will be a steel frame structure with a concrete floor and removable stalls. There will be no outside walls. For security, some type of partitions would have to be built and installed.

These two buildings could be used by new industries to the area. The industries could temporarily locate their machinery in the buildings and conduct pre-installation training programs in the use of the machinery. Cost for renting the buildings would have to be negotiated at the time. The buildings may be used any time of the year except from September 10 to October 10.

Chowchilla Fairgrounds. The Chowchilla fairgrounds have more to offer than Madera's. There are three major buildings which could be used. Eastman Hall is 80 x 160 feet of which only 80 x 120 feet can be used. The other 40 feet would be needed for storage of fair property. Lighting and electrical service is very adequate for any vocational program. The major disadvantage of this building is its small doorways. This would limit the size and type of equipment. Also, there is no heating.

The Exhibit Hall is 40 x 200 feet with a macadam floor. There are no windows and the highest doorway is 9 feet high. It would be possible to enlarge this doorway if required. Lighting and electrical service is adequate. Gas could be run to the building so that space heaters could be installed. This building would be very serviceable to house a farm equipment maintenance training program.

The open air judging arena offers a good shelter for some of the larger equipment, such as cotton pickers. There are moveable partitions to close off part of the building to the weather. The lighting is excellent. The floor is dirt with a wood chip covering.

There are large paved parking lots on which tractor driving could be taught. There are 14 acres adjacent to the north of the fairgrounds and additional acreage in the proposed industrial site that is adjacent to the east which can be used. On the south side of the fairgrounds, the high school has its school farm.

The only limiting factor to this site is the fair. The grounds and buildings would have to be vacated during part of the months of May and June. However, for a tractor maintenance and driving program, this would not be inconvenient because more than likely the program would be terminated by then and the students should be employed.

Mobile Vocational Training Units

In a joint effort of Utah State University, Utah Technical College of Salt Lake, System Development Corporation, and Title I ESEA through the inspiration of the office education specialist with the Utah State Board for Vocational Education, the Mobile Office Education Units, known as MOE, have been developed.

MOE is composed of two 36 x 8 foot trailer houses connected together and used as a single classroom unit. MOE has all the decor of a modern business office and is equipped with the latest equipment found in many of Utah's most modern offices. Instructional equipment includes a videotape and multi-channel audio F-M for each student. Students perform the duties of office workers related to real office problems.

To illustrate MOE's versatility, it is being used in three major areas during the year. The first is a project for children of migratory agriculture workers. The second is an office skills training program at Utah State Prison. In the third program, MOE will be shared by Millard, Panguitch, Piute, and North Sanpete High Schools for the regular school year.

Another experimental program is underway using a mobile electronics classroom unit in four rural schools. Beginning next September, a mobile occupational guidance unit will be put into service. The rather common mobile driver-trainer units are also used.

John F. Sterhens, Director, Utah Research Coordinating Unit for Vocational and Technical Education says, "I might mention that the interim evaluation of the effectiveness of these different types of units won't be available for about six months, but every informal indication is that they have great student and teacher appeal and are able to add effectively to the curriculum of rural schools for a minimum investment."

Mobile units might well be used in Madera County because of its broadly distributed population. The units could be located at rural elementary schools or at community centers which might be more effective, as demonstrated by the English course at the Cinco Community Center.

6. Financial Assistance

Following is a list of available funds for financing a vocational training program. The administrative organization and the programs to be implemented will determine which fund or combination of funds would be applicable.

Average Daily Attendance

State A.D.A. would continue to be a source of income to the high school district for any high school student attending a vocational training program.

However, if the junior college district were to conduct the program for 11th and 12th grade students as provided in Section 6401, Educational Code, it is possible through Section 6403, Educational Code, for the high schools to continue to collect full A.D.A. and in addition, for the junior college district to collect A.D.A. for the hours spent by the students in the program. Attendance at the high school must be a minimum day of 240 minutes as stipulated in Section 6402 and 11052, Educational Code.

Regional Occupation Center

A Regional Occupation Center (ROC) program can be initiated for funding by any single school district or by a combination of two or more school districts. Each participating school district must have the approval of its school board. The county board of education is then entitled to levy a tax of 15¢ per $100 assessed evaluation of which 10¢ is for capital outlay and 5¢ is for operating costs. This money can be used to match any Federal funds.

Manpower Development and Training Act

The Manpower Development and Training Act (MDTA) will provide 90% of an approved training program cost. The other 10% must come from either the local school districts or from the State Office of Education.

Normally, the programs are initiated through the State Department of Employment which, in turn presents the program to the State Department of Education for implementation. However, under the MDTA Area Redevelopment Act, PL 87-27, the program could be initiated by any school district or any public or private agency directly through Congress in Washington, D.C. By this route, it does not go through the State Department of Education.

Vocational Education Act

The Vocational Education Act (VEA) for 1969-1970 has provided the following entitlements for the school districts in Madera County.

Chowchilla Union High School District. . . $ 5,300.00
Madera Unified School District . . . . . $ 33,750.00

This entitlement does not mean that the money will be automatically awarded. Prior to September 2, 1969, each district must submit to the State Department of Education (1) the District's plan for Vocational Education, and (2) the completed application for the funds.

The following amounts must be generated in excess cost for vocational education above any foundation funding within each district in order to be eligible for the entitlement money.

Chowchilla Union High School District. . . . $ 6,228.00
Madera Unified School District . . . . . $ 33,103.00

The entitlement stipulates that 15% of the funding must be used for the education of disadvantaged persons and another 10% must be used to educate handicapped persons.

Additional money can be applied for by the County Superintendent's Office for a County Vocational Coordinator. Application should be made immediately through Sam Barrett's office, State Department of Education, Sacramento.

Further information may be obtained locally from the office of Miss Maurine Vander Griend, Regional Supervisor, Bureau of Home Economics, California State Building, Fresno, California.

Concentrated Employment Programs

At this time, Concentrated Employment Programs (CEP) is not permitted to offer programs in Madera County. However, State Center Junior College District has been approached by CEP to conduct several programs. CEP is training for out-of-school people only. It might be possible to transport people from Madera to attend these programs.

Economic Opportunity Commission

The Fresno Office of the Economic Opportunity Commission (EOC) might be approached to assist in the funding of a vocational training program. Bud Boqua, Director, Madera County Action Committee, would be the logical person to make contact.

Madera County Welfare Department

The Madera County Welfare Department will continue their Education Training program next year. The purpose of this program is to assist clients of the Madera County Welfare Department to acquire the educational and technical skills needed to obtain gainful employment. The Department is allowed to give financial assistance to Welfare recipients to attend any approved Educational Training program. Therefore, any vocational training program initiated should be submitted to the Madera County Welfare Department for its approval.

CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

It was the purpose of this study to compile information about (1) potential students for a vocational training program, (2) job opportunities, (3) existing vocational programs, (4) existing facilities, and (5) financial assistance, and to evaluate the compiled data to determine (6) the areas of training which would yield the most favorable results, (7) the facilities which would be the best suited for housing such programs, and (8) what additional equipment would be required to conduct these programs.

1. Conclusions

The concept of a vocational training program for Madera County was enthusiastically received by not only the people interviewed, but also by the people surveyed. The survey indicated that 69% of the group studied were willing to attend a vocational training program.

The survey indicated that nearly everyone spoke English. However, over one-third of the people also spoke Spanish which, in many cases, is their first language.

Transportation will be a problem for up to one-half of the students. It will be greater for the women than for the men.

The majority of all the people surveyed who were interested in the program are under 21 years of age. However, of the out-of-school group studied by the agencies, the majority was over 21.

The greatest vocational interests expressed by the men were Auto Mechanics, Farming and Tractor Driving, Building Trades, Electronics, and

Metal Trades. For the women, they were Office Training, Nursing, Data Processing, and Cosmetology.

Job opportunities within Madera County are mainly in the seasonal agriculture occupations. Industry is very sparce with no immediate industrial boom in sight. However, the County governments and the Chamber of Commerce are enthusiastic in their efforts to entice industries to settle within the County.

Training would not have to be only for jobs available in Madera County since three-fourths of the people interested in the program would be willing to move over 100 miles away from their present home. The out-of-school women were the most reluctant to relocate.

The present school facilities, with few exceptions, are not adequate for a vocational training program as the shops are not industrially oriented and the equipment is not current to what is being used in industry. The exceptions are agriculture, electronics, and cabinet-carpentry which could be converted, with the least cost for remodeling and equipment, into vocational programs for high school students. Any other programs should be offered off campus or in a mobile unit.

The best time for starting a vocational training program for out-of-school people would be after October, since at this time the seasonal agricultural work has begun to wane.

2. Recommendations

It is recommended that a Vocational Training Program be initiated as soon as possible within Madera County. The study indicates sufficient desire by people both in and out-of-school to offer several areas of training. It is further apparent the training should be such that employment can be found both out of Madera County as well as within the County.

Administrative Organization

Four alternatives for the administrative organization of the program are offered in decreasing sequence of preference.

Alternate 1. An ROC system should be initiated by both the Chowchilla Union High School District and the Madera Unified School District, and submitted to the Madera County Board of Education so that up to a 15¢ tax can be levied to inaugurate the program. The Madera County Schools' Superintendent should hire a County Vocational Coordinator. His duties should include (1) the writing of the applications for financing the total program, (2) preparing the course outlines, (3) interviewing prospective teachers, (4) ordering equipment and supplies, (5) securing facilities for housing the program, and (6) make provisions for screening and selecting the students. He should also work with the high schools in coordinating their programs with the ROC program and with the colleges within the State Center Junior College District. Qualified 11th and 12th grade students should be encouraged to participate in the ROC programs which are offered off of the high school campuses.

Under the ROC program, it would be possible, if preferred, to contract all or part of the program with the State Center Junior College District. Additional funding would therefore be available as described in the Report of the Study under Financial Assistance.

Alternate 2. The Madera County Schools' Office would contract directly with the State Center Junior College District to conduct the program. An excess cost per student would have to be determined for training the high school students and this unit cost would be charged to each high school district for any students they would send.

Alternate 3. The Economic Opportunity Commission (EOC) could initiate the program and select a training agency to conduct the courses. The main

disadvantage to this plan would be that the program would be for out-of-school people only, and would eliminate high school students who could profit from such programs.

Alternate 4. The high schools could attempt to enlarge their curricula to include vocational programs. There are certain areas in which the high schools could move to vocational programs, as will be indicated. But, to attempt to incorporate all phases at the high schools would be the least desirable solution as the shops and equipment are not vocationally oriented and the facilities are overcrowded already.

Off-Campus Programs

It is recommended that three programs be initiated on an off-campus site such as the available building in the 400 block of C Street, Madera. These programs would include a one-year Auto Mechanics and a one-year Office Training program and either one or two 12-week Nurse's Aide Training programs. These programs should be designed for both in-school and out-of-school people. Programs should be planned for retraining and up dating of currently employed people and should be offered in the evenings and on Saturdays so as not to conflict with the day programs. The financing of such programs would depend directly upon the administrative organization selected.

The equipment list for the Auto Mechanics program is included in Appendix B and the equipment list for the Office Training program is included in Appendix C.

Day Care Center

A day care center should be established near the off-campus training center. The day care center will be needed to care for the pre-school children of the out-of-school women who attend the program. In addition to caring for the children, the center should be used as a training facility for

Teacher Aides and Nursery School Aides and Nursery School Licensing programs. The facility could be provided by the Madera County Action Committee and O.E.O.

Chowchilla Fairgrounds

A Tractor Driving program and a Farm Equipment Maintenance program should be offered at the Chowchilla Fairgrounds. The programs should be open to both in-school and out-of-school people. The programs could be funded through MDTA and should be initiated through the California Department of Employment, Madera Office.

High Schools

Madera High School. The vocational agriculture program at Madera High School should add two MIG and one TIG welders. Consideration should be given to adding at least two more nights of welding to the adult education program. Also, study should be made for increasing the study of farm equipment maintenance, or possibly include it as part of a vocational auto mechanics program. The needs of the community strongly justify another MDTA tractor driving program.

One of the wood shops at Madera High School should be converted to a carpentry-cabinet shop with the intent of offering pre-vocational carpentry and/or building maintenance.

The electronics class at Madera High School should be converted to a vocational electronics program, articulating its program with Fresno City College, and adding, as soon as possible, the equipment list in Appendix D.

The Madera High School Adult Education Office should enlarge its programs for the socially and economically disadvantaged people as in the case of the English course for non-English speaking people at the Cinco Community Center. The programs should remain under the supervision of the

school. However, using the facilities of other agencies such as the Community Center's, is recommended as it provides a psychological advantage for the students. Cooperation between the schools and the agencies has been very good in the past and continued cooperation is indicated for the future.

It is recommended that the Adult Education Office offer a public speaking course in English for the Mexican-American people at Cinco. The courses should be offered in the Cinco Community Center.

Chowchilla High School. Chowchilla High School should attempt to relocate its Technical Science program where more laboratory space would be available. Electronics should be given the greatest emphasis and should also include electronics assembling. The equipment listed in Appendix D should be included as soon as possible and the program should be articulated with Fresno City College.

As an alternate possibility, a mobile electronics training unit could be developed as a joint effort between the Madera County Schools, the Madera Unified School District, the Chowchilla Union High School District, and the Madera County Action Committee so that the maximum utilization could be obtained with the minimum expense to any one group.

Mobile Units

Further study should be made of the possibility of providing vocational programs for outlying districts with the use of mobile units. Three very plausible programs would be Office Training, Consumer Education, and Electronics Assembler Training. Consideration should be given to locating these units at the Community Centers for out-of-school people and at the high schools for the in-school people.

Student Screening

The Research Coordinating Unit, Vocational Education Section, California State Department of Education, should be consulted when the instruments are being prepared to screen students for the program. It is very important that the program is not self-defeating due to poor screening techniques. The screening of prospective students should take place where they live. The prospective students should be included in setting selection standards since the socio-economic-politico conditions in which they find themselves will all contribute to determining the course objectives for the program.

Future Identification

The survey for identifying possible students for the program should be continued through the Welfare Department, Department of Employment, the Probation Office and the Madera County Action Committee. The forms should be made available through the Madera County Superintendent of Schools Office or the County Vocational Coordinator's Office and when completed, the forms should be returned to that office.

The County Schools' Office should be kept informed of any new industries which plan to settle within Madera County so that training programs can be provided as needed.

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State of California Department of Employment, Surplus and Shortage Occupations, San Francisco-Oakland Labor Market Area, Department of Employment, Coastal Area Office, 745 Franklin Street, San Francisco, California 94102.

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4912

APPENDIX A

VOCATIONAL TRAINING SURVEY MAY 1969

NAME _____ M __ F __ AGE ___ E __ M __ N __ A _____

ADDRESS _____ TELEPHONE _____

CITY _____ DRIVER'S LICENSE: YES __ NO __ TRANSPORTATION: YES __ NO ____

PHYSICAL HANDICAPS _____ LANGUAGES: ENG ___ SPAN ____ OTHER _____

EMPLOYER _____ JOB _____

OTHER VOCATIONAL INTERESTS _____

HOBBIES _____

LAST SCHOOL GRADE COMPLETED _____ WHY DID YOU LEAVE? _____

WOULD YOU BE INTERESTED IN ATTENDING A VOCATIONAL TRAINING PROGRAM? YES __ NO ____

WOULD YOU RELOCATE FOR A BETTER JOB? YES __ NO __ IF SO, HOW FAR FROM HOME _____

NUMBER OF OTHERS IN HOUSEHOLD _____

PRE-SCHOOL CHILDREN ___ CHILDREN IN SCHOOL: ELEM ___ HIGH SCH ___ COLLEGE _____

OUT OF SCHOOL: 6-12 ___ 13-17 ____ 18-21 ____ 22-35 ____ 36-60 ____ OVER 60 ___

MADERA COUNTY
CHAMBER OF COMMERCE

131 W. YOSEMITE AVENUE -:- POST OFFICE BOX 307 -:- TELEPHONE 209/673-3563
MADERA, CALIFORNIA 93637

May 6, 1969

Periodically your Chamber of Commerce is asked to supply information concerning the needs for vocationally trained persons to fill job openings in business, industry, and agriculture in Madera County. Such a request currently has been asked as part of a study being conducted for the Madera County, the Madera Unified and the Chowchilla School Districts through the State Center Junior College District. This study is endeavoring to determine the most feasible Regional Vocational Education Program for Madera County for training both in-school and out-of-school persons.

We have been asked to assist this study by identifying job vacancies and future job openings which could be filled by persons who would successfully complete a training program emphasizing specified job skills. Also, this study is interested in training programs you are conducting to train your own people and if the schools could assist you.

We are pleased our schools are undertaking this study to update our educational system. We are sure you, too, will want to help in this study.

A short questionnaire is enclosed which we sincerely hope you will find time to fill out. Recognizing our county's limited employment outlet for its young people, it is really important to us that you complete this questionnaire and return it to the Chamber's office at your earliest convenience.

Thank you for your help.

Sincerely,

Paul Spraetz
Executive Vice President

PS:ms
Enclosure

EMPLOYMENT OPPORTUNITIES SURVEY

Name of company: _____

Person completing form: _____ Title: _____

In your company, what job openings do you have or anticipate? Please list and identify the number of openings under each time category.

	Number of Job Openings			
Job Title	Now to 3 months	3-6 months	6-12 months	1-3 years

(Use back side if additional space is needed)

Do you conduct a training program for your own people? Yes _____ No _____
If yes, for what job? _____

Is the training program:

Government approved Yes ____ No ____
In cooperation with the public schools Yes ____ No ____
An apprenticeship program Yes ____ No ____
An independent program of your own Yes ____ No ____
Other (specify): _____

Duration of training (Years, Months, Hours) _____

What are some of the job skills in which your present employees need additional training?

1. _____
2. _____
3. _____
4. _____

Could the public schools cooperate in such training? Yes ____ No ____
If yes, in what way? _____

What specific skills or training would you like given more emphasis in the public schools? _____

Would you be willing to participate in an On-The-Job training program?

Yes ____ No ____ If yes, for what jobs? _____

Do you have jobs that could be filled by physically handicapped persons?

Yes ____ No ____ If yes, what job must they be able to perform? _____

_____

What were the most common causes for discharging persons in the past 12 months?

_____

Additional comments: _____

_____

_____

_____

_____

Thank you.

EVALUATION GUIDE

FOR THE SELECTION OF POSSIBLE BUILDINGS

TO HOUSE THE REGIONAL VOCATIONAL EDUCATION

PROGRAM

MADERA COUNTY, CALIFORNIA

BUILDING:

Room _____

Address _____

Occupation _____

EVALUATED BY:

Name _____

Position _____

Date _____

1. Room dimensions (width, length, height)

   1.1 Main Lab _____
   1.2 Project Storage _____
   1.3 Supply Storage _____
   1.4 Auxiliary Rooms _____
   1.5 Office _____
   1.6 Lecture/Classroom _____

   Comments _____

   _____

2. What is the maximum number of students the laboratory can accommodate without jeopardy to the learning process? _____ students.

   Comments _____

   _____

3. Sit-down lecture/classroom area is adequate for _____ students.

   3.1 Location conducive to learning Yes ____ No ____
   3.2 Able to be darkened Yes ____ No ____
   3.3 Equipped with controlled light level Yes ____ No ____
   3.4 Ventilated Yes ____ No ____

   Comments _____

   _____

4. Is the instructor's office:

   4.1 For himself only Yes ____ No ____
   4.2 Shared with other instructors Yes ____ No ____
   4.3 An area within the classroom Yes ____ No ____
   4.4 In another building Yes ____ No ____
   4.5 Non-existent Yes ____ No ____

   Comments _____

   _____

5. Is there ample storage of:

   5.1 Projects Yes ____ No ____
   5.2 Supplies Yes ____ No ____
   5.3 Portable tools Yes ____ No ____
   5.4 Hand tools Yes ____ No ____
   5.5 Student's personal belongings Yes ____ No ____
   5.6 Instructor's personal belongings Yes ____ No ____

   Comments _____

   _____

6. Does the building appear structurally suitable to conform to the occupation to be taught?

Yes ____ No ____

Comments _____

_____

7. Are doors into the building large enough for passage of equipment, projects and supplies?

Yes ____ No ____

Comments _____

_____

8. Is the laboratory decor conducive to learning? Yes ____ No ____

Comments _____

_____

9. Is the existing equipment of the type used in industry?

Yes ____ No ____

Comments _____

_____

10. Is the present machinery/equipment adequate for a vocational program?

Yes ____ No ____

Comments _____

_____

11. Is there any obsolete or unused equipment in the laboratory?

Yes ____ No ____

Comments _____

_____

12. Is there space for additional equipment? Yes ____ No ____

Comments _____

_____

13. Is preventive maintenance of equipment a part of the instructional program?

Yes ____ No ____

Comments _____

_____

14. Are accessories for machines/equipment stored near the machinery?

Yes ____ No ____

Comments _____

_____

15. Are work stations adequate in number and location to minimize confusion and loss of time?

Yes ____ No ____

Comments _____

_____

16. Is there a thermostatically controlled heating system?

Yes ____ No ____

Is there a cooling system? Yes ____ No ____

Comments _____

_____

17. Are there provisions for:

17.1 Compressed air Yes ____ No ____
17.2 Gas outlets Yes ____ No ____
17.3 Adequate electrical service Yes ____ No ____

Comments _____

_____

18. Is there a ventilation system for the removal of toxis fumes?

Yes ____ No ____

Comments _____

_____

19. Are the following items provided:

19.1	Wash basin	Yes ____	No ____
19.2	Hot water	Yes ____	No ____
19.3	Drinking fountain	Yes ____	No ____
19.4	Toilet facilities	Yes ____	No ____

Comments _____

_____

20. Are there provisions for disposing of waste and scraps?

Yes ____ No ____

Comments _____

_____

21. Is the audio-visual equipment:

21.1	Adequate	Yes ____	No ____
21.2	In usable repair	Yes ____	No ____
21.3	Accessible when needed	Yes ____	No ____

Comments _____

_____

22. Is the reference library:

22.1	Accessible to student instructors when needed?	Yes ____	No ____
22.2	Supplied with current materials which are directly related to and used by the trade/industry?	Yes ____	No ____
22.3	An orderly system?	Yes ____	No ____

Comments _____

_____

23. Are the parking facilities near to the laboratory?

Yes ____ No ____

Comments _____

_____

APPENDIX B

EQUIPMENT LIST FOR A VOCATIONAL TRAINING PROGRAM

AUTO MECHANICS

Quantity	Description		Unit	Total
1	630-163 Wheel & Steering Service w/teleliner	**	$ 4,935.07	$ 4,935.07
1	80 Twin I Beam Set			
1	22136 Fairlane Camber Caster Tool			
1	22972 Convex Mirror			
1	8230 A Ball Joint Socket, Chrysler			
1	8233 Ball Joint Socket, G. M.			
1	640-145 Teleliner w/drive on rock, includes all above tools	**	3,119.04	3,119.04
1	Hunter Wheel Balancer Group 1-D		444.57	444.57
1	Bada Bubble Balancer Model M-60		58.97	58.97
1	Kleer Flo Parts Cleaner Model 70		241.10	241.10
2	Baldor Bench Grinders Model 610		33.81	67.62
1	Valve Grinder & Hard Seat Grinder Set, Sioux Model 687L		807.93	807.93
1	Chassis Service, Portable on wheels, Alemite Model 8503		276.08	276.08
1	Gear Service, Portable on wheels, Alemite Model 8520		125.18	125.18
1	Oil Drain with tank, Alemite Model 8531		87.71	87.71
1	Hydraulic Press with jack, Hein Werner Model PR-126		127.42	127.42
3	Floor Jacks, 2 Ton Hein Werner Model K		125.90	377.70
1	Bumper Lift, Hydraulic, Hein Werner Model 57		115.60	115.60
12	Bench Vises 5" Jaw, Columbia Model D-45		18.63	223.56

** Duplicate Items

4924

Quantity	Description		Unit	Total
1	Hydraulic Shop Crane, Griggs Model 146, 1-1/2 ton capacity		301.88	301.88
1	Air Compressor, Champion Model VR-3-12, 3 HP		785.71	785.71
1	Brake Shop Complete, AMMCO Model 40		2,208.21	2,208.21
1	Heavy Duty Honing Machine, Sunnen Model LBB 1700		1,770.30	1,770.30
6	Steel Work Benches, Shurr Model 9193-S-60 60" long, 29" deep, 34" high		37.35	224.10
1 1 1 1	Electric Drill 1/2", Sioux Model 1550 Drill Press Stand, Sioux Model 1555 Drill Press Vise, Sioux Model 1553 #2 Morris Taper Shank, Sioux Model 1582		160.71	160.71
1	Steam Cleaner, American Kleener, Portable, Model GAS 150, 100% Safety Pilot Shut-off	**	716.45	716.45
1	Steam Cleaner, American Kleener, Stationary, Model GAS 150, 100% Safety Pilot Shut-off	**	654.25	654.25
2	Electronic Engine Tester, Model EET 1120		1,547.00	3,094.00
1	Generator Alternator Tester (Bench) Model GAT 620		1,034.60	1,034.60
1	Distributor Tester, Model DT 504		644.00	644.00
2	Volts Amp Tester, Model VAT 28		243.60	497.20
2	Volts Amp Tester, Model VAT 20		128.80	257.60
2	Battery Starter Tester, Model BST 11		121.80	243.60
1	Battery Charger, Model BC 160		162.40	162.40
1	Armature Tester, Model AT 76		77.00	77.00

** Duplicate Items

4925

Quantity	Description	Unit	Total
3	Portable Timing Light, Model PTL 45	25.20	75.60
3	Universal Compression Tester, Model UCT 48	42.00	126.00
3	Tach Dwell Tester, Model TDT 12	98.00	294.00
3	Electronic Distributor Tester, Model EDT 214	154.00	462.00
3	Portable Test Stand, Model PTS 2	23.80	71.40
1	Auto Training Course Charts, Model ATCC	130.00	130.00
1	Sun Action Track, Model SAT	336.00	336.00
	SMALL TOOL LIST - PROTO TOOL SCHOOL PANELS WITH STOCK--INCLUDES:		
2	1SP		
2	14SP		
2	14ASP		
2	31SP		
2	32SP		
2	32ASP		
2	36SP		
2	40SP		
2	41SP		
2	42SP		
2	52SP		
2	54SP		
2	54ASP		
2	55SP		
2	55ASP		
2	60SP		
2	65SP		
2	65ASP	2,610.51	2,610.51
2	#17 Proto Micrometer Cases with Stock	194.14	388.28

4929

Quantity	Description	Unit	Total
100	Coveralls	6.00	600.00
1	Black & Decker 1/2" Drive Electric Impact Wrench	74.50	74.50
		SUB TOTAL . .	$ 28,516.18
	Supplies and Specialized Equipment		10,000.00
		GRAND TOTAL . .	$ 38,516.18
			or
			$ 30,394.41
			10,000.00
			$ 40,394.41

4927

CLASSROOM EQUIPMENT

Quantity	Description	Unit	Total
30	Student tables - 24" x 36"	$ 19.55	$ 586.50
30	Student chairs - straight back	8.00	240.00
1	Teacher desk	141.00	141.00
1	Posture chair with casters	26.00	26.00
1	Four-drawer file cabinet - legal size	57.00	57.00
		TOTAL. .	$ 1,050.50

4928

APPENDIX C

EQUIPMENT LIST FOR A VOCATIONAL TRAINING PROGRAM

OFFICE TRAINING

Quantity	Description	Unit	Total
31	IBM standard electric typewriters	$ 505.00	$ 15,655.00
1	Demonstration stand for typewriter	65.00	65.00
1	Remington manual typewriter	120.00	120.00
1	Teacher's desk	141.00	141.00
30	L-shaped typing tables	78.00	2,340.00
31	Posture chairs with casters	26.00	806.00
30	Copyholders	1.25	37.50
20	Norelco transcribing machines	229.50	4,580.00
1	4-drawer file cabinet - legal size	57.00	57.00
1	EDP Skill Builder	259.00	259.00
2 sets	35 mm tapes for Skill Builder	125.00	125.00
1	Overhead projector	190.00	190.00
1	Screen with wall brackets	50.00	50.00
1	Bookcase, 42 x 36 x 12	37.00	37.00
1	Coat rack, Vogel Peterson	23.00	23.00
1	Metal combination 2-door cabinet	80.00	80.00
20	Student tables - 24" x 36"	19.55	391.00

4930

Quantity	Description	Unit	Total
30	Student chairs	8.00	240.00
2	Work tables - 24" x 72"	28.00	56.00
1	A. B. Dick carbon duplicating machine Model 227	570.00	570.00
1	A. B. Dick mimeograph machine Model 525	525.00	525.00
2	A. B. Dick mimeoscopes - Model 4	40.00	80.00
2	Duplicating machine cabinets - Model 501	52.00	104.00
2	Monroe rotary calculators	825.00	1,650.00
2	Burroughs electric key-driven calculator, ($610 minus 25%)	457.50	915.00
2	Burroughs electric 10-key full keyboard adders, ($375 minus 25%)	281.25	562.50
7	Olivetti-Underwood 10-key adding machines	200.00	1,400.00
7	Olivetti-Underwood printing calculators	499.00	3,493.00
1	Bookcase - 42 x 36 x 12	37.00	37.00
1	Tape recorder	175.00	175.00
1	Record player	125.00	125.00
1	Overhead projector	190.00	190.00
1	Screen with wall brackets	50.00	50.00
1	Teacher's desk	141.00	141.00
1	Posture chair with casters	26.00	26.00
1	AM Model 85 Multilith Offset, equipped with sheet counter, light fixture	1,517.60	1,517.60

4931

MISCELLANEOUS TOOLS - INCLUDES:

Quantity	Description	Unit	Total
2	Micrometer Set, MO-6P	123.41	246.83
2	Depth Gaugh, GD610	3.74	7.48
2	Depth Indicator Set, MD112	19.24	38.48
2	Machinist Combination Square, SM1236	14.97	29.94
2	Depth Gaugh, M18P	19.32	38.65
2	Hex Nut Driver, 9200C	8.29	16.58
2	Impact Socket Set, 7400D	5.10	10.20
2	Torque Wrench, 6064	28.20	56.40
6	Socket, Plug, 5320-50	1.36	8.14
2	Proto Tool Panel Complete (TRUARG)	13.29	26.58
2	1/4" Drive Set, 4700E	23.56	47.12
2	Adjustable Spanner, C484	6.30	12.60
2	Flare Nut Set, 3700A	18.09	36.19
4	Ignition Wrench Set, 3200D	9.41	37.64
6	Feeler Gauge Set, 000N	3.12	18.72
50	Apprentice Tool Sets, 9911	93.78	4,689.00

4932

Quantity	Description	Unit	Total
1	AM Model 500 Electrostatic Copier	525.00	525.00
1	Headliner, No. 123	390.00	390.00
1	Processor, No. 85	130.00	130.00
1	Varityper, No. 660F, D.S.J.	1,930.00	1,930.00
10	Type Font	48.50	485.00
10	Type Masters	37.50	375.00
		TOTAL . .	$40,648.60

4933

CLASSROOM EQUIPMENT

Quantity	Description	Unit	Total
30	Student tables - 24" x 36"	$ 19.55	$ 586.50
30	Student chairs - straight back	8.00	240.00
1	Teacher desk	141.00	141.00
1	Posture chair with casters	26.00	26.00
1	Four-drawer file cabinet - legal size	57.00	57.00
		TOTAL. .	$ 1,050.50

4934

ADDITIONAL EQUIPMENT LIST FOR

A VOCATIONAL ELECTRONICS PROGRAM

Quantity	Description	Unit	Total
24	Oscilloscopes, Triggering Time Base Scope	$ 350.00	$ 8,400.00
24	Power Supplies, 0-30 Volts, 0.5 Amp for Transistors, EICO 10-20	24.00	576.00
24	Generator Audio Sine Square Wave, Heath Kit	50.00	1,200.00
24	Vacuum Tube Volt Meters	40.00	960.00
1	Tube Tester, Hickok	250.00	250.00
1	Transistor Tester, Hickok	250.00	250.00
5	R-F Signal Generators, Precision	200.00	1,000.00
5	Power Supplies for Tubes, Heath P-S4	50.00	250.00
		TOTAL . .	$12,886.00

VT 012 399
First Report of the Washington State Advisory Council on Vocational Education.

Washington State Advisory Council on Vocational Education, Olympia.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - Mar70 31p.

DESCRIPTORS - *STATE PROGRAMS; *VOCATIONAL EDUCATION; TECHNICAL EDUCATION; *PROGRAM EVALUATION; ADVISORY COMMITTEES; *PROGRAM PLANNING
IDENTIFIERS - WASHINGTON

ABSTRACT - This report provides recommendations for use in developing Washington's State Plan for fiscal year 1971. Recommendations are made in the areas of funding, target population, administrative hierarchy, and information needs. (BH)

VT 012 399

ED0 54390

31p*

FIRST REPORT
OF THE
WASHINGTON STATE
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

MARCH, 1970

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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VT012399

4937

RECOMMENDATIONS

Recommendation 1

It is recommended that federal funding of vocational education be at the level authorized by PL 90-576 and that procedures be devised to free these funds from the constraints imposed by the federal fiscal year.

Recommendation 2

The Division of Vocational Education should accelerate its efforts to develop and implement a more effective information system which centralizes the information required for planning, coordinating and evaluating the total vocational/occupational education program of the state.

Recommendation 3

The policy and activities of the Coordinating Council and the Division of Vocational Education should encourage more strongly the development of programs that better meet the special needs of the socio-economically and culturally disadvantaged, and those who have left school without an education sufficient to obtain and advance in a job.

Recommendation 4

The allocation formulas for apportioning funds for disadvantaged and handicapped pupils should be modified to better allocate such funds on the basis of services local schools actually provide such pupils. Information necessary to determine whether or not the required percentages of the State's total allotment under Section 102 (a) of PL 90-576 is being expended on programs for disadvantaged and handicapped individuals should be collected.

Recommendation 5

The Division of Vocational Education should encourage and support proposals from local districts for approved special programs for high school dropouts to be funded from the 15% of the State appropriation of federal funds to be used for "persons who have completed or left high school."

Recommendation 6

All agencies serving the educational needs of the State should increase planning and coordinating efforts aimed at promoting the potential of occupational education to enrich the entire educational system.

Recommendation 7

"We recommend that the State Board of Education, the State Board for Community College Education, the Superintendent of Public Instruction, and the State Director of Community Colleges reorganize their structures in such a manner that vocational education will have divisional rather than unit status and that the person whose sole responsibility is vocational-technical education be at the assistant superintendent and assistant director level."

STATE OF WASHINGTON

State Advisory Council on Vocational Education

P. O. BOX 248 • OLYMPIA, WASH. 98501
TELEPHONE (206) 753-5697

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BIG BEND COMMUNITY COLLEGE

DR. DANIEL B. WARD, DIRECTOR
DEPARTMENT OF COMMERCE
AND ECONOMIC DEVELOPMENT

MARION E. WILSON, PRESIDENT
B. J. CARNEY & COMPANY

March 2, 1970

Honorable James E. Allen, Jr.
Commissioner of Education
U. S. Department of Health,
Education and Welfare
Washington, D. C.

Mr. Hugh Calkins, Chairman
National Advisory Council
on Vocational Education
Regional Office Building #3
7th and D Street
Washington, D. C. 20202

Gentlemen:

We transmit with this letter our first report, submitted through the Washington State Coordinating Council for Occupational Education (State Board).

It is our sincere hope that these recommendations will be implemented by the Congress, and by the appropriate Federal and State agencies, because this will allow the people of the State of Washington to realize the great potential benefits of the Vocational Education Amendments of 1968. We strongly support the goals of this act, which are that persons of all ages in all communities of the State will have ready access to appropriate vocational training which is of high quality, realistic, and suited to their needs.

We feel that these recommendations can help significantly in attaining the objective stated by the National Advisory Council, that education becomes as relevant for those American citizens who do not graduate from universities as for those who do. We wholeheartedly support this objective.

Sincerely,

Russell Doré

Russell L. Dore'
Chairman
State Advisory Council
on Vocational Education

RLD:mkb

State Advisory Council on Vocational Education

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ACKNOWLEDGMENTS

In addition to the general contributions by the Advisory Council members, certain individuals and organizations should be acknowledged for their special contributions.

The following individuals served as permanent representatives to the Advisory Council, and made significant contributions:

Bruce Brennan	Tacoma School District
Dr. Mack Knutsen	Department of Institutions
Dr. Gordon McCloskey	Washington State University
Lyle Tinker	Employment Security Department

The Planning and Evaluation Committee guided the development and writing of this report, and was comprised of:

Chairman, Dr. Glenn Terrell
Alan Duncan
Mrs. Harriet Jaquette
Rex Jones
Dr. Gordon McCloskey

The Administrative and Budget Committee guided the operational decision-making of the Advisory Council, and members were:

Chairman, Alan Duncan
Rex Jones
Mack Knutsen
H. M. Olsen

Contributions were made by the Division of Vocational Education by providing resource people for Advisory Council meetings and close cooperation in providing requested information. They also provided one of their staff members, Mrs. Shirley Caldwell, to serve as the Council's secretary and to provide liaison with the Division, under a cost-reimbursement arrangement with the Advisory Council. These secretarial and liaison services have proved extremely valuable to the Advisory Council. The vocational education staff in the Superintendent of Public Instruction's Office and in the State Board for Community Colleges have also generously contributed of their time and expertise. The other state and local agencies which made direct or peripheral contributions to this report are too numerous to list here.

The information collection and report drafting services contracted for with Battelle Northwest provided the basis for discussions and revisions by the Advisory Council and greatly expedited completion of the Advisory Council Report.

FIRST REPORT
OF THE
WASHINGTON STATE
ADVISORY COUNCIL ON VOCATIONAL EDUCATION

MARCH, 1970

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I. INTRODUCTION

A. Goal and Charter of Advisory Council

The goal of the State Advisory Council on Vocational Education is to help insure, by advising the Coordinating Council for Occupational Education (the State Board for Vocational Education) in the preparation of their program plans and by evaluating the effectiveness of occupational education, that all the people of the State of Washington are given educational opportunities which prepare them to undertake their roles as wage earners and homemakers.

The responsibility to work towards this goal derives from two sources. First, the 1968 vocational education ammendments (PL 90-576) provided for the establishment of the State Advisory Council (Title I, Part A, Sec. 104, b) to advise the State Board, evaluate and report on the State Plan. Second, the activities specified in the State Plan, assisted under the 1968 ammendments, cannot be evaluated without considering the total occupational education effort in the State. Commentaries on the 1968 legislation (National Advisory Council; S. M. Burt; R. N. Evans, G. L. Mangum and O. Pragon; National Committee on the Employment of Youth) stress the far-reaching impact of PL 90-576, pointing out that it encourages a basic re-orientation of our entire educational system. More emphasis than before is given by occupational educators to the special needs of various socioeconomic groups, education in the elementary schools and teacher-training institutions and other agencies serving the occupational education needs of the State. It is the goal of the State Advisory Council to encourage the translation of the words of the State Plan into activities that will benefit the education and employability of the people of Washington.

B. History

Pursuant to the requirement of PL 90-576, that federal grants to States under this law are conditional upon formation of a State Advisory Council, Governor Evans appointed members to the Advisory Council in March of 1969. The Advisory Council directs its advisory activities

to the Coordinating Council for Occupational Education which is the agency "responsible for the administration of vocational education, or for the supervision of the administration thereof"* in Washington State. This agency is composed of eleven members; three appointed by the governor, three by the State Board for Community College Education, three by the State Board of Education, and two ex-officio members, the Superintendent of Public Instruction and the Director of the Community College System. The Coordinating Council carries out its administrative responsibilities through the Division of Vocational Education (D of VE). The D of VE works with the State Board for Community Colleges (SBCC), the Superintendent of Public Instruction (SPI), the Division of Vocational Rehabilitation and the State Department of Employment Security. These organizations, along with the State Advisory Council, local school districts, community colleges and other interested local and state agencies contributed to the development of the State Plan, under direction of the Coordinating Council.

The required public hearing on the State Plan was held on June 12, 1969. Much public interest was evident at this meeting. Many comments reflected a positive response to the new directions and expressed a hope that the State Plan be more than a piece of paper to satisfy a federal requirement.

The State Plan was submitted as required, and accepted by the U.S. Office of Education. Effective implementation of the State Plan has not been possible due to the failure to date of the Federal Government to appropriate the funds authorized by PL 90-576. Due in part to the uncertainty of the ultimate level of federal appropriations, the FY-70 budgets of the Washington State vocational education operating agencies are still in a state of flux, although $1,381,039 has been earmarked for SPI, $1,471,103 for SBCC, $428,448 for teacher education institutions and $446,252 for the D of VE for consultant and ancillary services. These items are the planned disbursements of the total $3,726,842 expected federal funds for FY-70.

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* PL 90-576, Sec. 108 (8).

C. Nature of This Initial Report of the Advisory Council

This report is intended to provide recommendations to the Coordinating Council for use in the development of the FY-71 State Plan. These recommendations are based upon the correspondence between the FY-70 State Plan and PL 90-576, as the intent and ideals of this 1968 legislation is interpreted by the Advisory Council and published commentaries on PL 90-576.

It is the further intent of this report to provide the National Advisory Council and the Commissioner of the USOE with some insight into the activities, problems and promising programs in Washington State. The major sources of information used by the Advisory Council are the descriptive and statistical reports prepared by the State Division of Vocational Education for the U. S. Office of Education for FY-69. (OE Forms 4041, 4046, 4047-1, 4047-3, 4048). It is realized that these reports to the USOE provide only a part of the base-line data needed for evaluating the impact of PL 90-576 and the programs funded under it.

It must be clearly understood that this initial report is not intended to completely fulfill the responsibility of the Advisory Council to "evaluate vocational education programs, services and activities assisted under this title" [PL 90-576, Title I, Part A, Sec. 104, (b) (1) (C)]. Such evaluation is dependent upon information which will not become available until after July 1, 1970, the end of the first fiscal year during which the provisions of PL 90-576 were in effect.

The Advisory Council also has the duty to "advise the State Board on the development of and policy matters arising in the administration of the State Plan." [PL 90-576, Sec. 104, (b) (1) (B)]. The timing of the annual planning activities under the Coordinating Council required that the Advisory Council provide its recommendations at this time to satisfy, in part, this advisory duty. Subsequent reports of the Advisory Council will provide an evaluation of the "effectiveness of vocational education programs, services and activities carried out in the year under review in meeting the program objectives set forth in the long-range program plan and the annual program plan." [PL 90-576, Sec. 104, (b) (1) (B)].

The broad definition of evaluation embraced by the Advisory Council is: Evaluation is a continuous process of providing the objective and subjective information necessary for defining program objectives, program planning and for making management decisions. Such evaluation is viewed as the responsibility of the Coordinating Council. The Advisory Council enters into this evaluation by providing its insights into the problems and possible solutions to the Coordinating Council and by checking on the adequacy of the planning and evaluation procedures of the Coordinating Council.

The more direct involvement of the Advisory Council in evaluation (as specified in PL 90-576, Sec. 104, (b) (1) (C)) is viewed as being a type of educational accomplishment audit. The Advisory Council is financially and organizationally independent of the Coordinating Council, but its funding level and lack of staff make it dependent, to a great extent, on the Coordinating Councils' data collection capabilities. The bulk of information available to the Advisory Council will be in the State Plan and the reports generated by the Coordinating Council. From this information the internal consistency between PL 90-576 and the State Plan, and between the State Plan and actual accomplishments can be judged. Although the Advisory Council may make use of some independent information gathering procedures for future reports, the central information and evaluation system of our second recommendation is essential to the "educational accomplishments audit" approach.

D. Legislative Budget Committee Report

The Advisory Council generally concurs with the "Preliminary Report on Vocational Education in Washington (as directed by Chapter 283, Laws of 1969, Ex. Sess.)" of the Legislative Budget Committee dated December 31, 1969.

The five "Policy Decisions" (pp. 14, 16, 19, 26, 28) point out the areas of major interest to the Advisory Council: service to all citizens, contribution to solving the State's social and economic problems, planning and coordination, manpower needs and evaluation. The resolution of those questions posed in the "Policy Decisions" in the more specific terms of the discussions preceeding them, will contri-

bute substantially to the understanding and advancement of the responsibilities of vocational education in the State.

The Legislative Budget Committee is to be commended for providing a basis for more explicit definition of the mission and operational responsibilities of vocational education. The Advisory Council looks forward to the final report of their study and offers our assistance wherever we can be of service.

E. Commendation

The success of the vocational education program of Washington State is nationally recognized in terms of the pupils served, support by the public, jobs filled by graduates and success of graduates. The recommendations and suggestions which follow are intended to encourage programs and services which will allow more people to profit from the present and planned offerings in occupational education. There are many new and promising activities going on in the State which should prove highly beneficial to the occupational readiness of our students. Some of them are mentioned as examples in the following recommendations. It is only considerations of time and space that cause many others to go unmentioned.

II. RECOMMENDATIONS

Recommendation 1

It is recommended that federal funding of vocational education be at the level authorized by PL 90-576 and that procedures be devised to free these funds from the constraints imposed by the federal fiscal year.

Rationale

In order to carry out the planned program of vocational education in the State of Washington under PL 90-576 it is absolutely mandatory that predictable funding be provided at the federal level. The unfortunate delay of at least eight months in finalizing the FY-70 appropriation, the prescription for funding under the continuing resolution and the extremely insufficient levels of funding thus made available have had a disastrous effect upon the development and promotion of vocational education in this State.

The impetus given to planning, and broadening the impact of, vocational education by the 1968 amendments can quickly be dissipated if additional funds for the desirable additional services are not forthcoming. The administration recommended funding at the same level as for previous years, which is about one-half the level authorized in PL 90-576 for the purposes of Parts B and C ($565 million) and about one quarter of the total $815 million authorized for Parts B through I, not including the funding for Advisory Councils nor the additional $35 million under Title II for vocational education leadership and professional development.

Under the continuing resolution through which federal vocational education funds are currently disbursed to the states, Washington State expects to receive $3,726,842 through FY-70. Pending resolution of the HEW budget legislation, this may be changed. The expected level of federal funding for FY-70 is only $2,739 more than was received in FY-69 and it is $404,670 less than requested in the FY-70 State Plan.

A lower limit on the cost of developing the more extensive State Plan required under PL 90-576 is provided by the $40,445 expended in staff time and publication costs by the Division of Vocational Education. The cost incurred by other local and state agencies is not included in this figure. The less than $3,000 expected increase over the previous year's funding level is a discouraging return for the extensive effort the vocational educators of Washington State expended in satisfying the requirements of PL 90-576.

At this date, efficient planning would require a good knowledge of the FY-71 funds to be expected. Yet, the final resolution of the amount of federal funds to be received in the current fiscal year is still unknown. The annual State Plan was generated from the budgeting information provided by local districts within the State. This information gave the expected costs of programs which are currently on-going and generating costs which must be reimbursed. Juggling budgets and planning for both desired and dreaded fiscal outcomes within the constraints of PL 90-576 is a time consuming exercise which should not be necessary under a responsible federal funding system. It may be naive to request a change in the traditional budgetary practices of the U. S. Government, but the present practices do not encourage the annual, let alone long-range planning so badly needed in education.

If the congress is to fully fund the provisions of PL 90-576 they must be convinced of the need for the funds and appraised of the effects of the funds. In order to satisfy these two information needs the U. S. Office of Education has to be provided with reports from the states. In view of the establishment of the State Advisory Councils, who can serve a "watch dog" function over federal funds, it is suggested that the USOE streamline its reporting requirements. In particular, it is not understood what statistical or evaluative purpose can be served by the over 60 pages of subjective descriptive narrative generated for the "Annual Descriptive Report of Program Activities for Vocational Education in the State of Washington for Fiscal Year Ending June 30, 1969," in response to the suggested outline of OE Form 4041.

There is some concern among vocational educators in Washington State that the USOE reporting forms, which require categorical accounting for funds, may encourage the dichotomy between vocational and academic education. As long as vocational education funds for broader programs than those with the traditional specific occupation orientation are limited to "special" sources of funding the national goal of salable skills for each person exiting from school will be more difficult of attainment.

One specific problem generated by the USOE reporting forms is the request to enumerate the number of disadvantaged enrolled in "regular" programs. PL 90-576, Sec. 122, a (4) (A) defines disadvantaged as those having "academic, socioeconomic or other handicaps that prevent them from succeeding in the regular vocational education program."

It has been the experience of many local, state and federal agencies that reporting requirements are less onerous to those who must do the reporting, and more valuable to those who receive the reports, when reporting procedures have been developed through cooperative efforts among all parties concerned. The Advisory Council suggests that the U. S. Office of Education initiate efforts to avail itself of the valuable input the states could provide in the formulation of USOE reporting formats and guidelines.

Recommendation 2

The Division of Vocational Education should accelerate its efforts to develop and implement a more effective information system which centralizes the information required for planning, coordinating and evaluating the total vocational/occupational education program of the state.

Rationale

The council believes that the long-term progress of the State's vocational education program is largely dependent upon the ability to set priorities and to activate coordinated efforts by the various agencies serving the vocational education needs of the State. State and national legislation (RCW 28.85.160, 28.85.200; PL 90-576, Sec. 108, (8)) makes the Division of Vocational Education the operational agency responsible for such planning and coordinating activities. Consequently, the D of VE is the logical location for a broadly based, information system which gathers information on all the vocational education activities in the state into one office so that the contributions of each public and private agency to the statewide vocational education effort can be evaluated and coordinated.

The information system should provide the objective and subjective information necessary for planning, evaluation and making management decisions. There is urgent need to get the data essential for:

a) assessment of the state's present and emerging needs,
b) planning and maintaining instructional and counseling programs that meet those needs,
c) assessment of how well the needs were met.

The Division of Vocational Education is to be commended on the progress it has made in this area during the last year, particularly towards developing a PPB system, modifying the local district planning guides and working with the Employment Security Department in developing the mechanisms for providing an annual report on State and area occupational requirements for vocational education.

The words to be stressed in Recommendation 2 are "central", "total" and "system". "Central", because when information is to be used by many agencies coordination is more efficient. "Total", because priorities may miss important areas for development or induce duplication when information relevant to some agency's contribution to vocational education is left out. "System", because the Division of Vocational Education, in line with its charter of "supervision of administration" will continue to be dependent upon the data collection activities of the two major system components, the State Board for Community Colleges and the Superintendent of Public Instruction. Full cooperation among these three agencies in determining the information to be collected by each and defining their respective reporting responsibilities is essential to the smooth functioning of the system for generating central reports useful to all parties.

The Advisory Council agrees with the assessment of the Legislative Budget Committee Preliminary Report that "Insufficient information is currently available with which to attempt to judge the effectiveness of various vocational programs." (p. 26 in the previously cited report).

Suggestions

The information system should provide means for obtaining and using facts which will better define and measure:

1) Factors affecting the nature of vocational education.
   a) Manpower needs, trends and projections.
   b) Skills, attitudes and basic education essential for effective work in modern occupations.
   c) Motivating influences on individuals' occupational choices.

2) Factors affecting pupils' access to vocational education.
   a) Size and geographic location of school populations.
   b) Local vocational education program, staff, facilities and financial needs.

3) Factors affecting the evaluation of vocational education.
   a) Number of individuals served broken out by training level, occupational area, number of courses enrolled in, special populations and serving agency.
   b) Employment and job-success of graduates.
   c) Adequacy of manpower supply.
   d) Specific State Plan objectives and goals to which programs relate.
   e) Expenditures broken out into source of funding by the categories in item a) above.

4) The Legislative Budget Committee Preliminary Report suggests, in Appendix A, more specific types of management data that should be obtained on a systematic basis.

Additional information system suggestions, of a more operational nature, are that:

a) Reports on all vocational education programs in the State should be coordinated from and collected in one State office, the Division of Vocational Education.
b) The smaller local districts need more assistance in their planning and curriculum development activities.
c) More effective coordination of district planning is needed so that local districts know what other districts are doing.
d) The facts necessary for planning and evaluation need to be determined.
e) The present administrative structure for vocational education should be given time to stabilize itself and implement appropriate evaluative procedures.
f) Develop an adequate uniform system for ascertaining the effect of vocational education programs on the graduates from all institutions under SPI and SBCC.
g) Make the goals and objectives of the State Plan more "operational" with clearer definition of terms so that progress towards their attainment can be better evaluated.

h) Local administrators should be provided with training programs to help make the planning, programming and budgeting system and other information gathering mechanisms more effective.

i) More specific definitions of what types of occupational programs and services qualify for which sources of state and federal funding should be agreed upon.

Recommendation 3

The policy and activities of the Coordinating Council and the Division of Vocational Education should encourage more strongly the development of programs that better meet the special needs of the socio-economically and culturally disadvantaged, and those who have left school without an education sufficient to obtain and advance in a job:

Rationale

There is abundant evidence (higher drop-out rates, lower academic achievement and greater unemployment) and general agreement among educators that traditional methods of instructing and motivating individuals in these special groups have not, and are not, working. Half way through the first fiscal year under the 1968 vocational education ammendments we cannot expect fully developed programs designed to serve special needs to be operating statewide. (The New Careers Program at Bellevue CC, Operation Help at Newport and Operation Motivation at Pasco are good examples of what is meant by special programs for special needs).

In recognition of this need the 1968 ammendment requires that "the amount used for such purpose (disadvantaged as defined in Sec. 122 (a), (4) (A)) shall not be less than 15 percentum of the total allotment of such funds (appropriated under Section 102 (a)) for each State."* In addition Section 102 (b) authorizes a national appropriation of additional funds ($40,000,000) for FY-70 for programs for the disadvantaged.

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* PL 90-576, Sec. 122 (c) (1)

Some comments in the State Plan mention the disadvantaged, notably in Part II, p. 35 where the general objectives of programs for the disadvantaged are characterized as "the same ... as for all others enrolled in vocational education programs" and efforts "to provide vocational education for greater numbers of disadvantaged" include preparation "for employment in the normal range of jobs, ".. "emphasize the role of home and family" ... "reduce the incidence of unemployment" and "revitalize a large segment of unused manpower."

Since all programs, services and activities apply equally to the disadvantaged, under the above logic, the only specific goal or objective in the State Plan (Part II pp. 25-28b) oriented toward the disadvantaged is Washington State Goal 7, which reiterates the 80% enrollment goal set for the "student population" in Goal 1. Some Washington State goal should reflect the relevant principle enunciated in the 1967 report of the National Advisory Council on Vocational Education to the U. S. Senate Subcommittee on Education,* (the report which stimulated the 1968 ammendments) namely:

> "Those who need occupational preparation most, both preventive and remedial, will be those least prepared to take advantage of it and most difficult to educate and train. Yet for them, particularly, equal rights do not mean equal opportunity. Far more important is the demonstration of equal results." (p. 64)

Washington State Goal 7 specifies the "equal results" desired for the disadvantaged population. The policy to provide the disadvantaged with "special services within the regular program" (State Plan, Part II, p. 47) or "with special services to enable them to succeed in regular vocational education programs" (State Plan, Part I, Appendix, Districtwide Planning Guidelines, p. 2, Part C, Item 2, d) is still endorsed by the Advisory Council to the extent that such "special services" satisfy the needs of the disadvantaged individuals. But it is felt that for some disadvantaged individuals, and dropouts, whether disadvantaged or not, such special services directed towards entry into regular programs may not in all cases produce "equal results." Until the efforts to tailor instruction to the individual needs of the student are fully developed and generally available

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* Reprinted in Evans, Mangum and Pragon, Education for Employment, Institute of Labor and Industrial Relations, Nat'l. Manpower Policy Task Force, Ann Arbor, 1969

to all students, special programs for special needs will be required.

Recommendation 4

The allocation formulas for apportioning funds for disadvantaged and handicapped pupils should be modified to better allocate such funds on the basis of services local schools actually provide such pupils. Information necessary to determine whether or not the required percentages of the State's total allotment under Section 102 (a) of PL 90-576 is being expended on programs for disadvantaged and handicapped individuals should be collected.

Rationale

The proposed apportionment formula appearing in the State Plan, Part I, Appendix, dated Sept. 1, 1969, on the third page following p. 24 and dated 7/1/69, states:

> "Assuming that the disadvantaged and handicapped persons are uniformly distributed within the student population of each system, the apportionment for each of these purposes shall be in the same ratio as the student hours of the previous fiscal year. (Excluding Consumer and Useful Homemaking Education)".

It is not known whether or not the assumption made by the Division of Vocational Education in the above formula for apportioning federal funds to the State Board for Community Colleges and the Superintendent of Public Instruction ("each system") is valid. In view of the generally lower average achievement level of such persons it would seem that the SPI should receive additional weighting. On the other hand, the higher level of occupational skills attainable in the Community Colleges may satisfy a greater need. It is good that the proposed allocation formula "will be subject to annual adjustment as experience warrants." (State Plar, Part I, Appendix, as cited above).

The federal funds received by the State Board for Community Colleges for disadvantaged and handicapped purposes are apportioned to the community colleges as follows, in accordance with SBCC's "October Agenda Item: Proposed Allocation of 1969-70 Vocational Funds."

1. Disadvantaged.
   "... the allocation to individual districts will be based on a formula derived from:

High school dropout % of service area as compared to statewide %.
Aid to Dependent Children as compared to statewide %
(Such appropriations will require documentation as to expenditures for their intended purpose. Such funds cannot be approved for other purposes)"

[Insufficient information was available to use the proposed poverty level factor]

2. Handicapped.
"40% allocated on basis of each district's share of the state's 18-60 population, 60% allocated on basis of each district's share of total 1968-69 vocational hours, exclusive of consumer and useful homemaking."

The handicapped allocation formula is identical to the allocation formula for "all other purposes" which have no minimum funding requirement.

The federal funds received by the Superintendent of Public Instruction for disadvantaged and handicapped purposes are to be disbursed to the local school districts and vocational-technical institutes upon receipt of documentation of costs incurred for these purposes.

Such allocation procedures have little correspondence with the first paragraph of the State Plan (Part I p. 1) which identifies the individuals to be served. In the absence of definitive data on the location and needs of disadvantaged and handicapped individuals, the current practices are, perhaps, the most equitable solution to the allocation problem for all parties concerned, except the disadvantaged and handicapped.

Under the above allocation practices and existing data resources the Advisory Council will not be able to ascertain whether or not the percentage allocation requirements of PL 90-576 are being satisfied. At a minimum, future evaluative reports of the Advisory Council to the Commissioner (USOE) will make an evaluative judgment on how well the State of Washington is satisfying these percentage allocation requirements. It is the responsibility of the Coordinating Council to provide the information upon which such a judgment can be based.

The Advisory Council realizes that in the overall vocational education program of the State, federal funds under PL 90-576 contribute only part of the total funding for vocational education. Part of the impact of federal legislation which makes federal funds contingent upon certain

reporting and percentage allocation requirements, is to encourage the improvement of the reporting and accounting systems of the states. In evaluating the information system of Recommendation 2 the Advisory Council will use the information on the disadvantaged and handicapped and procedures for funding the programs and services for these special populations as a major checkpoint.

Recommendation 5

The Division of Vocational Education should encourage and support proposals from local districts for approved special programs for high school dropouts to be funded from the 15% of the State appropriation of federal funds to be used for "persons who have completed or left high school."*

Rationale

The allocation procedure dated 7/1/69 allocates all of these funds "to the State Board for Community College Education," which in turn allocates them to the community college districts on the basis of a 40% weighting for 18-60 population and 60% for 1968-69 vocational hours.

Recommendation 6

All agencies serving the educational needs of the State should increase planning and coordinating efforts aimed at promoting the potential of occupational education to enrich the entire educational system.

Rationale

The State Plan for FY-70 stressed broad goals and objectives directed towards positive change within traditional vocational education programs and services. Getting one's own house in order is a necessary prelude to entertaining others who are interested in how you function and how they can benefit from your services. In building on FY-70 State Plan, the first under PL 90-576, consideration needs to be given to continued development of new methods for improving the total educational system in ways that enable occupational education to make its potential contribution.

The major task of reorganizing the administration of vocational education at the State level has been accomplished. The new structure should be allowed to stabilize itself and get on with the business of exercising its administrative and coordinative responsibilities. But, in line with Recommendation 2,

* PL 90-576, Sec. 122 (a) (2) and (c) (1).

it is hoped that the coordinating function of the Coordinating Council/ Division of Vocational Education will provide a close enough liaison with the agencies who contribute to occupational education in the State but with whom no formal contractural arrangement exists. (Contractural arrangements referred to are those contained in the State Plan, Part I, Appendix, with SPI, SBCC, Dept. of Employment Security, and the three party agreement among D. of VE, SPI and Div. of Vocational Rehabilitation). The contribution of the other public and private agencies in the State also must be assessed to: 1) avoid duplication where the need is being met, 2) set priorities where needs are not being met.

The ideal educational system could be characterized as a system which is responsive to the individual human needs of its students, teachers and administrators. Many people note that too often, the present educational system sets up academic excellence as the goal of the educational system so that individuals loose their identity in the concentrated efforts for academic achievement. When one reflects upon the facts that the fifth grade mathematics curriculum was designed with a view to maximizing the potential to produce Ph.D's in mathematics, and that only two out of every ten fifth graders even get a bachelor's degree, the claim that our present educational system should reverse its priorities gains some validity.

The national priority which generated the "new math" was readily recognized in the lower grades. The national goal to "Assure that each person exiting from school will have a salable skill," should have no less an effect in the lower grades.

Two of the top-level educational administrators of the State have made statements which indicate that they recognize and encourage the broader contributions which vocational education can make to the entire educational system. Dr. Bruno, the Superintendent of Public Instruction, pointed out, in his remarks at the first meeting of his newly appointed Statewide Advisory Committee on Vocational Education, that it is possible to "use the force of vocational education to make all education more relevant." In a similar vein and at the same meeting, Ernest Kramer, Executive Director of the Coordinating Council for Occupational Education, said:

"I would hope this committee will accept as one of its major targets the promotion of the concept that general educational competency can be acquired in many settings and that it is not necessary for us to assume that the only way you learn your English and your Math is in an English class or a Math class--and a traditional one at that. Rather, if we can accept the concept that a practical vocational lab can also contribute very meaningfully to the general educational development of the students and de-emphasize what has been our preoccupation with an academic curriculum in the classical tradition, then I think it will be quite possible that more students will be motivated in school and our dropout ratio will decline."

"Coupled with this, if we can accept the fact that many students learn more effectively through a practical setting than they do in a verbal abstract setting, the combined effect of these modifications in our educational tradition will certainly be to the ultimate good of more and more people."

The intent of the Advisory Council's Recommendation 6 is to encourage the activities which such words should inspire. Some particular areas which need attention if the desired positive changes are to be facilitated are discussed in the following paragraphs.

1. Kindergarten through Eighth Grade.

The definition of a vocational education program, upon which funding is based, restricts support to those regular instructional programs in grades 9 and above which lead to an occupational competency. Further, the criteria for setting the relative priority of local applications for expected federal funds (under Part B of PL 90-576) is applied in such a way that "An application which does not contribute to manpower needs would receive no weighting in this category (contribution to manpower needs) and would not be further considered." (State Plan, Part I, p. 28). These funding procedures provide an operational definition of what vocational education is now.

Some legal basis and policy decisions are needed to provide the definitions upon which the funding required to insure the development and continued operation of occupationally oriented programs which do not satisfy the age and job entry skills specifications of present vocational education programs. Perhaps the recently appointed Statewide Vocational Education Advisory

Committee of the Superintendent of Public Instruction could give impetus to determining the most feasible way to finance the development and continued operation of such programs, particularly in the grades K-8.

2. Guidance

The State Plan should include specific statements of occupational guidance and counseling goals and objectives.

Assisting students in making career choices is central to the success of their education. The development of the knowledge and attitudes required for a student to make the proper career choice should start before he reaches the ninth grade. This puts such inclass guidance oriented activities as world of work courses out of the traditional domain of vocational education. Training programs for all school career counselors should include a substantial amount of content related to the requirements of occupations not requiring a four-year college degree.

In line with the importance of guidance, the broadness of its responsibilities and its necessary concern with the K-8, as well as the grades 9-14, student population and with the professional education staff, it is recommended that the guidance office of the Program Development Section be staffed with qualified individuals at the earliest possible date.

Project NEED, an in-service workshop program, was designed to inform secondary and post-secondary students about occupational and training opportunities in the northwest through informing counselors, teachers and administrators of these opportunities. It has been so effective in interesting the workshop participants that there is talk of expanding it to include parents and elementary students in its target of influence. It is too early to determine the real effect the workshop has had in the schools, but the in-school activities which the participants carry on as part of the program insures that their work doesn't stop after the thirty hours of the workshop. Project NEED does appear to be contributing to the alleviation of the real need to make professional educators more aware of the potential of occupational education.

3. Public Information

Everybody in the state needs to be more informed about vocational education needs and programs and plans for new directions and new opportunities. Particular target groups called out in the State Plan are: all professional education personnel, parents and lay public (in D. of VE Objective 6) and local leader-

ship (in D. of VE Goal 10). Special efforts should also be made to inform employers that today secondary vocational education is more than the old industrial arts shop whose only relationship to jobs had to do with its teachers and promoters. Teachers, teacher-trainers and curriculum developers should be more informed on the potential of occupational education to help students acquire basic academic competencies. Vocational educators themselves can contribute greatly to the "favorable attitudinal climate" (D of VE Goal 7) by being more conscious of the practical, public interest aspects of their work with students and making greater efforts to have them publicized.

4. Administrative Information

More specific definitions of what types of programs qualify for which levels of state and federal funding are needed by the local districts. As pointed out under item 1 above the type of regular program which qualifies for weighting and reimbursement is the only type of vocational education currently universally recognized in financial terms. Other types of "occupational" education are designated and funded as "special services", "exemplary" or "research" programs. Questions arise for example, as to where programs developed and taught by interdisciplinary teams will find continuing sources of funding - and teachers. Ideally, occupational education in the grades should not be forced to compete with the regular academic program for funds, but should be so closely interwoven that it is indistinguishable from the regular program. Yet it cannot be so indistinguishable that its contribution is overwhelmed again by the overly academic. Initially, at least, extra funds will be required for extensive curriculum development, resource material, teacher and counselor training and world-of-work familiarization "labs."

The problem boils down to defining programs and sources of funding in such a way that occupational education programs, presently under special sources of funding, can be funded as part of regular and accepted funding procedures.

The Annual Districtwide Plan for Vocational Education, 1970-71 provides descriptions of five types of programs in terms of the main objective of the program and whether or not the students served are regular, disadvantaged or handicapped. The five types of programs are described in terms of the type of service to be provided the students, as follows:

1. Ready to enter labor market with salable skills 1970-71.
2. Ready to enter advanced vocational education programs 1970-71.
3. To be provided with programs, services and activities which assist in making career choices.
4. To be provided with special services to enable them to succeed in regular vocational education programs.
5. To be provided with preparation for homemaking or the role of homemaker - wage-earner.

It is hoped that the State Board for Community Colleges and the Superintendent of Public Instruction can work together on the definitions suggested above, and come up with mutually agreeable definitions which provide a basis for collecting comparable data. (One forseen problem area is that SPI might interpret "advanced vocational education programs" as those offered in a community college, whereas SBCC might equate the same phrase to its adult supplementary programs). Such definitions appear to be essential to determining appropriate sources of funding of programs not included under items 1 and 2 of the referenced table. As pointed out before, the programs satisfying the agreed upon definitions and offered by agencies other than SPI and SBCC should also be included in the reporting system.

The definitions of occupational programs in terms of the individuals to be served and the type of training which is the objective of the program can provide a basis for evaluating the progress towards the goals and objectives of the State Plan. But the contributions, in terms of information, analysis, funding and evaluation by each of the agencies involved in vocational education needs further clarification. Specific responsibilities should be determined. The role of the Advisory Council in evaluation has been outlined in the introduction to this report. (p. 4).

5. Training of Professional Personnel

All of the preceeding recommendations and suggestions imply modification or enlargement of current vocational education effort. Actualization of the implied activities will depend largely on availability of sufficient numbers of properly trained personnel. If Community Colleges are to fulfill the vocational education responsibilities inherent in our State system, systematic plans for training teachers and directors are particularly urgent. Since most occupations are becoming more technical there is urgent need for preparation of teachers who can help pupils acquire up-to-date technical work competencies.

Assessment of most current High School and Community College vocational instructional programs also indicates a need for directors and supervisors who have more capability for assessing contemporary needs and for developing up-to-date instructional programs.

The State has a long history of support for preparation programs for vocational education personnel, but emerging needs require intensification of current efforts to plan and implement programs for training vocational teachers, counselors and administrators.

Recommendation 7

"We recommend that the State Board of Education, the State Board for Community College Education, the Superintendent of Public Instruction, and the State Director of Community Colleges reorganize their structures in such a manner that vocational education will have divisional rather than unit status and that the person whose sole responsibility is vocational-technical education be at the assistant superintendent and assistant director level."

Rationale

This recommendation is quoted directly from "Report and Recommendations of the Joint Vocational Education--Vocational Rehabilitation Study Committee." It is included here to stress the Advisory Council's concern for strong, efficient coordination of vocational education activities and because we feel such internal organization would contribute to more effective coordination.

The Joint Study Committee gives the following rationale for this recommendation.

"Prior to the Community College Act of 1967, vocational education and vocational rehabilitation had divisional standing in the office of the Superintendent of Public Instruction. All of the personnel involved in those two functions were transferred by the Community College Act to the Coordinating Council. In 1969, concerted efforts were made to dissolve the Division of Vocational Education and to have the staff split and reassigned by transfer to the Superintendent of Public Instruction and the Director of Community Colleges. (H.B. 739). During that legislative attempt, the Director of Vocational Education, by contractual agreement with the Superintendent of Public Instruction and the Director for Community Colleges, pledged to reassign by transfer some personnel to

their two agencies. These transfers have been accomplished. However, in both instances the transferred vocational education personnel have been placed in a unit status organizationally within a main division concerned with overall curriculum and instruction. We do not believe that this kind of downgraded arrangement was intended by the Congress in the Vocational Education Amendments of 1968, by the Legislature in the Community College Act of 1967, or by the increasing number of persons and agencies currently expressing such great concern over the status of vocational education and vocational rehabilitation in this State. We believe that, if the Superintendent and the Director are to administer and supervise vocational education within their separate agencies, they must provide the kind of emphasis intended by the Congress and the Legislature in the aforementioned Acts."

APPENDIX

ORGANIZATION AND ACTIVITIES OF THE ADVISORY COUNCIL

The Washington State Advisory Council on Vocational Education used a committee structure of Advisory Council members augmented by contracted services to carry out its functions during this first year of operation. The two major committees were: the Planning and Evaluation Committee and the Administrative and Budget Committee. The Advisory Council contracted with Battelle Memorial Institute's Pacific Northwest Laboratory, for technical services to collect information and draft the report. Secretarial services were contracted for with the Division of Vocational Education and provided by their Work-Study Specialist who was freed from some of her duties due to the failure to fund the Work-Study Programs of Part H of PL 90-576. In addition to providing excellent secretarial services, this arrangement provided close liaison with the Division of Vocational Education and other offices in the State capitol.

The Advisory Council held three meetings during April, 1969, to review, comment on and approve the FY-70 State Plan. Subsequent activities this year have been mainly devoted to the development of the Advisory Council Report. The first meeting of the Budget Committee was held in May. An Advisory Council meeting, held to coincide with the public meeting of the Coordinating Council on the State Plan, (on June 12) was used to discuss organizational, budgetary and evaluative concerns and to decide on the method of operation in these areas. Subsequent meetings of the Budget (on January 30) and the Planning and Evaluation Committees (on September 12 and October 2) filled in the operational details of the suggestions from the June 12 meeting. The full Advisory Council met on December 3 to approve the plan for developing the report and to discuss apprenticeship programs with resource people provided by state offices.

A Battelle-Northwest staff member visited personnel in state offices concerned with vocational education on December 9, 10 and 11 to collect information for the Advisory Council report. The information was summarized and presented to the Advisory Council in a discussion draft for their January 14, 1970 meeting. The suggestions and recommendations which came out of this meeting and from subsequent written comments of Advisory Council members, were written into a rough draft of the report. This first rough

draft was discussed with members of the Planning and Evaluation Committee and with Division of Vocational Education personnel and a second rough draft generated. The second rough draft was sent to Advisory Council members on February 6. The report was discussed and approved, with the Advisory Council's modifications, at their February 18 meeting.

VT 012 400
Mann, Opal Hurley
The Effect of Certain Deprivation Factors Upon the Dire Needs Perception of Homemakers of Low-Income Families.

MF AVAILABLE IN VT-ERIC SET.
PUB DATE - 65 154p.

DESCRIPTORS - *EDUCATIONAL RESEARCH; MASTERS THESES; *LOW INCOME GROUPS; *ECONOMICALLY DISADVANTAGED; WELFARE RECIPIENTS; *NEEDS; *PERCEPTION

ABSTRACT - To determine if there were significant differences in perceived and dire family needs of homemakers of "more" and "less" deprived low-income families, 324 unemployed low-income families from seven eastern Kentucky counties were selected for interview. Dire family needs were the basic needs of food, clothing, and housing, and perception of need was determined by response to what the homemaker would buy with "a little more money" and with $2,000, "if such sums of money were unexpectedly received." Though the homemakers recognized major needs in the areas of food, clothing, and housing, the "less" deprived and the "more" deprived homemakers did not differ significantly in their perception of need. The data revealed trends indicating that income, health, isolation, education, and number of children had greater influences than others upon the homemaker's perception of need. This M.S. thesis was submitted to the University of Kentucky. (AUTHOR)

VT 012 400

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THE EFFECT OF CERTAIN DEPRIVATION FACTORS UPON THE DIRE NEEDS PERCEPTION OF HOMEMAKERS OF LOW-INCOME FAMILIES

THESIS

BY
Opal H. Mann

Director
Dr. Anna M. Gorman

VT012400

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ABSTRACT OF THESIS

THE EFFECT OF CERTAIN DEPRIVATION FACTORS UPON THE DIRE NEEDS PERCEPTION OF HOMEMAKERS OF LOW-INCOME FAMILIES

The purpose of this study was to determine if there were significant differences in perceived and dire family needs of homemakers of "more" and "less" deprived low-income families.

The population consisted of 324 unemployed low-income families in seven eastern Kentucky counties. The deprivation factors which were hypothesized to influence the homemakers' perception of need were: (1) isolation, (2) number of children, (3) education, (4) health, and (5) income. Dire family needs were the basic needs of food, clothing and housing. The homemaker's perception of need was determined by her response as to what she would buy with "a little more money" and with "$2,000," if such sums of money were unexpectedly received.

The hypothesis that "least" deprived homemakers perceive family needs which were more closely related to the dire needs of the family than did homemakers who were "most" deprived could not be statistically supported at the .05 level of significance. The data revealed trends which indicated that certain deprivation factors had greater influences than others upon the homemaker's perception of need. These factors listed in order of greatest influence were: (1) income, (2) health, (3) isolation, (4) education, and (5) number of children. The homemakers recognized major needs in the areas of food, clothing and housing.

Opal H. Mann

Opal Hurley Mann

April 21, 1965

(Date)

THE EFFECT OF CERTAIN DEPRIVATION FACTORS UPON THE DIRE NEEDS PERCEPTION OF HOMEMAKERS OF LOW-INCOME FAMILIES

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THESIS

Opal Hurley Mann, B. S. in Home Economics

Graduate School

University of Kentucky

1965

4973

THE EFFECT OF CERTAIN DEPRIVATION FACTORS UPON THE DIRE NEEDS PERCEPTION OF HOMEMAKERS OF LOW-INCOME FAMILIES

THESIS

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Science in Education
at the University of Kentucky

By

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Lexington, Kentucky

Co-Directors: Dr. Morris B. Cierley, Professor of Education
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CHAPTER I

INTRODUCTION

Throughout the centuries, history has recorded the strivings of man to adapt, modify, and control the environment to the end that he may acquire a better life. The meaning of a better life has varied with the passage of time, events, and the change in the values and the inventiveness of man. But each generation appears to beget the "haves" and the "have nots" of the better life. Why in the present generation is so much emphasis being placed on the "have nots" of the United States?

Perhaps the strongest anti-poverty movement which America has ever experienced was set into motion in the early part of the 1960's. This national move to eradicate poverty was a cause for great concern by those who had direct responsibility to render service and aid to the poor and disadvantaged. Many federal and state service and educational agencies gave high priority to the necessity of developing a better understanding of the problems and needs of the economically, educationally, and emotionally deprived.

In 1962, United States Secretary of Agriculture, Orville L. Freeman, mobilized the full resources of the Department to help local people inject new

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economic vitality into rural America. President John F. Kennedy said, "We must show the world what a free economy can do . . . to put unused capacity to work, spur new productivity and foster higher economic growth."[1]

On October 16, 1963, a committee was established, and an official executive order directed the committee members to coordinate all of their programs which rural people were using to revitalize their economy. The members of this committee consisted of: the United States "Secretaries of Agriculture; Commerce; Health, Education and Welfare; Interior; Labor; Treasury; and the administrators of Housing and Home Finance Agency and Small Business Administration."[2]

Educators and service agencies faced many problems regarding the most effective methods of working with deprived individuals and families. These people did not respond to the same educational stimuli which had proven successful with families of higher social, economical, and educational levels.[3] Their wants, standards and aspirations appeared to be quite different from those of the middle-income families. Professional workers felt a need to better understand the interests, charactistics, and needs of the low-income

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[1] Rural Areas Development Newsletter, No. 49 (Washington: U. S. Department of Agriculture, December 1962), p. 1.

[2] Rural Areas Development Newsletter, No. 58 (Washington: U. S. Department of Agriculture, December 1963), p. 1.

[3] Maxwell S. Stewart, The Poor Among Us: Challenge and Opportunity (Public Affairs Pamphlet No. 362, New York: 1964), pp. 9-10.

family and to develop the ability to involve them in educational experiences.[1,2]

This research was designed for the purpose of developing a better understanding of the low-income family's perception of need. Certain factors, which had been considered as being influential in determining the low-income homemaker's perception of need, were studied. The relationship between perceived and dire family needs as expressed by homemakers of the least and most disadvantaged low-income families was studied. The assumption was that professional workers could better understand the needs and problems of the low-income families when they better understood the factors which influenced the homemaker's perception of family needs.

Much of the author's experience in working with low-income families has been acquired as a result of her educational responsibilities through the Home Economics program of the University of Kentucky Cooperative Extension Service. Because of this background, certain areas of this study will reflect this frame of reference.

The background information for this study includes a review of the situational facts concerning poverty in the United States, poverty in Kentucky, educational action to overcome poverty, characteristics of low-income families, problems which these situational facts reveal, and the specific problems and objectives to be considered in this study.

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[1] Gladys O. White and Alberta D. Hill and Edna P. Amidon, Improving Home and Family Living among Low-Income Families (Washington: U.S. Department of Health, Education, and Welfare, May 1962), pp. 8-11.

[2] Cooperative Extension Service Work with Low Income Families: Report of Seminar, ed. Josephine Pollock (ESC-552, Washington: U.S. Department of Agriculture, June 3-7, 1963), pp. 5, 6, 36, 37, 48, 49.

Situation

Poverty in the United States

The decade of the 60's has witnessed a great awakening to the critical problems and needs of families and individuals who live in the low-income areas of America. The United States, the wealthiest of nations, has presented a problem to the present and future generations.

> In the course of this century the United States has emerged at the fore-front of the line of general development, not only because of its wealth and political power but also . . . because in many respects it displays the type of social organization that belongs to the future. . . . The United States has developed industrial organization and productivity further than any other society in history. It has also attained by far the highest level of per capita productivity yet known.[1]

As in many rapidly developing societies, rapid change has become a source of unrest, unsettlement and confusion. With rapid expansion of great opportunity, most American geographic areas have gone out ahead; however, certain regions, often referred to as "pockets of poverty," have made little progress. Throughout the past decades many individuals have been unable to fulfill their primary obligations to society because of the restraints which handicap the deprived and underprivileged. This wealthy and productive nation of expanded opportunities and highly educated citizens has been unable to eradicate its serious problems of poverty.

> . . . Somewhere between 20 and 25 per cent of the American people are poor. They have inadequate housing, medicine, food and opportunity. . . . They number between 40,000,000 and 50,000,000 human beings.[2]

---

[1] Henry Borow (ed.), Man in a World at Work (Boston: Houghton Mifflin Company, 1964), p. 238.

[2] Michael Harrington, The Other American: Poverty in the United States (Baltimore, Maryland: Penguine Books, 1962), p. 178.

Nearly 50,000,000 people in the United States, approximately one fourth of the population, are without jobs on a seasonally adjusted basis.[1]

> The nation is therefore beginning the sixties with a most dangerous problem: an enormous concentration of young people who, if they do not receive immediate help, may well be the source of hereditary poverty new to American society. If this analysis is correct, then the vicious circle of the culture of poverty is, if anything, becoming more intense, more crippling, and problematic because it is increasingly associating itself with the accident of birth.[2]

Poverty in Kentucky

Kentucky's most vital resource is its people, a people whose efforts have enabled Kentucky to maintain status in a nation of expanded opportunity and development which has surpassed any other society in history. These people in 1940 over-populated Eastern Kentucky with more than three times the population which could be fully employed within the economy of the area. By 1955 rapid migration had reduced this population to twice as many persons as could be adequately employed under prevailing conditions.[3] Ten years later this Eastern Kentucky area became known as the largest problem area in Kentucky. This 32-county area is a part of the Southern Appalachian Region.

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[1] Ester Foley, "Pockets of Poverty," Practical Forecast: Teacher Edition of Co-Ed (October 1964), pp. 38-39.

[2] Harrington, op. cit., p. 183.

[3] Robert E. Galloway, Rural Manpower in Eastern Kentucky: A Study of Underemployment among Rural Workers in Economic Area 8 (Kentucky Agricultural Experiment Station Bulletin 627, University of Kentucky, Lexington: 1955), p. 28.

The Region's economic growth has not been sufficient to relieve the chronic poverty of its people.[1]

The Appalachian Region constitutes 165,000 square miles of area extending across 10 states from Pennsylvania to Alabama. This region lags behind America in economic, educational, and social progress. The families have been deprived of facilities, services and opportunities of a modern society. This has set them apart from the rest of the nation. These people have been unable to participate fully in the nation's social and economic progress.[2]

Eastern Kentucky is the largest but not the only problem area in Kentucky.

> There are pockets of poverty in every county of Kentucky with the greater concentration in those counties with little or no agricultural or industrial production. . . . Due to both low educational attainment and low income, the basic living needs of individuals and families, as health, nutrition, clothing, and housing, are not being met at an adequate level. This tends to perpetuate lack of energy and ambition which can affect goals and values of people, and thereby contributes toward their less effective use of available resources.[3]

The Eastern Kentucky economy through the years has been based on subsistence agriculture, coal, and timber. The resulting interdependent forces associated with this economy have established a vicious cycle of poverty

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[1] Thomas R. Ford (ed.), The Southern Appalachian Region: A Survey. (Lexington: University of Kentucky Press, 1963-64), p. i.

[2] Appalachia: A Report by the President's Appalachian Regional Commission 1964 (Washington: U. S. Government Printing Office, 1964), pp. XV, 4, 16.

[3] Viola K. Hansen, "Annual Plan of Work," Unpublished Project: V-Home Economics, Kentucky Cooperative Extension Service (Lexington: University of Kentucky, 1964-65), p. 4.

breeding poverty. The arising complex problems include those of limited education, of political structure and organization, of limited interaction of people, of lack of motivation, and of inability to apply science and technology to local conditions.[1]

In the Appalachia Region alone, 641,000 workers lost their jobs between 1950 and 1960 because of severe declines in employment in coal mining and agriculture. The per capita income in the State of Kentucky in 1960 was $1,573.00; but, in the Eastern Kentucky counties, the per capita income was $915.00.[2]

The Kentucky Chamber of Commerce stated in November of 1963 that Kentucky needed an increase of 15,000 jobs per year to employ Kentucky's jobless.[3]

Poverty and Education

The President's Appalachian Commission of 1964 stated that, "Without question the most impressive phenomenon in the region has been the emergence of talent and leadership within the Appalachian States to cope with their own

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[1] "Eastern Kentucky Resource Development Annual Report" (Unpublished report, University of Kentucky, Lexington, Kentucky, 1963), p. 1.

[2] James S. Brown and Ralph J. Ramsey. Tables on Population and Population Characteristics, Eastern Kentucky Resource Development Counties (RS-18, Kentucky Agricultural Experiment Station, University of Kentucky, Lexington: September 1962), Table 35.

[3] Charlie Dixon, "Concerns of the Kentucky Development Committee," Talk given at Areas Development Meeting held at Cumberland Falls, Kentucky, November 8, 1963 (Unpublished, University of Kentucky Agricultural Extension Service Office, Lexington, Kentucky), p. 1.

problems." The Commission commented on the "large effort and considerable achievement" of private citizens and state and local administrations and agencies as they attacked their most urgent problems. Much of this work is done through the concerted efforts of economic and community development organizations at area and county levels.[1]

Educational and service agencies of Kentucky have directed much leadership toward overcoming problems in economic, educational, social, and emotional growth and development. The schools have prepared many youth to rise above the low income situations of their childhood and to become contributing members of their society. Health and welfare agencies rendered major services which contributed to the health and comfort of the low-income families of Kentucky. "Helping people to help themselves" has been the philosophy of Kentucky Cooperative Extension Service for more than half a century. Through this educational service many people of Kentucky have been helped in planning and developing educational experiences to meet their needs and to solve their problems in agriculture, home economics, and related areas. During 1963, approximately 132,682 Kentucky women were reached with some phase of the Home Economics Extension Program.[2] The homemakers of the lowest-income families did not participate in the educational experiences to the extent that the homemakers of the high-low and middle income families participated. Professional

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[1] Appalachia: A Report . . ., op. cit., pp. 24, 26.

[2] Hansen, op. cit., Project VIII, p. 6.

workers have been seeking the best practical methods to meet the needs of the families of the State, with special emphasis placed on low-income family needs. They feel a need for developing a better understanding of low-income families and their situations, problems, interests and needs.

Rural Areas Development. —In June 1961, 12 federal agencies were assigned responsibility for carrying on a coordinated program of intensive assistance, especially in the rural areas where there was a lag in economic growth and development. This program was designed by the United States Secretary of Agriculture as the Rural Areas Development (RAD) Program. Agriculture Extension Service, as the educational arm of the United States Department of Agriculture, assumed the responsibility for organization and educational leadership to State and local committees. The objectives included the development of the total resources of a given area to their fullest potential for yielding human satisfactions; understanding conditions contributing to low income, unemployment, and under-employment in rural areas, and assisting in the organization of the areas and the framework for leader training and action programs to solve problems and to meet needs.[1]

East Kentucky Resource Development. —In 1960 a special Resource Development project (sponsored by the Kellogg Foundation and the State of Kentucky) located a corps of specialists at the University of Kentucky Robinson

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[1] Suggested Guidelines for Extension's Organizational Program (Washington: U. S. Department of Agriculture, Federal Extension Service, AO-171, 1961), pp. 5-6.

Sub-Station at Quicksand, Kentucky. This program encompassed a 30-county area which is a part of the Appalachian Region and which became known as the Eastern Kentucky Development Area. Many technical, educational, and developmental resources of the University of Kentucky and the County Extension Agents and other agencies serving in that area supplemented the efforts of the Resource Development specialist. Many special projects and educational programs have been put into action to alleviate problems of the families in Eastern Kentucky.[1]

Characteristics of Low-Income Families

The problems, needs and values of low-income families differ from those of the higher-class families. Abraham Abbott Kaplan, after having studied the effects of socio-economic circumstances on adult participation in cultural and educational activities stated that, "Socio-economic factors are associated with participation in educational and cultural activities and must be taken into consideration in the administration of educational programs for adults." Dr. Kaplan further stated that, "Clear patterns of differences in interests were evident between neighborhoods of higher socio-economic status and those of lower economic status," and that "Educational programs for adults must be directed toward the interests and needs of the persons they intend

[1] "Eastern Kentucky Resource Development Report" (Unpublished annual report, University of Kentucky Extension Service, Lexington, 1963), p. 1.

to serve."[1]

Many standards and expectations and educational procedures have been geared to the middle-class values or individuals. ". . . The educational system is geared to middle-class values and expectations, and . . . lower-class pupils either learn middle-class ways or suffer a certain amount of disadvantage and discrimination."[2]

Bossard and Boll found that

> The public school tends everywhere to be a middle-class institution directed by middle-class officials and administrators, taught by middle-class teachers, and maintaining middle-class norms of behavior. Lower-class children tend not to fit in, and another of the reasons why they present behavior problems at times is the antagonisms to the school culture which are aroused in them by their parents. Many lower-class homes are in conflict with the school.[3]

As Bossard and Boll continued to discuss the great cultural and social adjustment which low-income children had to make to the middle-class school, they described the children as "shuttling" back and forth each day "from one world to another."

Harrington, in his book, The Other American, discussed the inability of low-income persons to help themselves. He said:

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[1] Abraham Abbott Kaplan, Socio-Economic Circumstances and Adult Participation in Certain Cultural and Educational Activities (New York: Bureau of Publications, 1943), pp. 122, 133, 132.

[2] Charles W. Harris (ed.) and Marie R. Lilia (asst. ed.), Encyclopedia of Educational Research, "Social Development" (New York: The Macmillan Company, 1960), p. 1289.

[3] James H. S. Bossard and Eleanor Stoker Boll, The Sociology of Child Development (Third edition, New York: Harper and Brothers, 1960), p. 567.

> Only the larger society, with its help and resources, can really make it possible for these people to help themselves. Yet those who could make the difference too often refuse to act because of their ignorant, smug moralisms. . . . Understanding the vicious circle is an important step in breaking down prejudice.[1]

These are the people about whom local, state and national leaders are concerned, the people whom extension and other educational services try the hardest to reach. Yet they are seldom seen in adult education meetings, community clubs, church or social gatherings. This is the group which composes the highest percent of illiterates and school dropouts. The time is ripe for educators to improve their educational approaches and methods for reaching and helping these families. The educator must understand the needs of the low-income family. But one cannot understand the needs until there is an understanding of the social, psychological, educational, and economical characteristics of the family. This would include an understanding of the basic needs and values, and the factors which influence the family's concept of need. Instruction can modify values, attitudes, interests, understandings, and competencies. Improved education is related to a higher social and cultural status in modern life. To achieve successful results, educational methods must be adjusted to the needs, interests and learning level of the learner.

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[1] Harrington, op. cit., p. 22.

General Problems Revealed by Situation

There is scientific evidence that low socio-economic families differ from the middle and upper socio-economic families.[1] Due to their culture, family structure, values, and standard of living, they have problems, needs, interests, and values which differ from those of the higher-class families; therefore, educational experiences must be adjusted to their level of interest and needs. Educators must be able to adapt educational approaches and methods which will help the low-income families to solve their problems. This would necessitate an understanding of the basic needs, interests, and problems of the low-income family and the factors which contribute to this situation.

In order to be of greatest service to low-income families, persons who work with these families should understand:

1. The social, economical and psychological characteristics of low-income families and individuals.
2. The situations, problems, interests, and needs of low-income families.
3. Factors which influence decisions, create problems, and provide for individual differences in people, and families.

If the above characteristics of low-income families and the factors which produce these characteristics and differences can be understood, it should represent a large step toward identification of the kinds of educational help an individual or family is willing to accept.

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[1] William Lloyd Warner and Associates, Democracy in Jonesville (New York: Harper and Brothers, 1949), pp. 33, 52-54, 57, 60-61.

Problems and Objectives of This Study

This study was designed to:

1. Develop a better understanding of the perceived needs of homemakers of low-income families in relationship to the families' dire needs of food, clothing, and housing.
2. Determine whether certain derived factors of isolation, number of children, education, health, and income relate to the low-income homemaker's ability to perceive dire family needs.
3. Discover whether these derived factors affect perception of needs, and if so, which of these factors have the greatest effect on the homemaker's ability to perceive dire needs.
4. Compare relationships between perceived and dire family needs as expressed by homemakers of the most and the least disadvantaged low-income families.
5. Analyze the findings of this study in relationship to the educational significance to future programs and services designed for low-income families.

Research Hypotheses

For the purpose of this study, five research hypotheses have been established.

1. Homemakers who are least isolated perceive family:
   a. Food needs which are more closely related to the dire food needs of the family;
   b. Clothing needs which are more closely related to the dire clothing

needs of the family; and

c. Housing needs which are more closely related to the dire housing needs of the family than do the homemakers who are most isolated.

2. Mothers with fewest children at home perceive family:

a. Food needs which are more closely related to the dire food needs of the family;

b. Clothing needs which are more closely related to the d re clothing needs needs of the family; and

c. Housing needs which are more closely related to the dire housing needs of the family than do the mothers with the largest number of children at home.

3. Homemakers with the highest educational level perceive family:

a. Food needs which are more closely related to the dire food needs of the family;

b. Clothing needs which are more closely related to the dire clothing needs of the family; and

c. Housing needs which are more closely related to the dire housing needs of the family than do the homemakers with the lowest educational level.

4. Homemakers who feel that they have good health (feel good most of the time) perceive family:

a. Food needs which are more closely related to the dire food needs of the family;

b. Clothing needs which are more closely related to the dire clothing needs of the family; and

c. Housing needs which are more closely related to the dire housing needs of the family than do the homemakers who feel that they have poor health (feel bad most of the time).

5. Homemakers of the families with the largest incomes perceive family:

a. Food needs which are more closely related to the dire food needs of the family;

b. Clothing needs which are more closely related to the dire clothing needs of the family; and

c. Housing needs which are more closely related to the dire housing needs of the family than do the homemakers of the families with the smallest incomes.

Definitions of Words and Terms Used in This Study

1. Isolation.--A family's state of being separated from other communities and urban areas, and the lack of interaction with people and ideas from outside the community of the family's residence.

2. Isolation Factors.—The elements which contribute to the separation of families from "outside community" contacts and communications. The specific factors used in this study are: roads and their condition, location of the residence in relationship to roads and distance from town, automobile owned or access to one, radio, television, and the mother's habits and

pattern of going to town.

3. Educational Level of Mother. —The highest grade level which the mother completed in school.

4. Homemakers who feel they have "good" health. —Homemakers who said they felt they were healthy enough to carry out the things they would like to do.

5. Income. —The total money received by the family during the year of 1963 from: wages or salary, rent, gifts, unemployment insurance, military payments, pensions, welfare, food stamps and other sources.

6. Dire Needs. —The basic physical requirements which are essential to life. The three dire needs considered in this study are "food," "clothing," and "housing" as three of the basic physical requirements of people.[1]

7. Deprivation. —The lack of possessing something, having been denied, or the failure of having obtained certain desirables or certain desired levels or standards. The elements or factors of deprivation in this study were: "isolation," "number of children in the family," "educational level of the mother." "health of the mother," and amount of "income."

8. Basic-Four Food Standard. —A nationally recognized and approved nutrition guide which groups the daily nutritional requirements into a pattern of four food groups.

9. Perceive. —To realize or to become aware (of) through the senses. To recognize or identify a situation or a need as a basis for action.

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[1] Merle M. Ohlsen, and Willard B. Spalding (ed.), Guidance Services in the Modern School (New York: Harcourt, Brace and World, Inc., 1964), pp. 30-33.

CHAPTER II

REVIEW OF RELATED LITERATURE

Many social scientists have conducted studies and prepared written reports and descriptions of the problems, needs and characteristics of the low socio-economic family. Since the mid-1950's many special study groups and agency representatives of the national and state governments have cooperated with sociologists and other behavioral scientists and economists to study the situations and needs in the low-income and depressed areas of the United States. Many educational institutions, especially the Land-Grant colleges, have placed special emphasis on low-income family needs and have prepared literature to interpret the needs of the low-income families in the areas served by the institution.

Problems and Needs of Low-Income Families

Poverty is not new in the United States; however, the facts of poverty conditions were updated in the early 1960's and brought to the attention of the public. These facts have gained the attention of national and state political and educational leaders.

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Problems and Needs of the New and Invisible Poor

Michael Harrington, in The Other America, discussed poverty in America as being invisible. He said that the average American does not see poverty; therefore, it is unrealistic to him. He explained that he discovered these "invisible Americans" because he did not believe the statistics which he had compiled to support the fact that 50,000,000 poor Americans lived in the United States. He felt these numbers existed only in government reports. They were not a part of his experiences. After Mr. Harrington's study of poverty in the United States, he was convinced that the poor existed; but, he believed them to be invisible and so different from the rest of the society that he called them the "other America." He reasons that, if the poor are not seen by other Americans, their needs and problems are not recognized and they are not helped to move ahead.[1]

Harrington further described the poor as being different from the poor of past generations. He did not agree with the Appalachian Commission or Secretary of Agriculture Benson that the poor were interested in increasing their contribution to the nation or that they had the spirit of independence to take whatever action was necessary to achieve. He said that the poverty of the present generation was a new poverty and that it had destroyed aspiration, impoverished hope and the spirit of adventure in regard to the future. He felt that failure and the inability to overcome their problems had frustrated and bewildered the poor to the extent that they had accepted defeat and would not

[1] Harrington, op. cit., p. 10.

try to rise above it.[1] He said:

> The new poor of the other America saw the rest of society move ahead. They went on living in depressed areas, and often they tend to become depressed human beings. In some of the West Virginia towns, for instance, an entire community will become shabby and defeated. The young and the adventurous go to the city, leaving behind those who cannot move and those who lack the will to do so. The entire area becomes permeated with failure, and that is one more reason the big corporations shy away.[2]

Harrington further wrote:

> The character of poverty has changed and it has become more deadly for the young. It is no more associated with immigrant groups with high aspirations; it is now identified with those whose social existence makes it more and more difficult to break out into the larger society. At the same time, the educational requirements of the economy are increasing.[3]

Harrington recognized education as one of the factors which handicapped the poor. He described this problem as follows:

> A generation ago in American life, the majority of the working people did not have high-school educations. But at that time industry was organized on a lower level of skill and competance. . . . Today the situation is different. The good jobs require much more academic preparation. . . . Those who lack high-school education tend to be condemned to the economic underworld—to low-paying service industries, to backward factories, to sweeping and janitorial duties. . . . The very rise in productivity that created more money and better working conditions for the rest of the society can be a menace to the poor. . . .[4]

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[1] Ibid., p. 17.

[2] Ibid., p. 17.

[3] Ibid., p. 17.

[4] Ibid., pp. 19-20

Harrington said that the poor suffered more chronic diseases and had less treatment and care and suffered more from mental and emotional problems than any other group in America. He said that the poor in America constituted about 25 per cent of the total population. They numbered somewhere between 40,000,000 and 50,000,000 persons. The majority were white; however, the nonwhite minorities suffered from the most intense and concentrated impoverishment of any single group.[1]

Problems and Needs of the Low-Income Farmer

In 1955 the needs and problems of the low-income farmers were brought to the attention of the 84th Congress of the United States. President Dwight D. Eisenhower's letter of transmittal to the Congress of the United States stated:

> In this wealthiest of nations, where per capita income is the highest in the world, more than one fourth of the families who live on American farms still have cash incomes of less than $1,000 a year. They neither share fully in our economic and social progress nor contribute as much as they would like and can contribute to the Nation's production of goods and services. . . . We must open wider the doors of opportunity to our million and a half farm families with extremely low incomes—for their own well-being and for the good of our country and all our people.[2]

In reply to President Eisenhower, United States Secretary of Agriculture

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[1] Ibid., pp. 185-186

[2] U. S., Congress, Development of Agriculture's Human Resources, Message from The President of The United States, 84th Congress, 1st Session, House Document No. 149, April 27, 1955 (Washington: U. S. Government Printing Office, April 1955), p. III.

E. T. Benson's letter of submittal stated that the Department of Agriculture's study revealed the facts that large numbers of farm people with small farms shared unequally in the country's economic and social progress. Secretary Benson made the following statement:

> Many of these people wish to increase their contribution to the Nation's production of goods and services, and thereby to improve their own levels of living. Helping them to accomplish this objective will not only improve the well-being of those directly concerned, but will also add to the Nation's strength. Prudence as well as sympathy should impel us to strengthen our activity in this area.[1]

John K. Galbraith's book, The Affluent Society, described poverty as falling into two categories. First there was what he called "case" poverty. This poverty could be found in every community, rural or urban. An example was that of the poor farm family with the junk-filled yard and the dirty children playing in the dirt. Or it may have been the grey-black hovel beside the railroad tracks, or the basement dwelling in the alley. This poverty is commonly related to some characteristic of the individual or family so afflicted. The second kind of poverty was called "insular" poverty. This poverty affected the entire community. Most of the families in the community were long-time residents and did not want to move. Opportunity was limited and everyone was poor. Public services and health facilities were limited because of the cost of providing such services.[2]

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[1] Ibid., p. V.

[2] John K. Galbraith, The Affluent Society (Boston: Houghton Mifflin Co., 1958), pp. 325-326.

Galbraith feels that the gap is widening between "those who have" and "those who have not." He says if people "cannot have what the large community regards as the minimum necessary for decency, they cannot wholly escape the judgment of the larger community that they are therefore indecent."[1]

Problems and Needs of the Appalachian Region

A report by the President's Appalachian Regional Commission of 1964 stated problems and needs of the Appalachian Region as follows:

> In 1902 and again in 1935 the Federal Government published extensive reports of this region. In 1961 an analysis of the region was published by the Conference of Appalachian Governors. In 1962, a fully documented study of Southern Appalachia was published under private sponsorship. Over this 62-year span, the conditions described in each report are discouragingly similar; their recurrence in these studies is the chronicle of a region bypassed. . . .
>
> The Commission believes that solutions to these problems can be found—indeed, must be found, since time has shown that its passage alone does not solve, but only deepens them. It is no less evident, from experience, that the unique tangle of problems in Appalachia calls for a uniquely tailored program that neither the States alone nor the Federal Government alone are adequate to this challenge which involves them both so closely.[2]

The President's Commission described the primary unmet needs of the people in Appalachia as being food, clothing, housing, medical care, basic education, skills, jobs, hope, and dignity. These needs were felt to be interrelated. Appalachian standards of living were below national norms. The region suffered from a shortage of college graduates, having 34 per cent fewer

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[1] Ibid., pp. 323-324.

[2] Appalachia: A Report . . ., op. cit., p. 65.

(college graduates) than the rest of the United States. Only 32 per cent of the population over 25 years of age had finished high school in contrast to 42 per cent of similar age in the rest of the nation.[1]

The President's Council of economic advisers used $3,000.00 as the annual family income that marked the dividing line between poverty and the ability to enjoy some of the affluence of American life. Almost one in three families lived on a $3,000.00 annual income or less. There were 380,000 unemployed workers in Appalachia in 1960. This represented 7.1 per cent of the Appalachian labor force, compared to 5.0 per cent in the rest of the United States. A heavy out-migration during this period prevented an even greater job deficit. The potential employee and his family remained at the survival level.[3]

The President's Commission described federal, state and local government action and support to assist local development action and concluded by describing the spirit of the people as follows:

> But the poverty they represent is not one of the spirit. The traditional rugged independence of the Appalachian people, although eroded in some areas, is still the base upon which any recovery program must be founded.
>
> If their elemental needs can be met, these people will take whatever additional action is necessary to achieve full participation in the Nation's expanding economic drive.[3]

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[1] Ibid., pp. 48, 8.

[2] Ibid., pp. 1, 4, 49.

[3] Ibid., p. 52.

Robert B. Vance's article in the Southern Appalachian Region Survey stated: "The United States is a Nation of many contrasts. In this pattern of unity in diversity, the Southern Appalachians stand out as a distinctive region."[1] Vance believed the people of the mountains to be of the same stock as that of the Blue Grass but that it had been modified by "long isolation in an area of lesser opportunity."[2] He said the area had lagged behind the nation on all counts, including the development of resources and the industrialization of the area. Vance said: "Poor people have poor ways and, left undisturbed, these poor ways tend to perpetuate themselves. After a time it becomes difficult to distinguish between cause and effect."[3] Vance explained this by saying:

> Isolation, which begins as a physical limitation enforced by distance and rugged terrain, becomes mental and cultural isolation that causes people to remain in disadvantaged areas and to resist the changes that would bring them into contact with the outside world. The effect of conditions thus becomes a new cause of conditions, but the new cause is an attitude, not a mountain. Since the mountains are not likely to be moved, we proceed on the assumption that men can be moved.[4]

Thomas R. Ford, writing in this same Appalachian Survey, said:

> Contrary to widely held opinion, the people of the Region largely share the attitudes and aspirations of Americans elsewhere. . . . The underlying problem . . . is that of a population which has grown more rapidly than its resources . . . . The increasing mechanization of the coal mines and consequent drastic cuts in the labor force have added to widespread unemployment. . . . Nearly a fifth of the adult population has less than five years of schooling; the average is

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[1] Ford, op. cit., p. 2.

[2] Ibid., p. 5.

[3] Ibid., p. 7.

[4] Ibid., p. 8.

> two years below that of the nation. The lack of local resources to improve the vital institutions and the widespread dependence upon state and federal relief programs threaten to foster the development of a permanent culture of poverty in many areas. . . . As the migrants move into other areas, the consequence of generations of poverty becomes an acute concern of the whole nation.[1]

Problems and Needs of Eastern Kentucky

The 1963 report of the University of Kentucky Cooperative Extension Service Project regarding Eastern Kentucky Resource Development stated that Eastern Kentucky was one of the well-known focal points of low income and inadequate resource development. The annual per capita income averaged about one-half that of the rest of the state and one-third that of the nation. The report describes the economy as having been built on agriculture, coal, and timber. When this economy folded, poverty resulted. This poverty is the type that breeds poverty generation after generation. It is a problem of education, political structure and organization, of interaction of people, of motivation or lack of it, and a problem of applying science and technology to local conditions.[2]

The Eastern Kentucky Resource Development Project was based upon the assumption that opportunities exist within the East Kentucky region. This report disagreed with Harrington's concept of the poor having accepted defeat and their deprived condition as being one which they could not improve. This report stated:

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[1] Ibid., p. i.

[2] "Eastern Ky. Resource Dev. Annual Plan of Work," op. cit., p. 1.

> That given an understanding and appreciation of these opportunities, along with technical and other assistance, appropriate action will be taken by relevant agencies, groups, and individuals to realize these potentials. . . . The University of Kentucky has many of the required technical, educational, organizational, and developmental resources and, as a Land-Grant college, an obligation to effectively make these resources available to the region.[1]

The Eastern Kentucky Regional Planning Commission of 1960 described Eastern Kentucky as a "special region with special problems and potentials." Eastern Kentucky was referred to as an "under-developed region." The Commission defined underdeveloped region as being a region in which the economic facilities such as roads and transportation systems, utilities, water control systems, schools, markets, or industrial operations had not been sufficiently developed to serve its population, or to allow its people to provide themselves with gainful standards desirable or available for civilized people in today's world.[2]

The Eastern Kentucky Regional Planning Commission further described Eastern Kentucky's lack of opportunity which encouraged out-migration as being like the timber-cutting process where the best trees are seized and shipped as soon as they are big enough. The young people, as soon as they have grown, become exports from Eastern Kentucky. This out-migration process

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[1] Ibid., p. 1.

[2] Program 60: A Decade of Action for Progress in Eastern Kentucky, A Pattern for Total Development Proposed by the Eastern Kentucky Regional Planning Commission. Executive Director, John D. Whisman (Frankfort, Kentucky: Commonwealth of Kentucky, 1960), pp. 4-5.

pulls out the best young people and plants them in a new environment. In a 20-year period, 1940-1960, 500,000 people left the area; however, the high birth rate maintained a population which totaled nearly 700,000 people in 1960. Eastern Kentucky had 23 to 24 per cent of Kentucky's total population in 1960. The problems as outlined by this commission compared very favorably with those of the President's Commission report of the Appalachian area.[1]

In his book, Night Comes to the Cumberlands, Harry M. Caudill described the progress and the lack of progress from the early days until the present time and made recommendations for needed future actions. Caudill recognized such problems as unemployment, the loss of young leadership through migration, the dependence on welfare programs and the school and political systems of the area. Caudill said it was hard to find more than 4 or 5 per cent of the graduates in their home counties a year after high school graduation. They had gone to areas of greater opportunity, leaving behind the unemployed older people who lived on social security and welfare or union pension checks. He wrote: "The one thing which the area needs desperately is an educated and energetic cadre of leaders—imaginative and challenging men and women to grapple with its encrustations of problems and shortcomings."[2]

Caudill described the mountaineer as "depressingly defeatist" in

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[1] Ibid., pp. 7-9.

[2] Harry M. Caudill, Night Comes to the Cumberlands: A Biography of a Depressed Area (Boston: Little, Brown and Co., 1963), pp. 333-34.

attitude and attributed this to coal-mining company domination and paternalism and two decades of uninspired "welfarism" which has induced the belief that control of man's destiny was in other hands.[1] He said: "To replace this defeatism and dejection with zeal may prove difficult indeed, but upon its accomplishment all other facets of revival will eventually hinge."[2] Caudill saw a new climate crystallizing slowly and felt that change would come about by trying the new because of a realization that the old had failed. Most of the able-bodied men between the ages of 45 and 60 years of age had tried to get jobs elsewhere but had failed and returned in a somewhat embittered and bewildered state because of their status and reduced importance, doomed to a life of idleness. Caudill estimated that there were 110,000 such coal miners in the United States in 1962-63 and that 60,000 of these were in the Eastern Kentucky and western West Virginia area. A modernized coal industry had rendered a lifetime of knowledge and skill obsolete, and these men had been trained in nothing more than the coal-mining trade.[3]

Caudill agreed with Harrington that the attitude of defeatism was present in the areas of deprivation and poverty; however, he recognized the fact that this was not absolute with the entire population, but chiefly with the unemployed coal miner. The young had spirit and determination; but the young

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[1] Ibid., p. 392.

[2] Ibid., p. 389.

[3] Ibid., p. 372.

population was leaving the area in great numbers upon graduating from high school. All authorities seemed to be in agreement that the element of vital importance to the progress of Eastern Kentucky and the Appalachian Region was leadership, determination, imagination, and the power and ability to provide a new climate and new opportunities for the deprived areas of our nation.

As early as 1947, the leaders of Eastern Kentucky recognized the problems of the limited resources and overpopulation of the area, and reached the conclusion that the whole area faced continuing dependence upon support coming from outside the area. At that time it was deemed to be advisable to encourage the migration of the young people from the area so that they could take advantage of opportunity elsewhere. Even though the leaders recognized the problem of overpopulation, surplus labor, and imbalance of people to resources, there were two schools of thought. One group thought of too many people and the other thought of too few jobs. The first group would solve the problem by creating jobs in the area by bringing in outside industries. The other group would solve the problem by mass migration from the area in search of opportunities elsewhere.[1]

In 1952 a study conducted in the Eastern Kentucky Region by Robert E. Galloway showed that about one third of the unemployed overpopulation had migrated from the area. These were for most part young adults. However,

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[1] Howard W. Beers and Catherine P. Heflin, People and Resources in Eastern Kentucky: A Study of a Representative Area in Breathitt, Knott, and Perry Counties, Kentucky Agricultural Experiment Station Bulletin 500 (Lexington, Kentucky, 1947), pp. 54, 56-57.

there were still about twice as many people remaining as could be adequately employed under the circumstances. Many who were employed were under-employed because of insufficient work or substandard salary.[1]

Literature with Reference to Characteristics of the Low-Income Family

> There is, in short, a language of the poor, a psychology of the poor, a world view of the poor. To be impoverished is to be an internal alien, to grow up in a culture that is radically different from the one that dominates the society. . . . The massive forces must be seen as affecting persons who talk and think differently.[2]

Harrington continues by claiming that the family structure of the poor was different from that of the rest of the society. There were more fatherless homes, more early pregnancies, and perhaps millions of children who never knew stability and security and who never received normal care and affection. He said that a considerable number of young people were starting life in a condition of "inherited poverty."[3]

Irene Beavers, of Federal Extension Service, expressed the belief that poverty was a relative term and that there was no exact way of measuring poverty. She said that the three factors often used to indicate the socio-economic status of families was income, education, and occupation. She felt that

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[1] Galloway, op. cit., p. 28.

[2] Harrington, op. cit., pp. 23-24.

[3] Ibid., p. 23.

the needs of the family depended upon the size of the family, ages of family members, health, etc. The extent to which these needs could be fulfilled depended upon available money resources, experience, training and ability to move where opportunities were available for family members. A family whose annual income from all sources was less than $3,000 was classified as a low-income family.[1]

Social Class Differences

The American society has a "social structure." Within the American society there are groups or classes of people who have common ways of believing, behaving, and interacting with others. Social Scientists placed families and individuals in this social structure by considering such factors as amount and source of income, educational level, home and community where the family or individual lives, lineage, morals, prestige of occupation, and friends.

Social class lines are not clear and the structure is not static. People move from one class to another, but this change in status requires definite change and if one moves to a higher class much effort and improvement is usually necessary. The persons in these different classes have different problems and needs and a different standard of living, which is characteristic of their particular class.

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[1] Irene Beavers, "Contributions Home Economics Can Make to Low-Income Families," Journal of Home Economics, Volume 57, Number 2 (February 1965), p. 107.

Significant research studies in sociology and anthropology have been made to support the fact that class differences exist. James West's study of Plainville, U.S.A. described the class system of Plainville as providing for every person living there "a master plan" for arranging, according to relative rank, every other individual and family. He said this class system provided "patterns for expected behavior according to class, and a way of judging all norms and deviations from these norms in individual behavior."[1]

Plainville had five social classes, an "upper crust," a class of "good, honest, self-respecting citizens," the "good lower class" of people, a "lower element," and "people who live like animals." The criteria by which people were classed included: where the people lived; technological advancement; lineage; wealth or worth; morals, and manners. The "good" self-respecting citizens seemed to be comparable to the middle class as classified in some other studies.[2]

W. Lloyd Warner described social class in Democracy in Jonesville as consisting of five classes. He referred to these as: an "upper class," an "upper middle class," "common man," "upper lower," and "lower-lower class." Definite characteristics identified each of these classes of people.[3]

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[1] James West, Plainville, U.S.A. (New York: Columbia University Press, 1945), p. 115.

[2] Ibid., pp. 116-122.

[3] Warner, op. cit., pp. 23-24.

Warner found that these classes differed in relationship to community participation and membership in organizations. The lower-lower social class was the least active in church and community organizations and activities. They were defined on the "nonparticipation" basis. The upper-lower and common-man class accepted more active roles of leadership responsibility in community organizations and activities, including church, than did the upper class. He observed differences between these classes in attitudes, income, residence, occupation, possessions, and the use of their leisure time.[1]

The school as a middle-class institution, directed by middle-class personnel and maintaining middle-class norms which conflict with the low-class families, is discussed in Chapter I of this paper under the heading "Characteristics of Low-Income Families."

Faith Prior's research on "The Female School Dropout" recognized that there were social class differences. She said, "Sociologists indicate that it is more than 'low income' which sets certain families apart in a discernible pattern of stratification." She recognized social class as being an important determinant of personality development and a factor in the kinds of skills, abilities, and intelligence an individual used to solve his problems. She said, "If a pattern of stratification can be established for any group, this should represent a large step toward identification of the kinds of help it may be willing to accept in the interest of meeting its problems."[2] Prior continued

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[1] Ibid., pp. 143-144.

[2] Faith Prior, The Female School Dropout: Some Aspects of Her

by stating that home economists must recognize that "a family in a low socio-economic stratum is not just a middle-class family with less money. Given the same income, they will not behave alike."[1] She further discussed the importance of the teacher recognizing that the profession's traditions are oriented to the needs of the middle class and may not be meaningful to the low-income group.[2]

Factors Related to Low-Income Status

Abraham A. Kaplan's study of socio-economic circumstances and adult participation in certain cultural and educational activities supported the concept that those who needed educational opportunities most were reached least by educational agencies. Clear patterns of differences were evident between those of high and low socio-economic status. In general, the residents of areas of higher socio-economic status participated to a greater degree in a larger number of activities than did those of low status. There seemed to be little question that such factors as sex, age, marital status, education, economic status, occupation, national origin, and accessibility were associated with participation in educational activities. The amount of previous education seemed to be the strongest factor in determining participation. Educational status was more powerful than economic status in affecting participation.

Marriage and Family Management, Vermont Agricultural Experiment Station, Misc. Pub. 44 (Burlington, Vermont, July 1964), p. 2.

[1] Ibid., p. 36.

[2] Ibid., p. 37.

Patterns of different interests were evident between the higher and lower socio-economic class. The lower status had greater percentages of cases who did not belong to any organization than did any other social status class.[1]

Grant E. Youmans concluded in his research on The Educational Attainment and Future Plans of Kentucky Rural Youth that differences in socio-economic status were associated with differences in educational attainment. Certain factors in the home, school and community tended to influence the formal educational attainment and the future plans of youth. Youmans observed that youth who continued their formal high school education had mothers who held favorable attitudes concerning the value of formal education.[2]

A special study conducted in Trimble County, Kentucky, in 1953 provided further evidence of a close relationship between participation in community and educational activities and socio-economic status. The number of memberships and offices held in an organization generally varied directly with the socio-economic score. Those in the higher socio-economic groups spent more time in organized activities.[3]

Erven J. Long stated that the type as well as the amount of education

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[1] Kaplan, op. cit., pp. 91, 109, 114, 122, 123, 132-33.

[2] Grant E. Youmans, The Educational Attainment and Future Plans of Kentucky Rural Youth, University of Kentucky Experiment Station Bulletin No. 664 (Lexington, Kentucky: 1959), p. 44.

[3] Paul D. Richardson and Ward W. Bauder, Participation in Organized Activities in a Kentucky Rural Community, Kentucky Agricultural Experiment Station Bulletin 598 (Lexington, Kentucky: June 1953), p. 26.

may be expected to have an effect upon how well farm-reared people take advantage of economic opportunities, whether in farming or in nonfarm work.[1]

A study of rural, low-income people in a seven-county, three-state sub-region of the South motivated J. J. Mangalam of the University of Kentucky, Sociology Department, to conclude that the households with dire needs were closely related to a few important variables. These included "household aspiration," "education," and "social participation." Among these, the most important factor seemed to be the homemaker's education, which created in her enough anomia from heads' lack of ability to work, and with this anomia, plus her social participation, perhaps created enough of a positive attitude toward job mobility, which with the aspiration was able to make the households move out of their poverty.[2]

Mangalam stated that he had developed a feeling that homemakers were both the barometers of the household conditions as well as generators of steam for keeping the family moving ahead. He continued by saying, "If this is a true representation of facts, which it seems to be, then every cent spent on homemakers' education may ultimately prove to be the greatest of all investments in the fight against poverty in the Southern Appalachians."[3]

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[1] Erven J. Long, "Rehabilitation of Depressed Rural Areas," University of Tennessee, Farm Economics Bulletin No. 8 (Knoxville, Tenn.: Jan. 1956), p. 7.

[2] J. J. Mangalam, "Occupational Adjustment in the Southern Appalachians: A Study of Rural Low-Income People in a 7-County/3-State Sub-Region of the South," An unpublished paper read at the Annual Meetings, Rural Sociological Society, Montreal, Canada, August 26, 1964 (University of Kentucky, Lexington Kentucky), p. 17.

[3] Ibid., p. 16.

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Maslow described human needs as being arranged in a "hierarchy" from the lower psychological needs through the higher needs of safety, belongingness, esteem and love, and self-actualization, which he described as being less imperative for survival. He said the lower basic needs including food and water had to be gratified before the higher needs of the hierarchy were recognized. If the lower-level needs again arose after they and the higher-level needs had been satisfied, interest in the higher-level needs was lost until the lower-level needs were again gratified.[1]

In discussing goals, Goodenough referred to Extension Agents. He said that failure resulted when the Extension Agent and the client failed to recognize common goals. He identified four possibly conflicting goals for meeting the same needs as being: (1) the agent's goals, (2) the agent's view of the client's goals, (3) the client's view of the agent's goals, (4) the client's own goals. He claimed that the client cooperated when the agent's goals agreed with the client's wants and that the wants were determined by knowledge and past experiences.[2]

A study by the writer revealed that Kentucky Home Demonstration Agents felt the five most important needs of low-income families to be: (1) management, (2) self-confidence and motivation, (3) food and nutrition, (4) clothing, and (5) housing education.[3]

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[1]A. H. Maslow, Motivation and Personality (New York: Harper and Brothers, 1954), pp. 80-92, 107, 147-150.

Ward Hunt Goodenough, Cooperation in Change (New York: Russell Sage Foundation, 1963), pp. 59-61, 53.

[3]Opal H. Mann, "Low-Income Family Training Needs of Home Demonstration Extension Agents" (Unpublished study, Home Economics Education 685, University of Kentucky, 1964), pp. 21-23.

CHAPTER III

PROCEDURES FOR THE STUDY AND ANALYSIS OF THE DATA

A 1964 sampling survey of parents with dependent children, who had been accepted to participate in the Federal Appalachian Welfare Program, provided data for this study. Standards for determining deprivation and dire needs were established from the collected data.

Description of the Population and Selection of the Sample

The population selected for this study consisted of unemployed parents of dependent children. The families resided in the Eastern Kentucky counties of Breathitt, Floyd, Knott, Leslie, Letcher, Perry, and Pike.

A survey was initiated in the spring of 1964 for the purpose of gaining information about the families who had been accepted to participate in a new Appalachian Region Welfare program. This program was a part of the "anti-poverty program." The program was commonly called the AFDC-UP project, and was entitled "Aid to Families with Dependent Children with Unemployed Parents."

The survey originally included 372 families, and was financed by the United States Department of Health, Education and Welfare through the Kentucky Department of Economic Security. The study was conducted by the Social

Research Service of the University of Kentucky, Department of Sociology and Rural Sociology.

The families selected from the above seven counties for the study were a 25-per cent systematic sample of all of the Kentucky families who were in the AFDC-UP program as of April 15, 1964. The sample was drawn through the Division of Kentucky Economic Security in Frankfort, Kentucky, by selection of the name of each fourth family on the state payroll. Each family in this survey had been previously approved and placed on the AFDC-UP program.

Data for this study was submitted by 324 of the original 372 families drawn for the sample. It was impossible to interview all families in the original sample because some had moved out of the state since having been admitted to the program, others were in the hospital or were away from home for other reasons. A few refused to answer questions. If both husband and wife could not be interviewed, the family was not included in the study.

Construction of Interview Instruments

Interview instruments consisted of two interview questionnaires or schedules. One was a "male" schedule designed for obtaining data from the father of the family. The other was a "female" schedule designed for obtaining data from the "mother of the family."

The schedules were compiled by the University of Kentucky sociologists with suggestions from representatives of the Research Division of the United States Department of Health, Education, and Welfare, and a representative of

the Kentucky Economic Security Division. Home Economics specialists of the University of Kentucky Cooperative Extension Service advised on the home economics questions which were used in the schedules.

The schedules contained some items which had been used previously in sociological and psychological studies. The schedules were pre-tested and modified on the basis of an analysis of the pre-test and suggestions from those who had designed the original drafts. The pre-test was made with families who were in the AFDC-UP program. The families lived in two of the seven counties included in the survey; but they were not families who had been selected as a part of the 25-per cent sample to be surveyed. The schedules were pre-tested by teachers and graduate students of the University of Kentucky Department of Sociology.

The instruments were not included in the Appendix of this thesis because the data for this study were selected from various sections of the questionnaires, and were only a small percentage of the total data recorded on the two instruments. Only those items which pertained to this specific research were used. The writer did not assist with designing the instruments or conducting the interviews. The questionnaire statements and questions which were used to collect the data included in this thesis are quoted or explained in the text to give the reader a better understanding of the data in relationship to the interview situation.[1]

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[1]The interview instruments used for this survey were on file, at the time this thesis was written, in the office of Dr. Cyrus Johnson, Sociology Department, University of Kentucky, Lexington, Kentucky.

Selection and Training of Interviewers

Interviewers were secured through recommendations of county extension agents and principals and superintendents of schools. All interviewers had had some college training and the majority of them were teachers. All interviewers were Eastern Kentucky residents; but all did not live in the counties included in the survey. Interviewers did not interview families whom they personally knew.

A two-day workshop was held in Lexington for the training of the interviewers who were to collect the data by personal interviews. All interviewers were trained before they conducted any interviews with the families chosen for the survey. The training was given by members of the University of Kentucky Sociology Department. A field supervisor was employed to supervise the interviewing process and to inspect questionnaires and to receive and make recommendations at various times during the survey.

The data were collected by personal interviews during the latter part of April and during the month of May, 1964, and were made in the homes of the families being interviewed.

Analysis of Data

Sufficient data to indicate support or lack of support of the hypothesis of this research have been taken from the data collected by the previously described interviews. This study hypothesized that: "Homemakers who are least deprived perceive family needs which are more closely related to the dire needs of the family than do the homemakers who are most deprived."

Determining Factors of Deprivation and Need

Factors with which this research was concerned were classified as follows:

1. DEPRIVATION FACTORS—The factors of deprivation were directly related to the five hypotheses of this thesis and permitted families to be classified into the "most" deprived and the "least" deprived in five different areas of deprivation. These five deprivation factors were:

   a. Isolation.—(This was family isolation in relationship to house location, roads, travel resources, and communications.)

   b. Number of children at home.

   c. Educational level of homemaker.

   d. Health of homemaker.

   e. Family income.

   Derived standards for classifying families by each of these factors and their significance to the study are described in this chapter.

2. DIRE NEEDS FACTORS—The dire needs as recognized in this research were three basic needs which are common to all people and which were considered essential to survival. They were:

   a. Food

   b. Clothing

   c. Housing (or shelter)

   Standards were derived for the purpose of establishing a dichotomy of families for each of the three needs factors.

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3. PRECEPT OF NEED—For the purpose of this research, the homemaker's precept of need was determined by the way she would spend " a little more money"and "$2,000 more money," if she were to unexpectedly receive such money. The homemaker decided how she would spend the money after she had discussed with the interviewer a series of questions regarding the needs of the family and the lack of money to buy family needs. The assumption was that the homemaker would spend this money for those things which she perceived to be most needed by her family.

Establishing Standards for Determining Deprivation and Dire Need

The data in the survey, which related to the specific factors being considered in this research, were studied and analyzed. Standards were established which classified all of the families of the survey into dichotomies of the "most" and "least" deprived as well as dichotomies of the "greatest" and "least" dire need. The families who met or exceeded each established standard were considered to be the least deprived or to have the least dire need, while those falling below the standard were considered to be the most deprived and to have the greatest dire need. It is of prime importance to remember that all of these families were in the low-income bracket and that the majority were so deprived that they fell below average standards set for the "average" American family. This meant that the standards set to divide the 324 families into high and low groups of "deprivation" and "dire needs" had to be much lower than minimum standards set for the average family.

For example, most nutritionists recognize the "basic four" food pattern as a standard against which the daily diet of an individual may be measured. Only 13 (4 per cent) of the 324 families in this survey had diets which measured up to or exceeded this standard. The "basic four" food pattern could not be used to establish a dichotomy of families with the best diets in one group and the families with the poorest diets in the other group. A standard was derived by which this dichotomy was established.

Standards for Deprivation Factors.—Standards were established which made it possible to determine and classify the least and the most deprived families according to five deprivation factors (isolation, number of children, educational level of homemaker, health, and family income) as follows:

1. ISOLATION—As a factor of deprivation, isolation was analyzed in relationship to data which was available through the AFDC-UP survey of the 324 families included in the study. A general analysis of the data related to the isolation revealed the possibility of establishing an isolation standard by which families could be ranked according to degree of isolation. The isolation standard incorporated through use of the survey data was concerned with:
   a. The type of highways or roads on which the families' houses were located.
   b. Whether or not the families had television and/or radio in the home.
   c. Whether or not the family owned or had access to a car.
   d. The frequency with which the homemakers went to town.

A study of the above isolation factors indicated that they could be used as discriminating factors to form a dichotomy of families who were "most" and "least" isolated in relationship to the factors being considered. A preliminary check on 301 of the 324 families revealed that:

—The least isolated families consisted of:

1) One-hundred and thirty families who had access to good highways. (House was located on a paved highway or an all-weather road.)
2) Those 130 families who had access to good highways included 66 families who had television and 64 families who did not have television.
3) The 66 families with television included 45 who had radio and 21 who did not have radio.
4) The 45 families with radio included 19 who had cars and six who had access to car.
5) The 21 without radios included 11 who had cars and 5 who had access to a car.

Thus, of the 130 families who lived on good highways, 66 families had television and 45 (68.18 per cent) of these families with television also had radio. Thirty (45.45 per cent) of the 66 families with television also had cars and 11 (16.67 per cent) had access to car. Of these 66 families, 32 (48.48 per cent) go to town twice per month or more frequently, while 8 (12.12 per cent) go to town three or fewer times per year. The flow chart in Figure 1 illustrates the degree to which certain isolation factors affected these families.

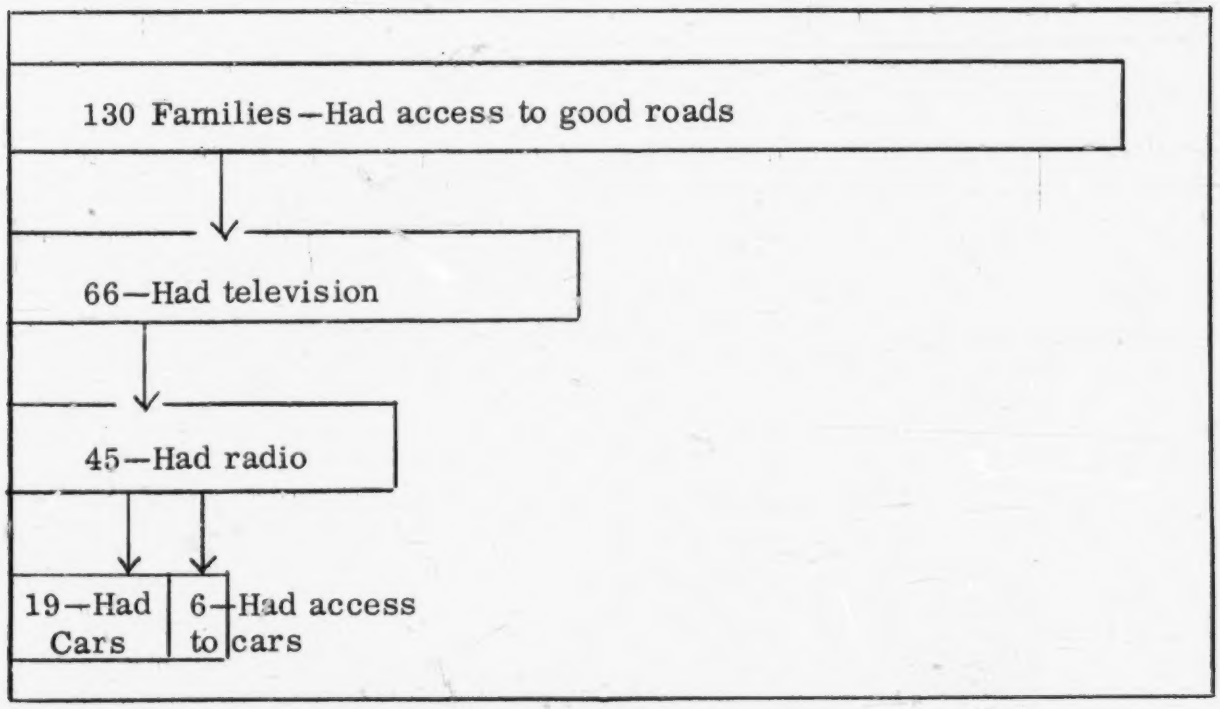

Fig. 1—The Least Isolated Families of the 324 Families Surveyed

—The most isolated families consisted of:

1) One hundred and seventy-one families who did not have access to good roads or highways (house was located on poor dirt road which was sometimes impassable for cars, and one or more miles from an all-weather road).

2) Those without access to good highways included 71 who had television, and 100 who did not have television.

3) The 100 who did not have television contained 63 who had radio and 37 did not have radio.

4) The 63 with radio included 25 who had cars and 10 who had access to a car.

5) The 37 without radio included two who had cars and five who had access to a car.

Thus, of the 171 families who did not have access to good highways, 100 did not have television, but 63 (63 per cent) who did not have television had radio. Twenty-seven (27 per cent) of the families without television had cars and 15 (15 per cent) had access to cars. Of these 100 families, 39 (39 per cent) go to town as frequently as twice per month or more often, while 17 (17 per cent) go to town three or fewer times per year. The degree to which the most isolated families were affected by certain isolation factors is illustrated in Figure 2.

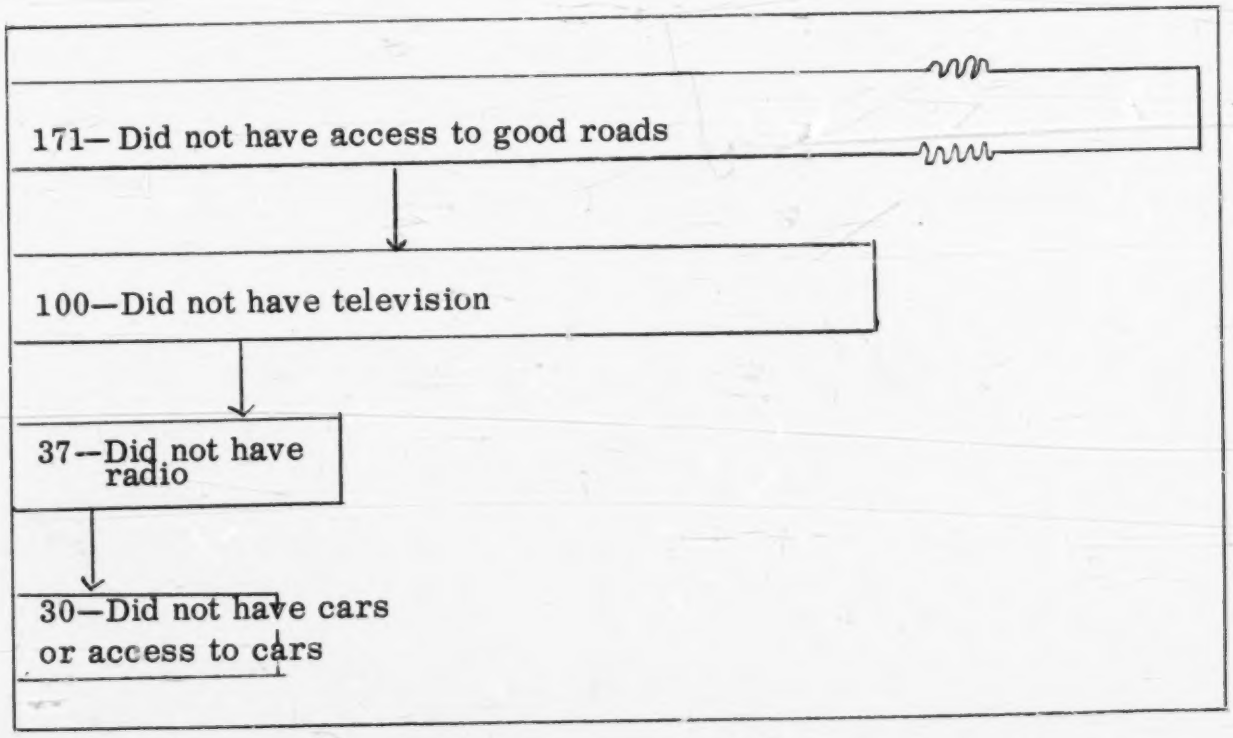

Fig. 2.—Flow Chart Showing the Most Isolated Families of the 234 Families Surveyed

The 301 families of the 324 surveyed who were least and most isolated due to roads, television, radio, cars or access to cars, and trips to town are further explained in Table 1 by numbers and percentages of families in each category.

TABLE 1
FAMILIES WHO WERE MOST AND LEAST ISOLATED IN THE VARIOUS FACTORS RELATED TO ISOLATION*

Factors of Isolation	Least Isolated		Most Isolated	
	Number	Percent	Number	Percent
House on good road	130	100.0		
House on poor road			171	100.0
Television	66	50.77	71	41.52
Radio and no television	46	35.38	63	36.84
Both radio and television	45	34.61	52	30.41
Car	60	46.15	70	40.94
Access to car	20	15.38	33	19.30
Went to town twice or more per month	52	40.00	85	49.71

*No information was available on 23 of the 324 families in relationship to the type of road on which their houses were located.

The newspaper as a means of communication was considered as an isolation influence; but was not used in this study because only 10.2 per cent of the families subscribed to a newspaper and only 8.3 per cent of the families not receiving a paper had a family member who read a newspaper regularly. Fewer than 5 per cent of the newspapers which were read were daily papers. Most of the newspapers which were read were weekly county newspapers, and if mailed would possibly arrive in the homes one day or more after the issue was released.

The following "isolation standard" was established as the result of the above analysis and study of isolation factors:

LEAST ISOLATED FAMILIES

a) House on good road (paved highway or all-weather gravel or dirt road).

b) Family had radio or television in working order.

c) Family had car or access to car.

d) Homemaker went to town often (two or more times per month).

To be least isolated, the family had to live on good roads and to have two or more of the other positive factors listed above in b)-d).

MOST ISOLATED FAMILIES

a) House on poor road (dirt road sometimes impossible for cars and one or more miles from an all-weather road).

b) Family had no radio or television.

c) Family had no car or no access to car.

d) Homemaker did not go to town often (only once a month or less frequently).

To be most isolated the family had to live on poor roads and to have two or more of the other negative factors listed above in b)-d).

2. NUMBER OF CHILDREN AT HOME—There were over 1,200 children living in the homes of these 324 families. The mean was 4 and the median was 4.5 children per household. One hundred and forty-seven families had 3 or fewer children per family, while 174 families had four or more children per family.

The standard used for establishing a dichotomy of families with fewest children at home and families with the largest number of children at home was as follows:

a. Families with fewest children at home had one to three children.

b. Families with the largest number of children at home had four or more children per family.

3. EDUCATIONAL LEVEL OF HOMEMAKERS—Each homemaker, when interviewed, was asked to state the last grade in school which she had completed. Twelve, the lowest group, had completed none, while two, the highest educational level, had completed two years of college. The median grade completed was the seventh grade and the mean was 6.5 years. Five per cent of the women had completed high school, while 27.5 per cent had completed eighth grade. One hundred and thirty-six homemakers had completed the eighth grade or a higher grade, while 176 had completed the seventh grade or less.

The standard used for establishing a dichotomy of families with highest and lowest educational levels of homemakers was as follows:

a. Homemakers with the highest education have completed the eighth grade or a higher grade.

b. Homemakers with the lowest education have completed the seventh grade or less.

4. HEALTH OF HOMEMAKERS—The interviewer asked each homemaker a series of questions concerning her health and the health of her family. Near the end of this series of questions she was asked, "For the most part, do you feel healthy enough to carry out the things you would like to do?"[1]

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[1]"Study of Eastern Kentucky Families," Homemaker Schedule, University of Kentucky Social Research Service (Lexington: Spring 1964), p. 18.

The answers given by 179 were "yes," while 143 of the women answered "no." No information was obtained from two of the homemakers. The standard used to determine the homemakers who felt they had good or poor health was based on this answer as follows:

a. Homemakers who felt that they had good health were those who answered the above question by replying "yes."

b. Homemakers who felt that they had poor health were those who answered the above question by replying "no."

5. FAMILY INCOME—This data was taken from the schedules completed by the "head of the household" instead of by the homemaker. The men were asked, "In 1963, about how much cash income did your family get from:

—1. Wages and salary

—2. Rent

—3. Gifts from children and relatives

—4. Unemployment insurance

—5. Military payments

—6. Pensions and welfare

—7. Other (Specify)_____

—8. " " _____

—Total[1]

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[1] "Study of Eastern Kentucky Families," Head of Household Schedule, University of Kentucky Social Research Service (Lexington:Spring 1964), p. 8.

The total income reported from all of the above sources by all families interviewed was summarized as illustrated in Table 2.

TABLE 2

INCOME RECEIVED FROM ALL SOURCES IN 1963 BY FAMILIES IN THIS STUDY

Number of Families	Percent	Total Income Received in 1963
Smallest Family Incomes		
6	1.9	None (No income received)
56	17.3	Less than $250
48	14.8	$250-$499
90	27.8	$500-$999
Largest Family Incomes		
53	16.4	$1,000-$1,499
25	7.7	$1,500-$1,999
20	6.2	$2,000-$2,999
4	1.2	$3,000-$3,999
4	1.2	$4,000 or more
18	5.6	No information

The standard for determining the families with the largest incomes and the families with the smallest incomes was as follows:

a. Families with the largest incomes received $1,000 or more income in 1963.

b. Families with the smallest incomes received $999 or less in 1963.

Standards for Dire Needs Factors.—In accordance with the hypotheses of this thesis, the extent of dire needs and deprivation conditions were determined for each family. The families falling into the "highest" and the "lowest" categories in each of the factors of need and deprivation had to be known before relationships between dire needs and deprivation factors could be established and related to the homemaker's ability to perceive family needs.

For the purpose of this research, standards were established by which the 324 families included in this study were classified in relationship to their dire needs in the areas of food, clothing, and housing. The families who met or exceeded the standard composed the "least" dire needs group while those who fell below the standard composed the "greatest" dire needs group.

1. FOOD—Food was considered to be a very essential basic need. The situation of each family in relationship to food was determined by use of the following procedure: During the personal interview each homemaker was asked to recall the food which she had served for a three-day period. The information was obtained by the interviewer by these statements and questions: "We would like to find out something about the food people around here eat. Let me start off by asking you about your meals yesterday? (What day of the week was that?_____.) What did you have for breakfast? Lunch or dinner? Supper? The day before? Day before that?"[1] The interviewer had a typed list of foods eaten in the

[1] Homemakers Schedule, op. cit., p. 9.

mountains which may have been used, if necessary, to stimulate the informant's memory.

The foods which were reported as having been eaten were summarized for a three-day period and the diet of each family was checked against the "basic four" food standard. This standard is recognized by the United States Department of Agriculture, National Associations of dietetics, foods and nutrition, health and medicine, and specialists and educators in the area of foods and nutrition. According to this food standard, each person's diet should have included the following kinds and amounts of food in a three day period.

a. Milk and milk products—Six or more cups of milk or the equivalent.

b. Meats, eggs, nuts or dried beans—Six or more servings.

c. Breads and cereals—12 or more servings daily (enriched and whole grain).

d. Fruits and vegetables—12 or more servings.

Each day's diet should have included at least one serving of food rich in vitamin C. One serving of dark green or yellow vegetables high in Vitamin A should have been eaten at least every other day, or four servings a week.[1]

A standard was devised for classifying the diet of each family for three days and a code (used for IBM purposes) representing the standard

[1] "Foodway to Follow," American Institute of Baking (Chicago, Illinois: 1959), p. i.

of diet for each "basic four" food group was punched into cards to be used in making the desired statistical analyses. The standard and code were for measuring each family's diet against each of the "basic four" food groups. The food code was derived as follows:

Code — Standard or Level of Diet for Each "Basic Four" Food Group

0 - Basic food requirement was met.

1 - Less than "basic food" requirement but one half or more of the "basic" requirement was met (lacked less than one half of the "basic food" group).

2 - Less than one half of "basic food" requirement was met (lacked one half or more of the "basic food" group).

9 - No information.

This standard is further explained by Table 3.

TABLE 3

SERVINGS OF FOOD AND CODE USED TO INDICATE THE EXTENT TO WHICH EACH FAMILY'S DIET INCLUDED THE BASIC FOUR FOOD GROUPS

Basic Four Food Groups	Servings of Food Required for Three-Day Period	Example: Servings of Food Eaten by Members of One Family for a Three-Day Period	Family Code for Each Food Group
1. Milk and Milk Products	6 or more	3	1
2. Meats, Eggs, and Meat Substitutes	6	6	0
3. Cereals and Breads	12	9	1
4. Fruits and Vegetables	12	5	2
Total - Code for Family Used in This Example			4

Since this family used in the above example had a total code of 4 they belong in the group with the "greatest" dire food need .

After each family's diet had been measured against the four "basic food groups, "the codes given for the "basic food groups" were totaled for each family and interpreted as follows :

Table 4 gives the number of families who were placed in each coded category by the derived standard for measuring diets.

The standard for determining the families with the "least" dire needs and the families with the greatest dire needs in foods was as follows:

1. Families with a total code of 0-3 have the "least" dire need in the area of foods.
2. Families with a total code of 4-8 have the "greatest" dire need in the area of foods.

The objective of this derived standard was to classify the families so that a dichotomy could be formed consisting of the families with the "least" dire food needs in one group and those with the "greatest" dire food needs in another group. It is of prime importance to remember that all except 13 of the families fell below the "basic four" food standard. Eighty-five (26.2 per cent) of the families who were classified in the highest food group with the "least" dire food need lacked one half or more of the food required in one of the "basic four" food groups and fell below the "basic four" food requirements in a second group, or they fell

TABLE 4

DISTRIBUTION OF FAMILIES BY DIETS IN RELATIONSHIP TO THE BASIC FOUR FOOD STANDARD

Code	No. of Families	Percent	Standard or Level of Diets by Coded Categories (Considering all four "basic food" groups)
Highest Food Group			
0	13	4.0	"Basic food" requirements were met in all four groups.
1	28	8.6	Below "basic food" requirements but lacked less than one half of the food requirements of only one group.
2	62	19.1	Below "basic food" requirements but lacked: (a) less than one half of food requirements of two groups, or (b) lacked one half or more of the requirements of one group.
3	85	26.2	Below the "basic food" requirements but lacked: (a) less than one half of the requirements of three groups, or (b) less than one half of one group and one half or more of the requirements of one group.
Total	188		
Lowest Food Group			
4	77	23.8	Fell below the "basic food" requirements but lacked: (a) less than one half of the food requirements of four groups, or (b) one half or more of two groups, or (c) less than one half of two groups and one half or more of one group.
5	48	14.8	Fell below the "basic food" requirements but lacked: (a) less than one half of the food requirements of three groups and one half or more of the food requirements of one group, or (b) less than one half of the food requirements of one group and one half or more of two groups.
6	06	1.8	Lacked: (a) one half or more of the "basic food" requirements of three groups, or (b) lacked one half or more of the requirements of two groups.
7	01	.03	Below the "basic food" requirements but lacked less than one half of the food requirements of one group and one half or more of the food requirements of three groups.
Total	132		
8	00	00	Lacked one half or more of the food requirements of all four groups.
9	04	1.2	No information.
Total	324	99.8	

below the basic requirements but were less than one-half deficient in the "basic food" requirements in three groups of the "basic four" food standard. The families may be more deficient in nutrition than this data indicated because the data were analyzed and coded with the assumption that each family member ate an average serving of each food which the homemaker named as having been served.

2. CLOTHING—Clothing, as a basic need of each family, was analyzed in relationship to using available data and establishing a basic clothing standard for classifying each family into either a category of "least" or "greatest" dire clothing need. For the purpose of this study, clothing items common to all family members were used as a basis for determining the general clothing situation of each family. Children under two years of age were excluded from the clothing data table, because of the type of clothing worn by this age child. Basic clothing items used in establishing a standard for measuring the extent of each family's clothing needs were: (a) a good pair of shoes; (b) a warm winter coat or jacket, and (c) two changes of work, or everyday, or school clothes.

The question which the interviewer asked the homemaker was as follows: "Now, I would like to get an idea of the family's clothing. I would like to get information for each member of the family. Would you please give me the names of family members and tell me if they have the following items, and also anything each badly needs at present."[1] The questionnaire

[1]Homemaker Schedule, op. cit., p. 7.

contained a table which provided space for listing and classifying the number and type of major clothing items owned by each family member.

A summary of the data revealed that the average family contained six members and had three good pairs of shoes and four good winter coats per family, and two changes of everyday, or work, or school clothes for each two family members.

A clothing standard was established by giving equal importance or weight to the above three basic clothing items. Clothing items per family member were checked against this basic clothing standard, and the number of clothing items which each family lacked was recorded. A clothing code was derived as follows:

Code	Standard
0	No items of the three basic clothing types were missing. (Each family who received a code of "0" had a good pair of shoes, a warm coat or jacket, and two changes of work or everyday, or school clothes for each family member.)
1	Lacked only one of the basic clothing items per family to an average of one-half item per person.
2	Lacked more than one half to average of one per person.
3	Lacked more than one to average of 1.5 per person.
4	Lacked more than 1.5 to average of two per person.
5	Lacked more than 2 to average of 2.5 per person.
6	Lacked more than 2.5 to average of 3.0 per person.

The clothing situation was determined for each family by dividing the total number of clothing items which each family lacked by the number of members of each respective family. This procedure revealed the clothing situation as stated in Table 5.

TABLE 5

DESCRIPTION OF FAMILIES IN RELATIONSHIP TO LACK OF BASIC CLOTHING ITEMS

Code	No. of Families	Percent	Ratio	Lack of Basic Clothing Items
Highest Clothing—Least Dire Needs				
0	52	16.0	---	None lacking.
1	68	21.0	.01- .50	Lacking only 1 item per family to average of one-half item per person.
Total	120			
2	83	25.6	.51-1.00	More than one half to average of one item per person.
Lowest Clothing—Least Dire Needs				
3	61	18.8	1.01-1.50	More than 1 to average 1.5 items per person.
4	41	12.7	1.51-2.00	More than 1.5 to average of 2 items per person.
5	17	5.2	2.10-2.50	More than 2 to average of 2.5 per person.
6	2	.6	2.51-3.00	More than 2.5 to average of 3 items per person.
9	0	0	---	No information
Total	121			
Grand Total	324	99.9		

The dichotomy of families with "least" and families with "greatest" dire needs in the area of clothing were classified as follows:

a. "Least dire needs"—No clothing items were lacking to a lacking of one clothing item per family or an average of one-half item per person (code 0-1).

b. "Greatest dire needs"—Lack more than one clothing item per person in the family (code 3-6).

3. HOUSING—Shelter or housing was defined as the third dire need to be considered in this study. A housing standard was developed which made it possible to establish a dichotomy of families with the "best" and "poorest" housing. The following things were considered:

a. The condition of the dwelling, whether it was "sound" or in a "deteriorating" and "dilapidated" condition.

b. The number of rooms which the house contained.

c. The number of members per family.

d. Whether or not the house had electricity, running water, tub or shower, or inside flush toilet.

The houses which were reported as being "sound" were considered to be the best houses, while those reported as "deteriorating" or "dilapidated" were considered to be the poorest houses.

The number of persons per room was ascertained and the families classified from "least" to "most" crowded housing. Table 6 contains the

TABLE 6

HOUSING: NUMBER OF PERSONS PER ROOM

No. Members Per Family	Number of Rooms																Total Families	
	1		2		3		4		5		6		7		8		One or Less Persons per Room	More than one Person per Room
	No. Per Rm.	f.	No. Per Rm.	f.	No. Per Rm.	f.	No. Per Rm.	f.	No. Per Rm.	f.	No. Per Rm.	f.	No. Per Rm.	f.	No. Per Rm.	f.		
3	3	1	1.5	4	1	5	.66	8	.60	5	.50	4	.43	2	0	0	24	5
4	4	4	2	7	1.33	9	1	29	.80	8	.67	2	.57	1	.50	1	41	20
5	5	1	2.50	6	1.67	13	1.25	17	1	14	.83	4	.71	1	0	0	19	37
6	0	0	3	4	2	10	1.50	11	1.20	4	1	1	.86	1	0	0	2	29
7	0	0	3.50	4	2.33	15	1.75	26	1.40	7	1.17	4	1	1	0	0	1	56
8	0	0	4	2	2.67	9	2	11	1.60	6	1.33	4	0	0	0	0		32
9	0	0	0	0	3	5	2.22	6	1.80	2	1.50	2	1.29	1	1.13	2		18
10	0	0	5	2	3.33	4	2.50	5	2	4	1.67	1	0	0	0	0		16
11	0	0	0	0	3.67	2	2.75	7	2.20	4	0	0	0	0	0	0		13
12	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0		2
13	0	0	0	0	0	0	3.25	4	0	0	2.17	1	0	0	0	0		5
15	0	0	0	0	0	0	3.75	1	0	0	0	0	0	0	0	0		1
TOTAL		6		29		72		127		54		23		7		3	87	234

f = Frequency (number of families in each specific category)

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number of members per family, the number of persons per room, the frequency with which the same number of members per family, and rooms per house occurred.

The University of Kentucky, Sociology Department released a recent publication in which "a ratio of one or fewer persons per room had been set as a standard for housing."[1] The American Public Health Association's Committee on the Hygiene of Housing established three groups of households by degrees of crowding. The first and most desirable group included one person or less per room; the second group, which was "crowded," included more than one person per room, but not more than one-and-a-half; the last and most crowded housing group consisted of more than one-and-a-half persons per room.[2]

Since all of the families in this study were low-income families, they were very likely to fall below a standard which was established for the "average" American family. The summary of Table 7 revealed that 87 families had housing accomodations with one or fewer persons per room, while 234 families had more than one person per room. The "least" and the "most" crowded families were not divided at this level as there was too

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[1] Ralph J. Ramsey and A. Lee Coleman, Kentucky Social Trends in the 1960's, University of Kentucky Cooperative Extension Service in Agriculture and Home Economics, Resource Development Series, No. 8, August, 1962, p.16.

[2] "Committee on the Hygiene of Housing: American Public Health Association," Housing for Health (The Science Press Printing Company, Lancaster, Pennsylvania, 1941), p. 171.

TABLE 7

HOUSING: FAMILIES RANKED ACCORDING TO CROWDING

Least Crowded (.43-1.50 Persons Per Room)		Most Crowded (1.60-5 Persons Per Room)	
Persons Per Room	No. of Families With This No. Per Room	Persons Per Room	No. of Families With This No. Per Room
.43	2	1.60	6
.50	5	1.67	14
.57	1	1.75	26
.60	5	1.80	2
.67	2	2.00	32
.71	1	2.17	1
.66	8	2.20	4
.80	8	2.22	6
.83	4	2.33	15
.86	1	2.50	11
1.00	50	2.67	9
1.13	2	2.75	7
1.17	4	3.00	12
1.20	4	3.25	4
1.25	17	3.33	4
1.29	1	3.50	4
1.33	13	3.67	2
1.40	7	3.75	1
1.50	17	4.00	6
Total Number of Families	152	5.00	3
		Total Number of Families	169

much difference in the size of the two groups. The standard was established at 1.5 persons per room because 152 families had 1.5 or fewer persons per room, while 169 families had more than 1.5 persons per room. There was no information available concerning number of rooms per house for three of the 324 families in the survey. The two groups are distributed as shown in Table 7.

The "highest" and lowest" housing conditions as related to the other factors of electricity, running water, tub or shower, and inside toilet were based on whether or not the house had the item being considered. In order to arrive at a standard for dividing the families into the "best" and the "poorest" housing, each of the housing factors was given a definite weight or code as illustrated in Table 8.

TABLE 8

WEIGHTED HOUSING FACTORS FOR DETERMINING HIGHEST AND LOWEST HOUSING

Housing Factors	Weight of Code Given for Housing Factors	
	If Family Had Factor	If Family Did Not Have Factor
Sound Housing	0	3
One or fewer than 1 but not exceeding 1.5 persons per room	0	3
Electricity	0	2
Running Water	0	2
Tub or Shower	0	1
Inside Toilet	0	1
TOTAL	0	12

The highest code which a family could have received was "0." This meant the family had all 6 housing factors and had the "best" housing. The lowest code which a family could have received was "12," which meant that the family had none of the above housing factors, or the "poorest" housing.

When the 324 families of the survey were classified according to the housing factors and code in Table 8, they distributed themselves into a "lowest" group containing 150 families, with coding ranging from 8 to 12, and a "highest" group of 155 families with coding ranging from 0 to 7. These families ranked according to housing code are listed in Table 9.

TABLE 9

FAMILIES RANKED ACCORDING TO HOUSING SCORE OR CODE

Score or Code	No. of Families Receiving Each Score
Best Housing	
0	7
1	10
3	7
4	31
5	10
6	4
7	86
	155 Families
Poorest Housing	
8	13
9	14
10	99
12	24
	150 Families
No Information	19
TOTAL FAMILIES	324

The highest and lowest families in relationship to the total housing factors were as follows:

a. Families with the "best" housing had a code of 7 or lower.

b. Families with the "poorest" housing had a code of 8 or greater.

Standard for Perceived Needs.—Two questions were included in the personal interview schedules which gave the homemakers an opportunity to state the things which they perceived as being of greatest need to their families. The first question was: "Many families go without certain things they feel they need. What are some of the things that your family goes without because of lack of money? Take your time. What are some of the important things you would buy if you had a little more money?"[1] The interviewer recorded the things which the homemaker would buy. No attempt was made to rank the items named in any order of priority. The second question concerning spending of money appeared later in the questionnaire, and followed a series of questions related to the homemaker's attitudes, values, and needs. The second question was asked as follows: "Suppose your family unexpectedly got a large sum of money—say $2,000. How do you think you would spend it?"[2] The interviewer again made no attempt to rank the items mentioned by the homemaker in any order of priority.

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[1] Homemaker Schedule, op. cit., p. 10.

[2] Ibid., p. 21.

The responses given by the homemaker to these questions were summarized in relationship to the number of people who mentioned they would buy all or any of the dire needs of "food," "clothing," and/or "housing." It is hypothesized that if the family's situation revealed a dire need in one or more of these areas the homemaker would recognize the need and be interested in relieving the need when the money became available for such action. The extent to which the certain deprivation factors of "isolation," "no children," "education," "health" and "income" influenced this perception of need was statistically analyzed.

CHAPTER IV

SUMMARY AND ANALYSIS OF FINDINGS

There were 324 families included in the study, and all of the families were in the low-income group—all of them were poor. Since education and educational programs attempt to deal with and account for differences which exist among individuals, this research was organized to determine the extent of differences in the perception of dire family needs among homemakers of different degrees of deprivation. The homemakers revealed their perception of dire needs by telling what they would buy if they had "a little more money" to spend, and "$2,000" to spend.

The dire family needs which were considered were food, clothing, and housing. The individual differences or factors of deprivation among the homemakers and their families considered in this study were: (1) the degree of isolation, (2) the number of children at home, (3) the educational level of the mother, (4) the health of the mother, and (5) the income of the family.

Two methods were used in analyzing the data. The first method placed each of the three dire family needs (food, clothing, and shelter)

into categories of "higher" and "lower" ratings for each need. This dichotomized the families into different levels of dire family needs. The second method of analysis did not place a "higher" and "lower" rating on the factors associated with dire family needs. This second method of analysis was completed to assess the effect of the "higher" and "lower" dichotomies on data related to families. The data analyzed by the first method were classified as "dichotomized" data, and the data analyzed by the second method were classified as "undichotomized" data.

Statistical Analysis of Data

The Chi-Square statistic was used to determine the significance of differences between the factors which were hypothesized to affect the homemaker's perception of need.

The dichotomized data were programmed by use of the IBM 7040 Computer. The counter card assorter was used to tabulate the frequency counts of the undichotomized data which were entered into Chi-Square Tables 27-29 in the Appendix. The .05 level of significance (a value of 3.841, with 1 df)[1] was used as a standard in determining the acceptance or rejection of the hypotheses.

Tables 10 through 24 in this chapter contain the cell count and the Chi-Square values for the various factors related to selected needs of low-income families in the dichotomized data. The Chi-Square values

[1]N. M. Downie and R. W. Heath, Basic Statistical Methods (New York: Harper and Row, 1959), p. 266.

obtained from the various factors being studied in the dichotomized data yielded one value which was significant—a value of 4. 0466. Upon examination of this table (Table 18), it was found that two cells had fewer than 10 cases per cell. The Yate's Correction formula[2] was applied to this data. The Chi-Square value obtained by use of the Correction formula was 2. 8694 which was not significant at the . 05 level. Therefore, all of the Chi-Square values obtained were less than the needed value of 3. 841.

The undichotomized data also yielded one value which was significant—a value of 4. 4446 which is discussed in the undichotomized data analysis of this chapter.

Isolation Deprivation Factor and Perception of Dire Family Needs: Dichotomized Data

Food Needs and Degree of Isolation. —As can be noted from Table 10, there were 95 families which were classified as being "less" isolated; 108 families were classified as being "more" isolated. Of these 95 "less" isolated families, 69 had diets which classified them in the "higher" food category, and 26 families had such poor diets that they were classified in the "lower" food group. Of the 108 families in the "more" isolated condition, 51 had diets of sufficient quality and quantity to place them in the "higher" food group, and 56 had such poor diets that they were placed in the "lower" food group.

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[2] Ibid., pp. 150-151.

TABLE 10

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY FOOD WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE "LESS" OR "MORE" ISOLATED

Dire Need Dichotomies of Food	Mention of Food	A Little More Money Isolation Factor			$2,000 Isolation Factor		
		Less	More	Total	Less	More	Total
Higher food group	Yes	46	30	76	15	13	28
	No	23	21	44	54	38	94
	Total	69	51	120	69	51	120
		$\chi^2 = .7768$			$\chi^2 = .2307$		
Lower food group	Yes	21	45	66	7	19	26
	No	5	12	17	19	38	57
	Total	26	57	83	26	57	83
		$\chi^2 = .2307$			$\chi^2 = .3411$		

From Table 26 in the Appendix, it can be noted that a larger percent of the "less" isolated homemakers in both food dichotomies said that they would spend "a little more money" on food than did the "more" isolated homemakers. When the homemakers were asked how they would spend $2,000," a larger percent of the "more" isolated homemakers of both food dichotomies said that they would buy food.

A larger percent of homemakers in all categories said that they would buy food with "a little more money" rather than with "$2,000." When a comparison was made of the percent of homemakers in the "higher" and

"lower" food dichotomies, it was found that the highest percent of all families who said that they would buy food was of the "lower" food dichotomy.

The degree of isolation, as a deprivation factor yielded no significant differences in the number of "less" and "more" isolated homemakers who said that they would spend "a little more money" or "$2,000" on food for the family. None of the Chi-Square values (in Table 10) were statistically significant at the .05 level.

Clothing Needs and Degree of Isolation.—The clothing dichotomies in Table 11 contained responses representing 72 "less" isolated and 77 "more" isolated families. Forty-three of the 72 "less" isolated families were in the dichotomy of "higher" clothing, and 29 of the "less" isolated families were in the "lower" clothing dichotomy of most dire need. Of the 77 families who were "more" isolated, 33 were in the "higher" clothing dichotomy, and 44 were in the "lower" dichotomy of poorer clothed families.

The percent of homemakers who said that they would buy clothing with the proposed sums of money are listed in Table 26 in the Appendix.

The responses of the "more" isolated and "less" isolated homemakers in the "higher" and "lower" clothing dichotomies were compared. The highest percent of homemakers who said that they would buy clothing with "a little more money" were the "less" isolated in the "higher" clothing dichotomy and the "more" isolated in the "lower" clothing dichotomy. The highest percent of homemakers who said that they would buy clothing

TABLE 11

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY CLOTHING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE "LESS" OR "MORE" ISOLATED

Dire Need Dichotomies of Clothing	Mention of Clothing	A Little More Money Isolation Factor			$2,000 Isolation Factor		
		Less	More	Total	Less	More	Total
Higher clothing	Yes	25	12	37	11	9	20
	No	18	21	39	32	24	56
	Total	43	33	76	43	33	76
		$\chi^2 = 3.5439$			$\chi^2 = .0275$		
Lower clothing	Yes	22	36	58	19	21	40
	No	7	8	15	10	23	33
	Total	29	44	73	29	44	73
		$\chi^2 = .3798$			$\chi^2 = 2.2333$		

with "$2,000" were the "less" isolated in the "lower" clothing dichotomy and the "more" isolated in the "higher" clothing dichotomy.

A higher percent of the homemakers who were in the "lower" clothing dichotomy responded that they would buy clothing than did the homemakers who were in the "higher" clothing dichotomy. The greatest percent who said they would buy clothing were in the category of "a little more money" rather than of "$2,000."

The total percent of the "less" isolated homemakers, who planned to buy clothing, exceeded the percent of the "more" isolated homemakers

who planned to buy clothing. The Chi-Square values in Table 11 reveal that the number of "less" and "more" isolated homemakers who said that they would spend " a little more money" and "$2,000" for clothing did not statistically differ at the .05 level of significance.

Housing Needs and Degree of Isolation.—Ninety-six families were classified in the housing dichotomies as being "less" isolated, and 107 families were classified as being "more" isolated (Table 12). Sixty of the

TABLE 12

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY HOUSING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE "LESS" OR "MORE" ISOLATED

Dire Need Dichotomies of Housing	Mention of Housing	A Little More Money Isolation Factor			$2,000 Isolation Factor		
		Less	More	Total	Less	More	Total
Better housing	Yes	4	3	7	30	17	47
	No	56	34	90	30	20	50
	Total	60	37	97	60	37	97
		$\chi^2 = .0710$			$\chi^2 = .1506$		
Poorer housing	Yes	3	8	11	20	43	63
	No	33	62	95	16	27	43
	Total	36	70	106	36	70	106
		$\chi^2 = .2449$			$\chi^2 = .3401$		

"less" isolated families were in the "better" dichotomy of housing, and 36 were in the "poorer" housing dichotomy. Of the 107 "more" isolated

families, 37 were in the "better" housing and 70 in the "poorer" housing dichotomies.

By examining Table 26 in the Appendix, a comparison was made of the "less" and "more" isolated homemakers who said that they would buy housing with "a little more money" and with "$2,000." A higher percent of the "more" isolated homemakers said that they would buy housing with both sums of money. This was true in all groups except the dichotomy of "better" housing when planning to spend "$2,000."

A larger percent of homemakers in both degrees of isolation and in both dichotomies of housing need said that they would buy housing with "$2,000" than said that they would buy housing with "a little more money." The "poorer" housing dichotomy of both the "less" and "more" isolated homemakers contained a larger percent of homemakers who planned to buy housing with both sums of money than did the homemakers classified in the "better" housing dichotomy.

There appeared to be a trend which indicated that a greater percent of isolated homemakers recognized their housing needs than did the "less" isolated homemakers. However, this difference was not significant at the .05 probability level as can be seen by examining the Chi-Square values in Table 12.

Number of Children Deprivation Factor and Perception of Dire Family Needs: Dichotomized Data

Food Needs and Number of Children. —As can be seen in Table 13, there were 145 families classified in the "Smaller" number of children category, and 172 families classified in the "larger" number of children category. Of the 145 families with the "smaller" number of children, 78 had diets which permitted them to be grouped into the "higher" dichotomy of food, and 67 had such poor diets that they were grouped into the "lower" dichotomy of food. Of the 172 families with the "larger" number of children, 107 were grouped into the "higher" food dichotomy, and 65 into the "lower" dichotomy of food.

TABLE 13

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF MOTHERS OF THE "SMALLER" OR "LARGER" NUMBER OF CHILDREN: MOTHERS WOULD OR WOULD NOT BUY FOOD WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

		A Little More Money			$2,000		
		No. of Children Factor			No. of Children Factor		
Dire Need of Food	Mention of Food	Smaller No.	Larger No.	Total	Smaller No.	Larger No.	Total
Higher food	Yes	49	73	122	13	29	42
	No	29	34	63	65	78	143
	Total	78	107	185	78	107	185
		$\chi^2 = .5866$			$\chi^2 = 2.7999$		
Lower food	Yes	49	51	100	23	21	44
	No	18	14	32	44	44	88
	Total	67	65	132	67	65	132
		$\chi^2 = .5098$			$\chi^2 = .0606$		

An analysis of the percent of mothers in each category of food need in Table 26 in the Appendix revealed that the largest percent of mothers (who planned to buy food with "a little more money" and with "$2,000") were mothers of families having the "larger" number of children. Mothers with the "smaller" number of children (who planned to buy food) exceeded them only in the "lower" food dichotomy when they responded in relationship to spending "$2,000." A larger percent of mothers responded to spending "a little more money" for food than to spending a part of the "$2,000" for food. The highest percent of mothers who said that they would buy food with both sums of money were in most dire need of food—the "lower" food dichotomy.

This data revealed a trend for the mothers with the "larger" number of children to better recognize family food needs. Examination of the Chi-Square values (as seen in Table 13) indicated that these trends were not statistically significant at the .05 level. The mothers with the "smaller" number of children and the mothers with the "larger" number of children did not significantly differ in their responses as to whether they would or would not buy food with the two sums of money.

Clothing Needs and Number of Children.—As revealed by Table 14, there were 107 families in the two dichotomies of clothing that were classified as having the "smaller" numberof children, and 131 families that were classified as having the "larger" number of children. Sixty-one of the families with the "smaller" number of children were in the "higher"

dichotomy of clothing, which indicated that they had less dire need for additional clothing. Forty-six of the 107 families with the "smaller" number of children were in the "lower" dichotomy of clothing which meant that they had the greater dire need for clothing. Of the 131 families with the "larger" number of children, 58 were in the "higher" dichotomy of clothing, and 73 were in the "lower" dichotomy of clothing.

TABLE 14

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF MOTHERS OF THE "SMALLER" OR "LARGER" NUMBER OF CHILDREN: MOTHERS WOULD OR WOULD NOT BUY CLOTHING WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Need of Clothing	Mention of Clothing	A Little More Money: No. of Children Factor, Smaller No.	Larger No.	Total	$2,000: No. of Children Factor, Smaller No.	Larger No.	Total
Higher Clothing	Yes	34	31	65	21	17	38
	No	27	27	54	40	41	81
	Total	61	58	119	61	58	119
		$\chi^2 = .0629$			$\chi^2 = .3580$		
Lower Clothing	Yes	36	54	90	24	43	67
	No	10	19	29	22	30	52
	Total	46	73	119	46	73	119
		$\chi^2 = .2815$			$\chi^2 = .5195$		

Examination of Table 26 in the Appendix indicated that the percent of mothers with the "smaller" number of children, who said that they would buy

clothing with "a little more money" and with "$2,000" exceeded the mothers of the "larger" number of children who said that they would buy clothing with both sums of money. This was true in all categories except that of "lower" clothing. The largest number of responses in that category was of mothers with the "larger" number of children who said that they would buy clothing with "$2,000."

Responses in Table 26 in the Appendix indicated that a larger percent of all mothers would buy clothing with "a little more money" than would buy clothing with "$2,000." In comparison of the percent of homemakers in the "higher" and "lower" clothing dichotomies, it was found that the highest percent of mothers who said that they would buy clothing were those of the lower clothing dichotomy which contains the families in most dire need of clothing.

This data revealed a trend for the mothers with the "smaller" number of children to perceive family clothing needs which were more closely related to the dire clothing needs of the family than did the homemakers with the "larger" number of children. This trend could not be statistically supported by data in Table 14 which yielded no Chi-Square values of statistical significance.

Housing Needs and Number of Children.—The housing dichotomies of Table 15 contain responses of 137 families with the "smaller" number of children and 165 families with the "larger" number of children. The families

with the "smaller" number of children were classified into 105 families that met the "better" housing standards of this study, and 32 families that fell below the housing standards of this study and were classified in the "poorer" housing dichotomy. Of the 165 families with the "larger" number of children, 50 were classified in the "better" housing dichotomy and 115 were classified in the "poorer" housing dichotomy.

TABLE 15

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF MOTHERS OF THE "SMALLER" OR "LARGER" NUMBER OF CHILDREN: MOTHERS WOULD OR WOULD NOT BUY HOUSING WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Need of Housing	Mention of Housing	A Little More Money: No. of Children Factor, Smaller No.	Larger No.	Total	$2,000: No. of Children Factor, Smaller No.	Larger No.	Total
Better housing	Yes	8	3	11	52	25	77
	No	97	47	144	53	25	78
	Total	105	50	155	105	50	155
		$\chi^2 = .1347$			$\chi^2 = .0031$		
Poorer housing	Yes	4	9	13	18	65	83
	No	28	106	134	14	50	64
	Total	32	115	147	32	115	147
		$\chi^2 = .6784$			$\chi^2 = .0008$		

Table 26 in the Appendix contains the percent of responses of mothers who said that they would buy housing with "a little more money"

and with "$2,000." When planning in relationship to spending "$2,000," a higher percent of the mothers with the "larger" number of children planned to buy housing than did the mothers with the "smaller" number of children. When planning in relationship to spending "a little more money" a higher percent of the mothers with the "smaller" number of children planned to buy housing than did the mothers with the "larger" number of children.

A greater percent of all mothers said that they would buy housing with "$2,000," than would buy housing with "a little more money. The highest percent of mothers who would buy housing was in the "poorer" housing dichotomy of greatest dire housing needs. The Chi-Square values obtained signify that there were no significant differences in the number of mothers with "fewer" and the number of mothers with the "larger" number of children who said that they would buy dire housing needs, if they were to unexpectedly receive "a little more money" and "$2,000" (Table 15).

Education Deprivation Factor and Perception of Dire Family Needs: Dichotomized Data

Food Needs and Level of Education.—The responses of homemakers whose families were dichotomized into "higher" and "lower" food groups were classified in Table 16 according to the educational level of the homemaker. One hundred and thirty-three of the homemakers had a "higher" educational level, and 175 were classified in the "lower" educational level. Of the 133 homemakers classified in the "higher" educational level, 83

were of families who were classified in the "higher" food dichotomy, and 50 were homemakers of families who were classified in the "lower" food dichotomy. Of the 175 families of homemakers of the "lower" educational level, 98 were classified in the "higher" dichotomy of food and 77 were in the "lower" food dichotomy.

TABLE 16

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY FOOD WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE OF THE "HIGHER" OR "LOWER" EDUCATIONAL LEVEL

Dire Need Dichotomies of Food	Mention of Food	A Little More Money Educational Level			$2,000 Educational Level		
		Higher	Lower	Total	Higher	Lower	Total
Higher food	Yes	56	64	120	17	23	40
	No	27	34	61	66	75	141
	Total	83	98	181	83	98	181
		$\chi^2 = .0942$			$\chi^2 = .2330$		
Lower food	Yes	36	60	96	16	26	42
	No	14	17	31	34	51	85
	Total	50	77	127	50	77	127
		$\chi^2 = .5762$			$\chi^2 = .0427$		

Table 26 in the Appendix revealed that a larger percent of "lower" educational-level homemakers than of the "higher" educational-level homemakers said that they would buy food. This was true in every category except that of "higher" food and "a little more money." A greater number

of "higher" educational-level homemakers than of "lower" educational-level homemakers in the "higher" food dichotomy would spend "a little more money" for food.

A higher percent of both educational categories would buy food with "a little more money" than would buy food with "$2,000." The percent of homemakers in the "lower" food dichotomy who said that they would buy food was greater than the percent of homemakers in the "higher" dichotomy who said they would buy food.

This trend indicated that the "lower" educational level homemakers better recognized family food needs than did the "higher" educational level homemakers. An examination of Chi-Square values reported in Table 16 indicated that the differences which existed between the number of the "lower" and "higher" educated homemakers who said that they would buy food were not of statistical significance at the expected level.

Clothing Need and Level of Education.—The response of homemakers as tabulated in Table 17 have been used to classify the families of these homemakers into dichotomies of "higher" and "lower" clothing groups. Ninety-eight of the homemakers were on the "higher" educational level, and 133 were on the "lower" educational level. Of the 98 on the "higher" educational level, 55 were in the "higher" and 43 were in the "lower" dichotomies of clothing needs. Of the 133 on the "lower" educational level, 61 were in the "higher" and 72 were in the "lower" dichotomies of clothing.

TABLE 17

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY CLOTHING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE OF THE "HIGHER" OR "LOWER" EDUCATIONAL LEVEL

Dire Need Dichotomies of Clothing	Mention of Clothing	A Little More Money			$2,000		
		Educational Level			Educational Level		
		Higher	Lower	Total	Higher	Lower	Total
Higher clothing	Yes	26	38	64	18	21	39
	No	29	23	52	37	40	77
	Total	55	61	116	55	61	116
		$\chi^2 = 2.6390$			$\chi^2 = .0374$		
Lower clothing	Yes	32	53	85	25	39	64
	No	11	19	30	18	33	51
	Total	43	72	115	43	72	115
		$\chi^2 = .0091$			$\chi^2 = .1722$		

The percent of homemakers who would buy clothing is recorded in Table 26 in the Appendix. A higher percent of the "lower" educational-level homemakers in the "higher" clothing dichotomy and a higher percent of the "higher" educational-level homemakers in the "lower" clothing dichotomy said that they would buy clothing with both sums of money. A higher percent of "lower" educational-level homemakers than of "higher" educational-level homemakers said that they would buy clothes.

A larger percent of both educational-level homemakers would buy clothing with "a little more money" than would buy clothing with "$2,000." The highest percent of both levels of homemakers who planned to buy

clothing were in the "lower" clothing dichotomy rather than the "higher" clothing dichotomy. Statistical analyses of this data revealed no significant differences between the number of "higher" and "lower" educational-level homemakers who said that they would buy clothing needs with "a little more money" and with "$2,000" (Table 17).

Housing Needs and Level of Education.—The dichotomized housing data in Table 18 contained 124 families with homemakers on the "higher" educational level, and 169 families with homemakers on the "lower" educational level. Of the 124 families in the "higher" educational level, 79 were classified in the "better" housing, and 45 in the "poorer" housing dichotomies. The 169 "lower" educational-level families had 71 families in the "better" and 98 in the "poorer" housing dichotomies.

The percent of homemakers who said that they would buy housing with the proposed sums of money are listed in Table 26 in the Appendix. The responses of "higher" and "lower" educational-level homemakers in the "better" and "poorer" housing dichotomies were compared. The highest percent of homemakers who said that they would buy housing with "a little more money" were the "higher" educational-level homemakers in both housing dichotomies. The highest percent of homemakers who said that they would buy housing with "$2,000" were the "lower" educational-level homemakers in both housing dichotomies. The total number of "higher" educational-level homemakers exceeded the "lower" educational

TABLE 18

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY HOUSING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE OF THE "HIGHER" OR "LOWER" EDUCATIONAL LEVEL

Dire Need Dichotomies of Housing	Mention of Housing	A Little More Money			$2,000		
		Educational Level			Educational Level		
		Higher	Lower	Total	Higher	Lower	Total
Better housing	Yes	9	2	11	39	36	75
	No	70	69	139	40	35	75
	Total	79	71	150	79	71	150
		Yate's Correction $\chi^2 = 4.0466$			$\chi^2 = .0267$		
Poorer housing	Yes	5	6	11	24	56	11
	No	40	92	132	21	42	132
	Total	45	98	143	45	98	143
		$\chi^2 = 1.0809$			$\chi^2 = .1816$		

level homemakers who said that they would buy housing with both sums of money.

A higher percent of homemakers of both educational levels would buy housing with "$2,000" than expressed that they would buy housing with "a little more money." The highest percent in both educational-level homemakers who would buy housing were in the "poorer" housing rather than in the "better" housing dichotomy.

Education appeared to be a factor which influenced a larger percent of "higher" educational-level homemakers than of "lower" educational-level homemakers to say that they would buy housing with the proposed

sums of money. As can be observed in Table 18, this education factor was not of sufficient influence to be of statistically significant at the .05 level.

Health Deprivation Factor and Perception of Dire Family Needs: Dichotomized Data

Food Needs and Health.—The responses of homemakers whose families were dichotomized into "higher" and "lower" food groups were classified in Table 19 according to the health condition of the homemaker. One hundred and seventy-six homemakers were classified as having "better" health, and 142 as having "poorer" health. Of the 176 homemakers classified in the "better" health category, 115 were in the "higher" and 61 in the "lower" food dichotomies. Of the 142 homemakers in the "poorer" health classification,

TABLE 19

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WITH "BETTER" OR "POORER" HEALTH WHO WOULD OR WOULD NOT BUY FOOD WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Need Dichotomies	Mention of Food	A Little More Money			$2,000		
		Health			Health		
		Better	Poorer	Total	Better	Poorer	Total
Higher food	Yes	71	53	124	24	20	44
	No	44	20	64	91	53	144
	Total	115	73	188	115	73	188
		$\chi^2 = 2.3471$			$\chi^2 = 1.0614$		
Lower food	Yes	44	55	99	20	24	44
	No	17	14	31	41	45	86
	Total	61	69	130	61	69	130
		$\chi^2 = 1.0241$			$\chi^2 = .0576$		

73 were classified into the "higher" and 69 into the "lower" dichotomies of food.

Table 26 in the Appendix contains the percent of responses of homemakers of "better" and "poorer" health who said that they would buy food with "a little more money" and with "$2,000." The percent of homemakers with "poorer" health who said that they would buy food with both sums of money exceeded the homemakers with "better" health in both "higher" and "lower" food dichotomies. A higher percent of homemakers of both health levels would buy food with "a little more money" than would buy food with "$2,000." A larger percent of homemakers of the "lower" food dichotomy would buy food with both sums of money than would those of the "higher" food dichotomy.

This pattern indicates that differences exist between the homemakers at the two health levels in relationship to their perception of food needs. These differences were revealed by the percent of homemakers in each health category who would buy food with the two proposed sums of money. The pattern of differences appears to be a very definite one; however, the Chi-Square values (Table 19) were not significant at the .05 level.

Clothing Needs and Health. —The responses of homemakers as tabulated in Table 20 have been used to classify the families of these homemakers into dichotomies of "higher" and "lower" clothing groups. One hundred and thirty-five of the homemakers were classified as having "better" health, and 105 were classified as having "poorer" health. Of the 135 homemakers

with "better" health, 85 were homemakers of families who had sufficient clothing to place them in the "higher" clothing dichotomy, and 50 of these homemakers had a very limited amount of family clothing and were placed in the "lower" dichotomy of clothing. Thirty-four of the 105 homemakers with "poorer" health were likewise classified into the "higher" and 71 into the "lower" dichotomies of clothing.

TABLE 20

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WITH "BETTER" OR "POORER" HEALTH WHO WOULD OR WOULD NOT BUY CLOTHING WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Need Dichotomies of Clothing	Mention of Clothing	A Little More Money Health Factor			$2,000 Health Factor		
		Better	Poorer	Total	Better	Poorer	Total
Higher clothing	Yes	46	18	64	31	8	39
	No	39	16	55	54	26	80
	Total	85	34	119	85	34	119
		$\chi^2 = .0135$			$\chi^2 = 1.8460$		
Lower clothing	Yes	38	53	91	28	40	68
	No	12	18	30	22	31	53
	Total	50	71	121	50	71	121
		$\chi^2 = .0288$			$\chi^2 = .0014$		

Analysis of Table 26 in the Appendix revealed that a larger percent of homemakers with "better" health than with "poorer" health said that they would buy clothing. This was true when describing how they would spend

both sums of money. A higher percent of homemakers of both health groups would buy clothing with "a little more money" than would buy clothing with the "$2,000" amount of money. The percent of homemakers in the "lower" clothing dichotomy who said that they would buy clothing was greater than the percent of homemakers in the "higher" clothing dichotomy who said that they would buy clothing. This trend for the homemakers with "better" health to differ from the homemakers of "poorer" health in relationship to buying clothing appeared to be influenced by the health of the homemaker; however this was not accepted as a significant factor which influenced the homemaker's perception of clothing needs. An examination of the Chi-Square values in Table 20 revealed that no significant differences existed at the .05 level between the number of homemakers with "better" and "poorer" health who said that they would or would not buy clothing.

Housing Needs and Health. —The responses of homemakers whose families were dichotomized into groups of "better" and "poorer" housing were classified (Table 21.) One hundred and sixty-eight of the homemakers were classified as having "better" health, and 135 were classified as having "poorer" health. Of the 168 homemakers with "better" health, 87 were of families in the "better" housing dichotomy, and 81 families who were classified in the "poorer" housing dichotomy. Of the 135 homemakers with "poorer" health, 66 were of families in the "better" housing dichotomy, and 69 were in the "poorer" dichotomy of housing.

TABLE 21

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WITH "BETTER" OR "POORER" HEALTH WHO WOULD OR WOULD NOT BUY HOUSING WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Need Dichotomies of Housing	Mention of Housing	A Little More Money Health Factor			$2,000 Health Factor		
		Better	Poorer	Total	Better	Poorer	Total
Better housing	Yes	6	5	11	41	35	76
	No	81	61	142	46	31	77
	Total	87	66	153	87	66	153
		$\chi^2 = .0259$			$\chi^2 = .5233$		
Poorer housing	Yes	9	5	14	42	43	85
	No	72	64	136	39	26	65
	Total	81	69	150	81	69	150
		$\chi^2 = .6577$			$\chi^2 = 1.6624$		

Examination of Table 26 in the Appendix revealed that the highest percent of homemakers with "poorer" health said that they would spend the money for housing needs. They exceeded the homemakers with "better" health who said that they would buy these housing needs in every category except one--that of the "poorer" housed homemakers with "better" health when they planned to spend "a little more money."

A higher percent of homemakers of both dichotomies of housing and of both health levels said that they would buy housing with "$2,000" rather than with "a little more money." A larger percent of the homemakers of both health levels who were in the "poorer" housing dichotomy said that

they would buy housing with both sums of money than did homemakers who were classified in the "better" housing dichotomy.

The influence of the health factor as revealed through the percent analysis influenced the homemakers of "better" and "poorer" health to differ in the way in which they perceive family housing needs. This finding was not accepted as a significant factor. The Chi-Square values (Table 21) indicated that the differences were not sufficient to permit the acceptance of health as a factor in creating differences between the groups of homemakers' perception of housing needs.

Income Deprivation Factor and Perception of Dire Family Needs: Dichotomized Data

Food Needs and Income.—Using food dichotomies the 302 homemakers were classified into two income groups. One hundred and five families had "larger" incomes, and 197 had "smaller" incomes (Table 22). Of the 105 families with "larger" incomes, 70 families were in the "higher" and 35 in the "lower" dichotomies of food. Of the 197 families with the "smaller" incomes, 109 were in the "higher" and 88 in the "lower" food dichotomies.

Table 26 in the Appendix contains the percent of "larger" and "smaller" income families who said that they would buy food with "a little more money" and with "$2,000." A comparison of the percent of homemakers in these two income levels who said that they would buy food revealed that a higher percent of homemakers of the "larger" income families who were

in the "higher" dichotomies of food said that they would buy food with both sums of money. A greater percent of homemakers of "smaller" income families who were in the "lower" dichotomies of food said that they would buy food with both sums of money. In the total categories a higher percent of the homemakers of "larger" income families would buy food.

TABLE 22

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY FOOD WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE OF "LARGER" OR "SMALLER" INCOME FAMILIES

Dire Need Dichotomies of Food	Mention of Food	A Little More Money			$2,000		
		Income Factor			Income Factor		
		Larger	Smaller	Total	Larger	Smaller	Total
Higher food	Yes	51	67	118	21	23	44
	No	19	42	61	49	86	135
	Total	70	109	179	70	109	179
		$\chi^2 = 2.4613$			$\chi^2 = 1.8209$		
Lower food	Yes	26	68	94	9	33	42
	No	9	20	29	26	55	81
	Total	35	88	123	35	88	123
		$\chi^2 = .1240$			$\chi^2 = 1.5468$		

A larger percent of homemakers of both income levels would spend "a little more money" for food than would spend "$2,000" for food. The larger percent of both income levels who said that they would buy food were in the "lower" rather than in the "higher" food dichotomy. Chi-Square values

in Table 22 were examined. These values indicated that the number of families with "smaller" and "larger" incomes who said that they would buy food with both sums of money did not differ significantly at the .05 level.

Clothing Needs and Income. —As can be observed by examination of Table 23, 76 families with "larger" incomes and 154 families with "smaller" incomes were classified in the dichotomies of "higher" and "lower" amount of clothing possessed by the family members. Of the 76 "larger" income families, 40 are in the "higher" and 36 are in the "lower" clothing dichotomies. Of the 154 "smaller" income families, 73 are in the "higher" and 81 are in the "lower" clothing dichotomies.

TABLE 23

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY CLOTHING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE OF "LARGER" OR "SMALLER" INCOME FAMILIES

Dire Need Dichotomies of Clothing	Mention of Clothing	A Little More Money			$2,000		
		Income Factor			Income Factor		
		Larger	Smaller	Total	Larger	Smaller	Total
Higher clothing	Yes	18	42	60	12	27	39
	No	22	31	53	28	46	74
	Total	40	73	113	40	73	113
		$\chi^2 = 1.6302$			$\chi^2 = .5580$		
Lower clothing	Yes	30	58	88	24	42	66
	No	6	23	29	12	39	51
	Total	36	81	117	36	81	117
		$\chi^2 = 1.8389$			$\chi^2 = 2.2246$		

The percent of homemakers with "larger" and "smaller" family incomes who said that they would buy clothing with "a little more money" and with "$2,000" are listed in Table 26 in the Appendix. A comparison of the percent of homemakers at these two income levels who said that they would buy clothing with the two sums of money, revealed that the highest percent of homemakers who said that they would buy clothing were the "larger" income families of the "lower" clothing dichotomy and the "smaller" income families of the "higher" clothing dichotomy. A higher percent of homemakers of the "larger" income families than of the "smaller" income families would buy clothing with both sums of money.

A higher percent of homemakers of both income levels would buy clothing with "a little more money" than would buy clothing with "$2,000." The highest percent of homemakers of both income levels who said that they would buy clothing were of the "lower" dichotomy of clothing. Examination of Chi-Square values in Table 23 revealed that there were no significant differences between the number of homemakers of the "larger" and "smaller" income families who said that they would or would not buy clothing with the proposed sums of money.

Housing Needs and Income. —The responses of homemakers whose families were dichotomized into "better" and "poorer" housing groups were classified according to the income level of the family (Table 24). There were 99 homemakers in "higher" income families and 188 homemakers of

"smaller" income families. Of the 99 "larger" income families, 51 families were in the "better" housing dichotomy, and 48 families were in the "poorer" housing dichotomy. Of the 188 "smaller" income families, 95 families were in the "better" and 93 in the poorer" housing dichotomies.

TABLE 24

CHI-SQUARE TABLE OF DICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY HOUSING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" WHEN THEY WERE OF "LARGER" OR "SMALLER" INCOME FAMILIES

Dire Need Dichotomies of Housing	Mention of Housing	A Little More Money			$2,000		
		Income Factor			Income Factor		
		Larger	Smaller	Total	Larger	Smaller	Total
Better housing	Yes	2	8	10	29	45	74
	No	49	87	136	22	50	72
	Total	51	95	146	51	95	146
		$\chi^2 = 1.0530$			$\chi^2 = 1.1968$		
Poorer housing	Yes	5	8	13	25	54	79
	No	43	85	128	23	39	62
	Total	48	93	141	48	93	141
		$\chi^2 = .1245$			$\chi^2 = .4597$		

The percent of "larger" and "smaller" income families who said that they would buy housing with "a little more money" and with "$2,000" is listed in Table 26 in the Appendix. A comparison of the homemakers of the two income levels revealed that the greatest percent of homemakers who said that they would buy housing with "a little more money" were homemakers

of the "larger" income families in the "poorer" housing dichotomy and of the "smaller" income families in the "better" housing dichotomy. The largest percent who said that they would buy housing with "$2,000" was homemakers of the "larger" income families in the "better" housing dichotomy and the "smaller" income families in the "poorer" dichotomy.

A larger percent of both income-level homemakers would buy housing with "$2,000" than would buy housing with "a little more money." A larger percent of the "poorer" than of "better" housed homemakers said that they would buy housing with both sums of money.

Examination of Chi-Square values in Table 24 revealed that the homemakers of the "larger" and "smaller" income families did not differ significantly at the (.05 level of significance) in their responses as to whether or not they would buy housing with the two sums of money.

Undichotomized Data Analysis

Statistical analysis of undichotomized data failed to support the hypothesis that the significance of differences in the dichotomized data had been affected by dichotomizing the dire needs of food, clothing, and housing into "higher" and "lower" groupings. The differences between the "less" deprived and the "more" deprived families were greater in the dichotomized data than they were in the undichotomized data. The results of this analysis indicated that the grouping of families into "higher" and "lower" dichotomies of need was not a factor which reduced the significance of differences between

the groups, even though it greatly reduced the number of observed frequencies from which the Chi-Squares were computed.

The undichotomized data yielded one Chi-Square value of 4.446 which was significant at the .05 level (Table 28 in the Appendix). This significant value further supports the trend revealed by the percent analysis of the dichotomized data (Table 26 in the Appendix). The trend was for a greater percent of homemakers with "poorer" health than homemakers with "better" health to buy food with "a little more money," if such money were unexpectedly received.

The Chi-Square values of the undichotomized data were compared with the dichotomized data results and no significant differences were found. The percent of homemakers on each level of deprivation who said that they would buy food, clothing, and housing with "a little more money" and with "$2,000" was computed and is listed in Table 30 in the Appendix. A comparison of the dichotomized and undichotomized percent tables, Table 26 and Table 30 in the Appendix, very favorably agree. A few minor exceptions were revealed, which were felt to be too insignificant to further emphasize in this study.

Summary of Data Examination

The data were examined by two methods—statistically to determine the significance of differences among the different factors and logically to discover trends and patterns. The statistical analysis was made by applying the Chi-Square statistic to determine whether or not there were significant

differences in the way that the "less" deprived and the "more" deprived homemakers perceived the dire needs of their families.

The undichotomized data contained one significant Chi-Square value which indicated that homemakers with "poorer" health more accurately perceived the dire food needs of their families than did the homemakers in "better" health. This was in direct opposition to the research hypothesis (page 15). Further support for this finding is revealed by comparison of the percent of response in these categories (Table 26, Appendix). The dichotomized data had a Chi-Square value which was significant at the .05 level before the statistical correction was applied which reduced it below the required significance level (Table 18). This Chi-Square value indicated that the homemakers with the "higher" educational level of the "better" housing dichotomy better recognized family housing needs when planning to spend "a little more money" than did the "lower" educational-level homemakers of the same housing dichotomy. This influence is also evident by examining Table 26 of the Appendix. The research hypotheses of this study (pp. 14-15) could not be supported at the .05 level of significance, but there were a number of Chi-Square values which were significant at levels of .10, .20, and .30 (Tables 10-24 in the text and Tables 26-29 in the Appendix). The effects of these differences were further observed when the data were examined by computing the percent of homemakers in each area of deprivation and dichotomy of need who said that they would buy dire needs with proposed sums of money.

Trends which were observed during statistical and logical examination of the data were summarized.

1. The largest percent of homemakers said that they would buy food and clothing with "a little more money" rather than with the "$2,000." They indicated that they would buy housing with "$2,000' rather than with "a little more money." This was true with homemakers in both the "higher" and the "lower" dichotomies of family needs and at both the "higher" and the "lower" levels of deprivations (Table 25).

2. The higher percent of homemakers who said that they would buy dire needs of food, clothing and housing were in the "lower" dichotomy of these dire needs. This was the dichotomy containing the families who had greater dire needs of food, clothing or housing (Table 25).

3. The highest percent of homemakers in each of the five deprivation categories who said that they would buy dire needs of food, clothing and housing with "a little more money" and with "$2,000" were summarized in Table 25.

   a. A larger percent of "less" isolated rather than "more" isolated homemakers would buy food and clothing. A larger percent of "more" isolated rather than "less" isolated homemakers would spend the money for housing needs. The difference between the number of "less" and

TABLE 25

THE DEPRIVATION CATEGORY CONTAINING THE HIGHEST PERCENT OF HOMEMAKERS WHO WOULD BUY DIRE NEEDS: THE "X" IS PLACED IN THE MONEY AND DIRE NEED CATEGORY IN WHICH THIS HIGHEST PERCENT IS LOCATED

Deprivation Factors	Food Dichotomies				Clothing Dichotomies				Housing Dichotomies			
	Little More Money		$2,000		Little More Money		$2,000		Little More Money		$2,000	
	Food		Food		Clothing		Clothing		Housing		Housing	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Less Isolated		X				X						
More Isolated												X
Smaller Number of Children						X						X
Larger Number of Children		X										
Higher Educational Level												X
Lower Educational Level		X				X						
Better Health						X						
Poorer Health		X										X
Larger Income		X				X					X	
Smaller Income												

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"more" isolated homemakers who said that they would buy food is very small because the larger percent of the "less" isolated homemakers would buy food with "a little more money" while the larger percent of the "more" isolated would buy food with "$2,000."

b. A higher percent of mothers with a "smaller" number of children would spend the money for clothing and housing. A higher percent of mothers with the "larger" number of children would buy food with the proposed sums of money.

c. A larger percent of the "higher" educational-level (rather than "lower" educational-level homemakers) would spend the money on housing. A larger percent of the "lower" educational-level homemakers would buy food and clothing with the money.

d. A larger percent of homemakers with "better" health said they would buy clothing with the money given to them. A larger percent of homemakers with "poorer" health said they would spend the money for food and for housing.

e. A higher percent of homemakers of families with "larger" incomes (rather than those with "smaller" incomes) would spend the proposed sums of money for all three of the dire family needs. Thus, even though the influence of

income on perception of family needs did not result in significant Chi-Square values, the homemakers in families that had higher incomes did consistently mention that they would spend money for food, clothing, and housing for their families.

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CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The hypothesis that "less" deprived homemakers perceived family needs which more closely related to the dire needs of the family than did the homemakers who were "more" deprived could not be statistically supported at the .05 level of significance.

Examination of the data in relationship to the five deprivation factors revealed that certain factors appeared to have greater influence on the homemakers' perception of need than did other factors— thus creating patterns or trends.

Influence of Deprivation Factors upon Perception of Needs

1. The income deprivation factor had the greatest influence upon the homemakers' perception of needs. This influence was observed in all three dire family need areas of food, clothing, and housing. A larger percentage of homemakers of "larger" income families rather than those of "smaller" income families would buy food, clothing and housing with the proposed sums of money. This trend tended to support the hypothesis that homemakers of the families with the "larger" incomes perceive family needs which are more closely related to the dire needs of the family than do the homemakers of the families with the "smaller" incomes.

2. The health deprivation factor was the influence of second importance. A larger percentage of homemakers with "poorer" health rather than homemakers with "better" health said that they would buy food and housing, but the larger percentage of homemakers with "better" health would buy clothing. This trend revealed lack of support of the hypothesis that the homemakers who had "better" health perceived family needs which were more closely related to the dire needs of the family than did homemakers who had "poorer" health.

3. Isolation appeared to be an influencing factor in promoting a larger percentage of the "less" isolated rather than the "more" isolated homemakers to perceive family food and clothing needs which were most closely related to the dire needs of the family. This trend contributed support to the research hypothesis of this study; however, non-support was contributed by the fact that a larger percentage of "more" isolated rather than "less" isolated homemakers perceived housing needs which were related to the dire needs of the family.

4. The educational level of the homemakers appeared to have some influence on their perception of need. A higher percentage of the "lower" educational level rather than the "higher" educational level homemakers said they would buy food and clothing, while a higher percentage of the "higher" educational level homemakers said that they would buy housing. The food and clothing trend was not in agreement with the research hypothesis of this study.

5. The number of children factor appeared to lend limited support to the hypothesis, that the mothers with a "smaller" number of children would better perceive family needs than would the mothers with a "larger" number of children.

The data revealed that a higher percentage of mothers with the "smaller" number of children would buy clothing and housing and that a higher percentage of mothers with the "larger" number of children would buy food.

Consistent Perception of Needs

1. The largest percentage of all of the homemakers of the low-income families said that they would buy food and clothing with "a little more money" rather than with "$2,000." They also indicated that they would buy housing with "$2,000" rather than with "a little more money."

2. Comparisons were made of the percentage of homemakers in the "higher" and the "lower" dichotomies of dire need who said that they would spend "a little more money" and also of the percentage who said that they would spend "$2,000" for dire family needs. The higher percentage who said that they would spend the two proposed sums of money for dire needs were of the "lower" dichotomies. They were homemakers of the families with the greater dire needs of food, clothing, and housing.

Interpretation of Findings and Educational Implications

Effects of Deprivation Factors

The "less" deprived and the "more" deprived homemakers did not differ significantly in their perception of the dire needs of food, clothing, and housing.

Interpretation. — All of the families of this study were poor. They were all low-income families with unemployed parents. Approximately 90 percent were on government-donated food or the food stamp program. Their need for food

was so great that only 4 percent of the families measured up to the minimum nutritional requirements of the nationally recognized "Basic Four" food standard. Their clothing and housing needs followed a similar pattern. Even though standards were devised whereby these families were grouped into "higher" and "lower" dichotomies of need, the fact remains that both groups had dire needs for food, clothing, and housing.

The difference between the families in the "higher" and the families in the "lower" dichotomies of dire need was one of a narrow margin of difference. Both dichotomies of families had the same needs, but one group had the need to a greater degree than did the other group. This similarity between families probably partially accounted for the lack of significant differences in the responses of the two groups regarding their perceived needs.

The trends which were revealed by the responses of these two rather similar groups possibly were of greater importance than would be indicated by similar trends in a study where the two groups differed to a greater extent. The trends which were most pronounced were in relationship to the deprivation factors of income and health.

a. When comparing the homemakers of the "higher" and the "lower" dichotomies of income, the trend was for the homemakers of the "larger" income families to better recognize family needs of food, clothing, and housing. This may indicate that these homemakers had learned to better recognize needs and to better manage money in relationship to family needs than had the lower income homemakers.

b. A larger percentage of the homemakers with "poorer" health recognized food and housing needs, while a larger percentage of the homemakers with "better" health recognized clothing needs. The families of the homemakers with "better" health possibly visited and went to town more often than did the families of the homemakers with "poorer" health. This would indicate a greater need for clothing. The homemakers with "poorer" health possibly were less active, and tended to stay at home where they came into daily contact with the family's food and housing problems. This would probably create within the homemaker a desire to alleviate these problems.

Educational Implications. — Trends such as are found in this study yield information which should lead educators to better understand the low-income family. Such trends should be considered when planning educational programs to meet the needs of low-income families. The above data indicated that the homemakers had an interest in improving their family food, clothing, and housing, and were willing to spend money to correct the problems and to relieve the needs. This implies a recognition of need which would possibly motivate the homemakers to an interest in educational guidance for further improvements. Trends such as these may indicate needs and interests which require individual attention for certain individuals, or types of individuals, such as the homemakers with "poor" health, while possibilities for group instruction may be indicated by other trends.

Recognition of Basic Needs

The largest percentage of the families in this study said that if they were to unexpectedly receive the two proposed sums of "a little more money" and "$2,000"

that they would buy food, clothing, and housing.

Interpretation. — The three needs of food, clothing, and housing are recognized as basic needs of individuals.[1] All people have basic physiological needs, such as the desire to satisfy hunger and to seek protection from the elements.[2] Individuals who have unsatisfied basic needs tend to recognize them regardless of the location of their residence, educational level or size of income. Usually these basic needs must be met before the needs which are less essential to survival can be recognized. Needs appear to be arranged in hierarchial order. The person who is hungry, insufficiently clothed, and uncomfortably housed tends to remain interested in these basic needs until they have acquired a level of satisfaction. Interest in the higher level needs is maintained unless loss of income or other disaster returns the individual to the position where he must again strive to obtain basic needs. When this happens interest in the higher needs tends to be lose and is not regained until the basic needs have again been satisfied.[3]

Examination of the data revealed that the families of this study had basic or dire needs of food, clothing, and housing. These were the items mentioned by the homemakers as being most desired. Further examination of the original data revealed that the homemakers tended to think in accordance with a hierarchy of needs. Other needs which they mentioned less frequently and which ranked as less

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[1]Ohlsen, op. cit., pp. 30-33.

[2]Maslow, op. cit., pp. 82-83.

[3]Ibid., pp. 80-92, 107.

essential needs to survival were payment of debts, education, medical expenses and investing or saving money.

Many studies have revealed that the lower income homemakers were least active in community and educational activities and that the middle socio-economic class was most active.[1,2] The middle-class families may be considered to have satisfied their lower level basic needs and to have progressed into the higher level of needs, possibly to the "belongingness" or to the "esteem" level. At this higher level they are interested in securing a place in the group and in gaining a position of leadership, esteem and respect.[3] The low-income family which does not participate in community and group activities possibly has not yet reached the higher level of needs where they would become interested in belonging to groups and gaining prestige. After their dire or basic needs have been satisfied they will possibly be interested in group participation and leadership.

The educator's lack of understanding of the needs hierarchy may be the cause of a part of the difficulty experienced when trying to interest the low-income families in attending and participating in group meetings of an educational nature. The homemakers of this study apparently did not participate in community and group activities. Ninety-six percent of the homemakers did not belong to a community organization of any type. Sixty-three percent did not belong to church and only 18 percent attended church as often as once per week. More than 75 percent

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[1]Warner, op. cit., pp. 143-144.

[2]Richardson, op. cit., p. 26.

[3]Maslow, op. cit., pp. 80-92.

of these homemakers were born in the Eastern Kentucky county where they lived at the time of the survey. More than 20 percent of the remaining 25 percent were born in an adjacent or nearby county. Over 50 percent had not been to a city of 10,000 or more population for a year or longer and 25 percent had never been to a city of that size. This data indicated a lack of interaction with other communities as well as a lack of interaction with the people of their immediate community.

Home Economists have objected to the often expressed concept which identifies home economics as being synonymous with "cooking" and "sewing." They would do well to understand that foods and clothing are basic needs of every family and that the lower the income and the greater the financial insecurity, the more important these basic needs become. This relationship between basic needs and financial insecurity possibly accounts for the fact that the largest percentage of the homemakers of this study indicated a greater interest in food, clothing, and housing than in the other areas of home economics. This may also be an indication of why the largest percentage of low-income homemakers who attend adult meetings at the community level request to study "cooking" and "sewing." The food, clothing, and housing emphasis in home economics appears to be a desirable one when working with low-income families who are surviving at or near the basic needs level.

Educational Implications. — Since the homemakers on the basic level of need recognized their needs and were interested in spending money to alleviate them, they possibly would have been cooperative in regard to educational helps in the same basic areas. This implies that home economics programs which meet

the most important perceived needs of these low-income families would of necessity be in the dire need areas of food, clothing, or housing. It may also be implied that the home economics program which continues to meet the needs of the low-income family must progress to the higher level of needs as the lower level needs are satisfied. The low-income family would thus rece've the motivation and educational guidance necessary for satisfactory attainment at the higher needs level. This home economics program which adjusts to meet family needs adapts its services to the problems created by the loss of family income or other disaster which places the family in a position where it again has to strive to attain lower level needs. At this level, the family would probably loose interest in group participation, prestige and leadership until the basic needs were again alleviated.[1]

Needs Perception of Homemakers with Greater Dire Needs

The homemakers of families in the "higher" and the "lower" dichotomies of need were compared to determine which dichotomy contained the highest percentage of homemakers who would spend "a little more money" for dire needs. This comparison was also made to determine which dichotomy contained the highest percentage of homemakers who would buy dire needs with "$2,000." This comparison revealed that a higher percentage of homemakers in the lower dichotomies would spend "a little more money" for dire needs than would homemakers in the higher dichotomies. This also held true for the "$2,000."

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[1]Ibid., pp. 80-92.

Interpretation. — The consistency with which the "lower" dichotomy homemakers surpassed the "higher" dichotomy homemakers in their response to buying dire needs with both proposed sums of money was very pronounced. By their responses they indicated that they recognized their need to a greater extent than did the homemakers in the "less" dire need dichotomy. Both groups of homemakers indicated that their greatest needs were in the areas of food, clothing, and housing.

Educational Implications. — The homemakers were sufficiently aware of their needs to indicate that they would take action to correct them. Since they indicated that the needs of food, clothing, and housing were their most important needs, the homemakers' most urgent educational objectives possibly would be to improve these areas and alleviate the need. The professional worker who has educational services to offer the low-income family has a responsibility to understand the low-income family's needs and objectives.

The failure of the educator and the low-income family to recognize common goals has been considered a major cause of failure of educational programs.[1] The educator's view of what the low-income family needs may be based on what he thinks the people need and want and these views may differ from those of the low-income family.

The writer's 1964 survey of 48 Eastern Kentucky Home Demonstration Extension Agents revealed that the agents felt that they understood the most important needs of the low-income families. Five of the needs which the agents recognized as being of most importance are ranked in the order of their importance as

[1]Goodenough, op. cit., pp. 59-61.

perceived by the home demonstration agents. They were: (1) management, (2) self-confidence and motivation, (3) food and nutrition education, (4) clothing education, and (5) housing education.[1] The needs of food, clothing, and housing which were recognized by the homemakers as being first in importance were recognized by the extension agents but not as being first in importance. They considered management and self-confidence as being of greater importance to the low-income family than food, clothing, and housing. Both the agents and the homemakers were from Eastern Kentucky counties. The agents worked with low-income families but they did not assign the same values to the needs of low-income families as were assigned to them by the homemakers of these families. This implies that the extension agents and the low-income homemakers had different objectives. This also implies that what people recognize as needs, interests, and objectives depends upon their knowledge and past experiences.[2] People are often unable to recognize needs and to set objectives because they do not know what resources are available to them or what is possible for them to accomplish. The educator has a responsibility to supply such information and guidance to the learner.

The educator's objectives in relationship to low-income family needs will not receive serious attention if he fails to recognize the level of need which is of concern to the family. The educator who understands the low-income family's needs, interests and objectives and cooperates with the family's wants will be more

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[1] Mann, op. cit., pp. 21-23.

[2] Goodenough, op. cit., p. 53.

successful in receiving the cooperation of the family and in giving the educational guidance which the family needs to meet their objectives.[1]

Money Management Ability of Low-Income Families

The largest percentage of the homemakers said that they would buy food and clothing with "a little more money" rather than with the "$2,000." They also indicated that they would buy housing with "$2,000" rather than with "A little more money."

Interpretation. — The trend for the homemakers to spend the proposed money as described above was a very consistent pattern. This indicates that the homemakers were making decisions which were in harmony with desirable home economics practices. They recognized that the greater sum of money adapted itself better to the larger expenditures of housing while the smaller sum of money would possibly be sufficient to buy the immediate needs of food and clothing.

Educational Implications. — The response given by the largest percentage of these homemakers does not support the commonly expressed opinion of the casual observer who says that the low-income family would buy television, a used car or otherwise waste any supplementary money received. Only 40 percent of the families owned cars, while 33 percent owned television; however, 17 percent of these televisions were out of working order. The homemakers did not propose to spend either sum of the proposed money for television, television repair or for the purchase of an automobile. The highest percentage planned to spend the

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[1]Ibid., p. 53.

proposed money for dire family needs. This may indicate that the homemakers would be receptive to educational helps in consumer buying of food, clothing, and housing so that the maximum value could be purchased with the limited amount of money which the low-income family has to spend.

Summary of Interpretations and Implications

1. Effects of Deprivation Factors. — The "less" deprived and "more" deprived homemakers did not significantly differ in their perception of dire family needs. Since all families were low income the difference between the families in the "higher" and "lower" dichotomies of need were small. Definite trends indicated that certain deprivation factors created differences. The strongest trends were:

a. The income factor apparently influenced a larger percentage of homemakers with "larger" incomes than of homemakers with "smaller" incomes to recognize family needs of food, clothing, and housing. This may indicate that the "larger" income families had learned to better recognize family needs and to more wisely manage money than had the "lower" income homemakers.

b. The health factor indicated a trend for a larger percentage of homemakers with "poorer" health to recognize food and housing needs, while a larger percentage of homemakers with "better" health recognized clothing needs. This possibly indicated that the homemakers with "better" health had a greater clothing need due to family activities. The homemakers with "poorer" health may have been less active. They possibly stayed home more than did the families of the

homemakers with "better" health. Daily contact with needs in the areas of food and housing probably increased awareness of the need in these areas.

Trends such as those revealed by this study should help educators to develop a better understanding of the needs and interests of low-income families. The homemakers were interested in improving the families' food, clothing, and housing and expressed a need for spending money to relieve the needs of these areas. This interest indicated a possibility for educational programs in these areas and implies that the homemakers would possibly be interested in participating in such programs. Trends such as these may be of value to the educator in determining both common and individual needs. They may also indicate needs for individual instruction or reveal possibilities for group instruction.

2. Recognition of Basic Needs. — Food, clothing, and housing were recognized as dire needs by the largest percentage of the homemakers. These basic needs must be gratified before the homemakers become interested in the higher level needs of safety, belongingness, esteem, and self-actualization. This hierarchy of needs permits individuals to move from lower level to higher level needs. Individuals who have arrived at the higher level needs of belongingness or esteem tend to be interested in belonging to groups, gaining prestige, and holding positions of leadership and respect. This interest continues until that level of need has been satisfied or until loss of income or other disaster again creates problems at the lower basic needs level.

The homemakers of this study tended to think in accordance to a hierarchy of needs. The basic needs of food, clothing, and housing were the needs of greatest

concern followed by the less basic needs of: payment of debts, education, medical expenses and investing or saving money.

The lack of group participation by these homemakers agreed with the findings of other studies. Ninety-six percent of the homemakers did not belong to a community organization of any type. The largest percentage neither belonged to nor regularly attended church. The largest percentage of the homemakers were residing in the counties where they were born, and one-fourth of them had never been to a city as large as 10,000 population. This implied that the largest percentage of these low-income homemakers did not participate in group activities either inside or outside of their communities. Many of these homemakers were possibly uninterested in group participation because their lower level needs had not been satisfied or alleviated.

This data implies that Home Economics programs which meet the most important perceived needs of low-income families would of necessity be in the dire need areas and that group participation and leadership interests tend to develop after basic needs are satisfied. It may also be implied that the home economics programs which continue to meet the needs of low-income families must continuously adjust as the families move from one level of need to another level of need.

3. Needs Perception of Homemakers with "Greater" Dire Needs. — A larger percentage of the families who were in "greater" dire need recognized their needs than did the families who were in "less" dire need. The most urgent educational objective of these homemakers possibly would be to improve the areas where the needs exist, and alleviate those needs. This implies that the educator

has a responsibility to understand the objectives of the low-income family and to adjust his own objectives to those of the family. This implies that successful educational efforts depend upon the educator's understanding of the low-income family's perceived needs, interests, and objectives and his cooperation with the family's wants.

A study of Eastern Kentucky Home Demonstration Extension Agents indicated that the values of the extension agents differed from those of the low-income homemakers of this study. Such differences indicate different objectives. It may be implied that differences in objectives existed because the perception of needs, interests, and objectives was based upon knowledge and past experiences. Further implication is that the educator has a responsibility to supply the learner with information and guidance which enables him to recognize his needs, to set objectives and to solve his problems.

4. Money Management Ability of Low-Income Families. --The largest percentage of the homemakers consistently said that they would buy food, clothing, and housing with "a little more money" and that they would buy housing with "$2,000," if such sums of money were to be unexpectedly received. This indicates that the low-income homemakers were capable of making decisions which were in agreement with desirable home economics practices. This fails to support the commonly expressed opinion of the casual observer who says that low-income families would unwisely spend or waste any supplementary money which they might receive. Even though the largest percentage of these families did not have an automobile or television, they did not plan to spend the proposed sums of money for these items.

They planned to buy items which were dire needs of their families. This may be an indication that the homemakers would be receptive to educational helps in consumer buying of food, clothing, and housing.

Recommendations for Further Research

Further research in this area which would help educators to better understand the low-income family's perception of needs is recommended as follows:

1. A study to parallel this study would be desirable for the purpose of verifying findings and conclusions. The recommended study would determine the low-income family's perception of needs in relationship to their dire needs. The study would also determine any existing relationships between certain deprivation factors and the low-income family's perception of needs. This study made by the writer did not require the families surveyed to indicate which of their felt needs were most important. The writer believes that this would have been very helpful data and recommends that a second survey request the low-income families to state their needs and to rank them in accordance with their importance, ranging from needs of most to needs of least importance.

2. A second study is also proposed which would be comparable to the low-income family study discussed above. The study would involve the middle income or middle social class families. A comparison of the results of the low- and middle-income studies is recommended for the purpose of observing significant differences, similarities, and trends which would indicate how the low- and middle-class families differed and how they were alike. They should be compared

in relationship to:

a. Their perception of needs as related to actual or dire family needs;

b. The effect which certain deprivation factors have upon the family's perception of needs; and

c. The effects of the need level upon the homemaker's interest in group participation, prestige, and leadership.within the group. (This study would indicate whether or not the hierarchy of needs concept, as expressed by Maslow,[1] was evident in the needs expressed and in the participation patterns of the homemakers of the low- and middle-income families.)

3. A study would be helpful which would enable educators to better understand the specific needs as perceived by low- and middle-income families. This would be an identification of the specific needs of such broad areas as food, clothing, and housing which were perceived by the families involved in the low- and middle-income studies.

4. A study of the management practices and management problems of the low- and middle-income families would be of value. A comparison of the management problems which each income group felt to be of greatest importance would assist the educator when planning programs to meet the management needs of these families.

5. Identification of values which are of major importance to the low-income family, including their educational values, would be welcomed by professional

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[1] Maslow, op. cit., pp. 80-92.

people who work with low-income families. This study may determine values which tend to be common values of families who live within a certain area. The Eastern Kentucky counties, which are a part of the Southern Appalachian Area and also compose the Eastern Kentucky Resource Development Area of Kentucky possibly would be an appropriate area for such a study.

6. Identification of factors and influences which prevent low-income families from participating in community organizations, activities, and educational programs would be a valuable study to both lay and professional leaders.

7. Development of recommended motivational principles and guidelines which could be used by professional and lay leaders for developing the low-income family's awareness of need, building their self-confidence, and creating in them a desire to help themselves would be a very worthwhile study.

APPENDIX

APPENDIX TABLE 26

PERCENTAGE OF HOMEMAKERS IN "HIGHER" AND "LOWER" DICHOTOMIES OF DIRE NEEDS AND DEPRIVATION WHO SAID THAT THEY WOULD BUY DIRE NEEDS OF FOOD, CLOTHING, AND HOUSING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" (DICHOTOMIZED DATA)

Deprivation Factor Dichotomies	Food Dichotomies				Clothing Dichotomies				Housing Dichotomies			
	Little More Money		$2,000		Little More Money		$2,000		Little More Money		$2,000	
	Food		Food		Clothing		Clothing		Housing		Housing	
	Higher	Lower	Higher	Lower	Higher	Lower	Higher	Lower	Better	Poorer	Better	Poorer
Less Isolated	66.66	80.76	21.73	26.92	58.13	75.86	25.59	65.51	6.66	8.33	50.00	55.55
More Isolated	58.82	77.94	25.49	33.33	36.36	81.81	27.27	47 72	8.10	11.42	45.94	61.42
Smaller Number of Children	62.82	73.13	16.66	34.32	55.73	78.27	34.42	52.17	8.00	12.50	49.52	56.25
Larger Number of Children	68.22	78.46	27.10	32.30	53.45	73.98	29.32	58.90	6.00	7.82	50.00	56.52
Higher Educational Level	67.46	72.00	20.48	32.00	47.27	74.41	32.72	58.13	11.39	11.11	49.36	53.33
Lower Educational Level	65.30	77.92	23.46	33.76	62.29	73.61	34.42	54.16	2.81	6.12	50.70	57.15
Better Health	61.73	72.13	20.86	32.78	54.11	76.00	36.47	56.00	7.00	11.11	47.12	51.85
Poorer Health	72.60	79.71	27.39	34.78	52.94	74.64	23.52	56.33	7.57	7.24	53.03	62.31
Larger Income	72.85	74.28	30.00	25.71	45.00	83.33	30.00	66.66	3.92	10.63	56.86	52.08
Smaller Income	61.46	77.27	21.10	37.50	57.53	71.60	36.98	51.85	8.42	8.60	47.37	58.06

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APPENDIX TABLE 27

CHI-SQUARE TABLE OF UNDICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WOULD NOT BUY DIRE NEEDS WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Needs		A Little More Money: Isolation Factor			$2,000: Isolation Factor			A Little More Money: Number of Children			$2,000: Number of Children		
		Less	More	Total	Less	More	Total	Smaller Number	Larger Number	Total	Smaller Number	Larger Number	Total
Food	Yes	70	75	145	23	32	55	99	126	225	36	51	87
	No	28	34	62	75	77	152	48	48	96	111	123	234
	Total	98	109	207	98	109	207	147	174	321	147	174	321
			χ^2 = .1808			χ^2 = .8939			χ^2 = .9578			χ^2 = .9146	
Clothing	Yes	65	71	136	41	42	83	102	114	216	60	75	135
	No	33	38	71	57	67	124	45	60	105	87	99	186
	Total	98	109	207	98	109	207	147	174	321	147	147	321
			χ^2 = .0304			χ^2 = .2232			χ^2 = .5476			χ^2 = .1667	
Housing	Yes	8	12	20	51	61	112	14	14	28	76	93	169
	No	90	97	187	47	48	95	133	160	293	71	81	152
	Total	98	109	207	98	109	207	147	174	321	147	174	321
			χ^2 = .5677			χ^2 = .3111			χ^2 = .2188			χ^2 = .1094	

APPENDIX TABLE 28

CHI-SQUARE TABLE OF UNDICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WHO WOULD NOT BUY DIRE NEEDS WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Needs		A Little More Money: Educational Level			$2,000: Educational Level			A Little More Money: Health Factor			$2,000: Health Factor		
		Higher	Lower	Total	Higher	Lower	Total	Better	Poorer	Total	Better	Poorer	Total
Food	Yes	125	94	219	49	34	83	117	109	226	45	44	89
	No	51	42	93	127	102	229	62	34	96	134	99	233
	Total	176	136	312	176	136	312	179	143	322	179	143	322
			χ^2 = .1400			χ^2 = .3229			χ^2 = 4.4446			χ^2 = 1.2755	
Clothing	Yes	122	87	209	71	61	132	117	98	215	72	65	137
	No	54	49	103	105	75	180	62	45	107	107	78	185
	Total	176	136	312	176	136	312	179	143	322	179	143	322
			χ^2 = .9906			χ^2 = .6540			χ^2 = .3542			χ^2 = 1.0282	
Housing	Yes	11	15	26	96	68	164	18	11	29	90	80	170
	No	165	121	286	80	68	148	161	132	293	89	63	152
	Total	176	136	312	176	136	312	179	143	322	179	143	322
			χ^2 = 2.3389			χ^2 = .6533			χ^2 = .4204			χ^2 = 1.059	

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APPENDIX TABLE 29

CHI-SQUARE TABLE OF UNDICHOTOMIZED DATA CONTAINING RESPONSES OF HOMEMAKERS WHO WOULD OR WHO WOULD NOT BUY DIRE NEEDS WITH "A LITTLE MORE MONEY" AND WITH "$2,000"

Dire Needs		A Little More Money			$2,000		
		Income Factor			Income Factor		
		Larger	Smaller	Total	Larger	Smaller	Total
Food	Yes	78	137	215	31	56	87
	No	28	63	91	75	144	219
	Total	106	200	306	106	200	306
			χ^2 = .8461			χ^2 = .5730	
Clothing	Yes	72	133	205	52	82	134
	No	34	67	101	54	118	172
	Total	106	200	306	106	200	306
			χ^2 = .0650			χ^2 = 1.8388	
Housing	Yes	9	18	27	58	104	162
	No	97	182	279	48	96	144
	Total	106	200	306	106	200	306
			χ^2 = .2863			χ^2 = .2316	

APPENDIX TABLE 30

PERCENTAGE OF HOMEMAKERS ON EACH LEVEL OF DEPRIVATION WHO SAID THAT THEY WOULD BUY DIRE NEEDS OF FOOD, CLOTHING, AND HOUSING WITH "A LITTLE MORE MONEY" AND WITH "$2,000" (UNDICHOTOMIZED DATA)

Deprivation Factors	Dire Need—Food		Dire Need—Clothing		Dire Need—Housing	
	Little More Money	$2,000	Little More Money	$2,000	Little More Money	$2,000
Less Isolated	71.43	23.47	66.33	41.84	8.16	52.04
More Isolated	68.81	29.36	65.14	38.53	11.00	55.96
Smaller Number of Children	67.35	24.49	69.39	40.82	9.52	51.70
Larger Number of Children	72.41	29.31	65.52	43.10	8.05	53.45
Higher Educational Level	71.00	27 84	69.32	40.34	6.25	54.55
Lower Educational Level	69.12	25.00	63.97	44.85	11.03	50.00
Better Health	65.30	25.14	65.36	40.22	10.06	50.28
Poorer Health	76.20	30.77	68 53	45.45	7.69	55.94
Larger Income	73.58	29.25	67.92	49.05	8.49	54.72
Smaller Income	68.50	28.00	66.50	41.00	9.00	52.00

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VITA

The writer was born at Yocum, Kentucky, in Morgan County on February 28, 1922, as Opal Clarice Hurley.

She received her elementary and secondary education in the schools of Morgan County, Kentucky, graduating from Morgan County High School in the spring of 1941. She entered the University of Kentucky in the fall of 1941 and completed the requirements for the Bachelor of Science degree in Vocational Home Economics during the summer of 1944.

The writer taught vocational home economics in the Joppa High School of Joppa, Illinois, during the 1944-45 school year. In July 1945, she accepted a position with the University of Kentucky Agriculture Extension Service as County Home Demonstration Agent. Assistantship training was received in Breathitt County, Kentucky, before going to Pike County, Kentucky, as County Home Demonstration Agent where she served until 1947.

The writer was married to Arnold C. Mann in 1945. She interrupted her professional career from 1947-1951 to become full-time homemaker and mother. She is the mother of two children, a daughter, Patricia Kay, and a son, Vernon Gene, who were born in 1947 and 1948.

In the fall of 1951 the writer accepted a position as vocational home economics teacher of Virgie High School, Pike County, Kentucky, where she taught until 1955, at which time she re-entered the University of Kentucky Extension

Service as Home Demonstration Extension Agent of Pike County, Kentucky. She served in this position until the fall of 1961 when she accepted the position of District Leader of Home Demonstration Extension Agents, and moved to Lexington, Kentucky.

Graduate study started with a graduate course in supervision at the University of Wisconsin in the summer of 1962, and another graduate course in evaluation taught at the University of Kentucky in the summer of 1963. The writer took nine months sabbatical leave in September of 1964 and enrolled in the graduate school of the University of Kentucky as a full-time graduate student in Home Economics Education from which she is to receive a Masters of Science Degree in Home Economics Education in the spring of 1965.

As of June 1, 1965, the writer is scheduled to return to her position with the University of Kentucky Agricultural Extension Service as District Leader of Home Demonstration Extension Agents.

Opal H. Mann
Opal Hurley Mann

April 21, 1965
(Date)

VT 012 436
Outline of Vocational Education in Hawaii.

Hawaii State Advisory Council on Vocational and Technical Education, Honolulu.
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IDENTIFIERS - HAWAII

ABSTRACT - This brochure describes Hawaii's vocational education program, including community colleges, as well as the three preparatory and skill development programs available at the secondary level. Enrollment figures are provided by study area for all the programs. (BH)

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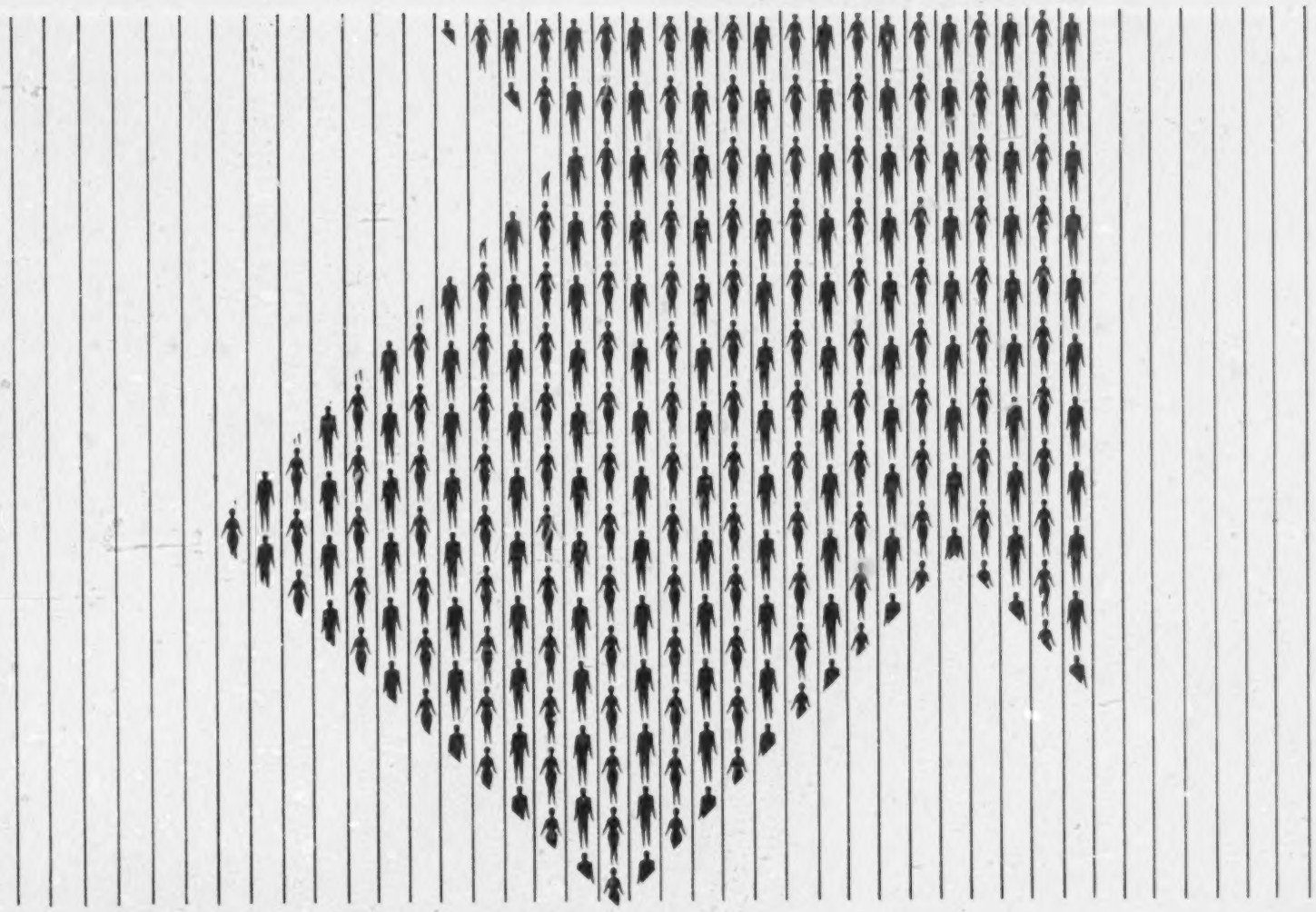
Outline of Vocational Education In Hawaii



STATE ADVISORY COUNCIL
ON
VOCATIONAL & TECHNICAL EDUCATION

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OUTLINE OF VOCATIONAL EDUCATION IN HAWAII

Sources are from the State Department of Education and the Community Colleges' Administration as indicated on each page.

Compiled by the State Advisory Council, April, 1970.

STATE ADVISORY COUNCIL ON VOCATIONAL AND TECHNICAL EDUCATION

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May, 1970

This brochure is being sent to you to encourage your participation in the vocational education efforts in Hawaii.

We hope to receive the benefit of your recommendations regarding present and planned State efforts in this vital area; vital to our youth, our adults and our economy.

The current total enrollment in our public high schools is 46,322. 9616 of this total are enrolled in vocational education. Of the 8713 day students in the community colleges, 4200 are enrolled in vocational education.

This Council, provided by federal law and named by the Governor, provides the people of Hawaii with an opportunity to express their views on vocational education.

A public meeting of the Council will be held in the near future, time and place to be determined by your response to permit the presentation of your views concerning vocational education.

It would be helpful if prior to this meeting you would provide us with your comments.

George F. Escher

George F. Escher
Chairman

GFE:gw
5/70

2327 Dole Street • Honolulu, Hawaii 96822 • 941-0966

An Overview of the Restructured Vocational-Technical Education Program for Secondary Schools

The Department of Education has three newly structured programs to offer in Vocational-Technical Education in order to fulfill the needs, wishes, and potentialities of differing individuals in their preparation for the opportunities that exist today and will exist tomorrow in the working world.

Basically all three programs were designed to increase the options available to individuals—to take employment at entry level jobs, to move toward occupational specialization at community colleges and technical schools, or to continue on into preparation for professions.

It must be noted here that Vocational-Technical Education is separated from Practical Arts Education. The Practical Arts Program is concerned with helping the individual to respond sensitively to the technological developments and to cope effectively with the consequences in his personal life. The Vocational-Technical Education program, on the other hand, is aimed at motivating and enabling the individual to proceed purposefully in his occupational pursuit.

The total program was developed in accordance with the Master Plan for Vocational Education which established the following guidelines:

1. Focus on occupational needs of individuals rather than the categories of occupations; congruence between the two is clearly recognized.
2. Serve persons in all categories of occupational life.
3. Give high priority to those with special needs.
4. Plan and structure to enable individuals to fulfill personal and social goals at the same time that career goals are being achieved.
5. Treat as total education of the individual rather than training in technical skills.
6. Increase amount of technical content in preparing workers for technical occupations.
7. Include guidance and counseling.
8. Plan as open-ended and as continuous education; develop readiness and capacity for lifetime learning and re-learning of occupational knowledge.
9. Organize for maximum articulation from the secondary level to the community colleges and to four year institutions.
10. Increase the options available to individuals.
11. Provide basic skills and concepts which apply universally to clusters of occupations.
12. Improve image and prestige through counseling, research and other techniques.

Each of the three programs are appropriately titled and has its own specific emphasis although the common elements among them are the actual occupational experiences included and a balance of academic subjects to go along with these experiences.

Namely, the three programs and a brief description of each are:

I. Preparatory – Vocational and Technical Education (Table I)

A. The *Pre-Industrial Preparation Program* which zeros in on the improvement of basic verbal, mathematical and scientific skills through correlating them with concrete occupational experiences. This program is primarily for the underachieving disadvantaged student to help him see the importance and usefulness of academic skills for performing a job task.

B. The *Introduction to Vocations Program* is guidance oriented and includes knowledge about the possible career opportunities as well as experiences in the various clusters of occupations. This program appeals to students with varying abilities, interests and aptitudes as opposed to any one level of ability. In other words, a student with scientific aptitudes may pursue his interests in a highly technical field of work while another who likes to work with people may explore the opportunities in the social services.

II. Occupational Skills (Table II)

The *Occupational Skills Program* is for job skill development and will be confined to the mentally retarded educables enrolled in the high schools during the first few years. The special education teacher and the occupationally competent instructor will work together to help these students become employable.

The occupational experiences for the above programs are available to an individual in eight large clusters of occupations. They are: (1) Business Occupations; (2) Personal/Public Services Occupations; (3) Health Occupations; (4) Food Service Occupations; (5) Electrical/Electronics Occupations; (6) Construction/Civil Technology Occupations; (7) Mechanical Occupations; and (8) Technical Graphics Occupations.

April 18, 1970
Director of Vocational-
Technical Education
Department of Education

Table I. PREPARATORY VOCATIONAL-TECHNICAL PROGRAM

	Office	*Business* General Distrib.	Agric. Tech.	*Public Serv.* Ornamental Horticulture	*Construct.* Building Construct.	*Mechanical* Automotive Metals	*Tech. Graphic* Graphic Arts	*Food Serv.*	TOTALS
Honolulu District High Sch.	1766	81		100	24	104	65		2140
Central District High Sch.	1230	13	176	222					1641
Leeward District High Sch.	612	51	256	107		64		75	1165
Windward District High Sch.	895	91	200	213					1399
Hawaii District High Sch.	619	36	483	66	32	37	39		1312
Maui District High Sch.	616		245	174					1035
Kauai District High Sch.	299		303	76					678
TOTALS	6037	272	1663	958	56	205	39	65	75	9370

Table II. OCCUPATIONAL SKILLS PROGRAM

	Bus. Distributive Related Sales Services	Supervised Food Services	Building Constr. Trade Helpers	TOTALS
Honolulu District High Sch.	52	32	42	126
Central District High Sch.	52		68	120
TOTALS	104	32	110	246

February, 1970

Prepared by the DOE

Occupational Education In the Community Colleges

The possession of a high school diploma was at one time the key to a successful occupational future. Today, because of the change in the nature of work and in the requirements for entry into the work force and the rapidity with which changes have taken place, it cannot be denied that post-secondary institutions will play an ever-increasing role in vocational-technical education.

In 1968, Hawaii Technical School and the five community colleges enrolled over 3,765 students in 41 day occupational programs; the part-time evening enrollment, which includes apprentices, almost equals the number of day students. The role of Hawaii Technical School and the community colleges is, therefore, not merely to serve the post-secondary student but to meet the needs of the adult, apprentice, and students with special needs (physical, socio-economically, and culturally handicapped, as well as low ability students) whose handicaps prevent them from succeeding in the regular occupational programs.

The majority of the programs lead to both the certificate and Associate in Science degree. The certificate programs require 30-40 units, while the Associate in Science curricula require 60-64 units.

Perhaps the three words which best describe the direction taken for vocational and technical education in the post-secondary institutions are diversity, flexibility, and instructional innovation. Some of the activities planned for the Fall of 1970 are:

1. Establishing learning centers which will enable students to review lessons via video tapes, film loops, film strips, programmed material, or detailed instruction sheets. In addition to serving as an aid to a course, programmed material may also be used to provide remedial instruction, drill and reinforcement, prepare for an advanced course or examination, satisfy personal interest, and fulfill apprenticeship requirements on the neighbor islands through modified correspondence courses.

2. Developing occupational programs which will enable students to enroll any time during the school year without the hindrance of quarters or semesters. Students in these programs will progress at their own rate and will know what is expected of them in terms of the competency level they must meet and the knowledge they must acquire.

3. Developing guidelines for the implementation of early admission programs for those high school youngsters who have special interests or abilities in vocational education.

4. Experimenting with one-year certificate programs in the occupational areas and providing options to the students upon completion to either enter the world of work or continue working for the Associate degree.

5. Designing a core curriculum in the allied health occupations.

The public post-secondary institutions expect to expend over 2.4 million dollars of state and federal funds each year to provide occupational education in the State of Hawaii.

Table III
DISTRIBUTION OF DAY STUDENTS 1967-1969

General Program	Fall 1967		Fall 1968		Fall 1969*		% '69
General & Pre-Professional Sub Totals		151		1729		3172	36
Business Education		1538		1542		1937	22
Accounting & Related	575		328		355		
Data Processing	74		228		251		
Sales & Management	48		109		243		
Secretarial & Related	841		877		996		
Clerk Typist					58		
Front Office (Hotel L.)					34		
Health Services		105		102		159	2
Hotel & Food Services		127		144		202	2
Public Services		344		233		403	5
Technology		1064		1079		1468	17
Industrial Education		0		0		7	0
General Education		0		126		0	0
Unclassified		193		445		1253	15
Missing Data		84		58		69	1
Auditors		0		0		13	0
Special		0		36		30	0
Sub Totals		3455		3765		5541	64
TOTALS		3606		5494		8713	100

**Includes Hawaii C.C.*

Community College Testimony
Senate Committee Hearing
April, 1970

Table IV COMMUNITY COLLEGES 1970 DAY STUDENTS

	HAWAII		HONOLULU		KAPIOLANI		KAUAI		LEEWARD		MAUI		TOTAL	
	FT*	PT**	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT
Business														
Accounting	56	19			106	14	31	1	42	22	67		302	56
Business Data Processing					133	20							133	20
Clerical (Bookkeeping Major)					63	21							63	21
Clerical (General Clerical Major)					152	115	29	1	8	5	75		264	121
Clerical (Stenography Major)					43	27							43	27
Clerk-Typist	50	8											50	8
Computer Science (Data Processing)									51	36			51	36
Front Office – Hotel	28	6											28	6
General Business							28	2					28	2
Secretarial Science	41	4			154	34	11	2	98	24	57	1	361	65
Construction/Civil Engineering														
Carpentry	22		28	3			24	7			26		100	10
Drafting (Architectural) Building Trades	17		91	10			25	1			40	2	173	13
Engineering Technology			29	2									29	2
Sheet Metal			31	7							7		38	7
Welding			28	11			17	1					45	12
Welding and Sheet Metal	23												23	
Distributive														
Applied Arts			15	6									15	6
Management									33	28			33	28
Mid-Management (Hotel Operation Major)					45	4					35		80	4
Mid-Management (Merchandising Major)					64	12							64	12
Sales/Marketing	17				3	8							20	8
Electrical/Electronics														
Electricity	21												21	
Electronics	21		144	11									165	11
Industrial Electricity			64	16									64	16
Food Services														
Commercial Baking			9	13									9	13
Dining Room Service (Waiter-Waitress)														
Food Services (Culinary Arts Major)					45	14							45	14
Food Services (Dining Room Major)					7	3							7	3
Food Service Management			5	4	36	13							41	17
Restaurants and Hotel Trades	45												45	

**FT: Full Time*
***PT: Part Time*

	HAWAII		HONOLULU		KAPIOLANI		KAUAI		LEEWARD		MAUI		TOTAL	
	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT
Health														
Dental Assisting					12	3							12	3
Medical Assisting					10	4							10	4
Nurses Aide Training						32								32
Practical Nursing	22				69								91	
Technical Nursing											18		18	
Industrial Technology														
Machine, Sheet Metal, Welding, Auto											17		17	
Industrial Education			4	3									4	3
Mechanical														
Aeronautics			114	13									114	13
Auto Body and Painting	21		17	30			6	1			12	1	56	32
Automotive Technology (Mechanic)	26		107	25			23	4			31	3	187	32
Diesel Mechanic	35												35	
Machine Shop (Metal Working Technology)	21		20	19							14		55	19
Refrigeration/Air Conditioning			42	1									42	1
Personal Services														
Commercial Sewing (Fashion Arts, Apparel Design & Construction)	13		30	10							19		62	10
Cosmetology			42	1									42	1
Public Services														
Fire Science			89	25									89	25
Library Technology									12	12			12	12
Police Science			153	109									153	109
Teacher Preparation (Micronesian)					36	1							36	1
Vocational Education											Sub Total		3365	835
Liberal Arts Pre-Professional (Gen. Ed.)			167		198		69		2222		344		3000	
Liberal Arts General			168				4						172	
Unclassified			1										1	
Special				3			29				1		30	3
Undecided			58										58	
Other					302		103		607		158		1170	
No Data			9		27		7		21		5		69	
TOTALS	479	37	1465	322	1505	325	406	20	3094	127	926	7	7875	838

April, 1970

Table V
OCCUPATIONAL EVENING PROGRAM OFFERINGS

	HAWAII	HONOLULU	KAPIOLANI	KAUAI	LEEWARD	MAUI	TOTAL
Business:							
Accounting	19		94	12		23	148
Business Data Processing			107	12			119
Clerical			96				96
Machine Shorthand I & II	12						12
Secretarial Science			40			12	52
Construction/Civil Engineering:							
Bricklaying Masonry		62					62
Carpentry	70	609				53	732
Cement Finishing		42					42
Drywall Application		84					84
Floor Laying		63					63
Glaziery	24	71					95
Iron Working		144					144
Latheing		37				12	49
Operating Engineers		83					83
Painting		74				19	93
Plumbing		210					210
Reinforcing Steel		211					211
Sheet Metal		170					170
Skip Filting		36					36
Tapers		25				12	37
Welding		40					40
Distributive:							
Gift Wrapping	59						59
Mid-Management	86		14				100
Electrical/Electronics:							
Electricity	17	35				21	73
Electronics	22	207					229
Industrial Electricity	19	140					159
Food Services:							
Bartender Training	12						12
Cocktail Waitress	13						13
Cooks Apprentice			14				14
Food and Beverage Cost Control	12						12
Food Service (Culinary Arts Major)			25				25
Food Service (Dining Room Major)			19				19
Meat Cutters	2						2
Industrial Technology:							
Sheet Metal, Carpentry, and Refrigeration	11						11

Mechanical:							
Automotive Technology (Mechanic)		13					13
Machine Shop (Metalworking Technology)		15					15
Refrigeration/Air Conditioning		104					104
Truckers		13					13
Personal Services:							
Commercial Sewing						25	25
Public Services:							
Police Science				44		29	73
Health-Dental Assistant			14				14
TOTAL	319	2488	423	68	0	206	3504

Community Colleges
May, 1970

Table VI
COMMUNITY COLLEGE PART TIME (Evening)
Enrollment Fall Semester 1969

PART TIME

	INSTRUCTORS FROM					STUDENTS			
	Secondary Voc. Ed. Teach.	Post Second. Voc. Ed. Teach.	Business Industry, etc.	TOTAL	Occupational	Liberal Arts	Male	Female	TOTAL
Hawaii C.C. Occupational	1	5	11	17	319	0	202	117	319
Honolulu C.C. Occupational	11	17	75	103	2488	0	2486	2	2488
Kapiolani C.C. Occupational	2	13	7	22	423		160	263	423
Liberal Arts						115	57	58	115
Kauai C.C. Occupational	0	0	4	4	68	0	57	11	68
Maui C.C. Occupational	0	4	7	11	206		149	57	206
Liberal Arts	1	6	0	7		165	81	84	165
Occupational Totals					3504		3054	450	3504
Liberal Arts Totals						280	138	142	280
TOTAL	15	45	100	164	3504	280	3192	592	3784

Community Colleges
May, 1970

VT 012 453
Zane, Lawrence F.H.
Vocational Education at the East-West Center.

American Vocational Association, Washington, D.C.
MF AVAILABLE IN VT-ERIC SET.
PUB DATE - 70 25p.; Speech Presented to the American Vocational Association, National Association of Industrial and Technical Teacher Educators (New Orleans, La., Dec. 5, 1970).

DESCRIPTORS - *SPEECHES; *VOCATIONAL EDUCATION; *INSTITUTES (TRAINING PROGRAMS); EDUCATIONAL OBJECTIVES; *ORGANIZATION; *INSTITUTIONAL ADMINISTRATION; ADMISSION CRITERIA; EDUCATIONAL FINANCE; ACADEMIC STANDARDS; PROGRAM DESCRIPTIONS

ABSTRACT - The East-West Center was established in Hawaii by the U.S. Congress in 1960, and its mandated goal is "to promote better relations and understanding between the United States and the nations of Asia and the Pacific through cooperative study, training, and research." To implement this and other goals, five institutes have been established, including the Communications Institute, Culture Learning and Language Institute, Food Institute, Population Institute, and Technology and Development Institute. The Technology and Development Institute (TDI) conducts most of the activities relating to vocational education, focusing particularly on the problems of introducing new scientific and social technologies in developing countries of the Asian and Pacific region. TDI programs are divided into the major areas of Science and Technology and Development Planning and Administration, which offer training projects to research-oriented senior specialists, degree (master's and Ph.D.) and non-degree students and training participants. Training projects, admission requirements, and other aspects of the Center are described. (SB)

VT 012 453

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VOCATIONAL EDUCATION AT THE EAST-WEST CENTER

PRESENTED TO THE AMERICAN VOCATIONAL ASSOCIATION, NATIONAL ASSOCIATION OF INDUSTRIAL AND TECHNICAL TEACHER EDUCATORS, GENERAL SESSION, SATURDAY, DECEMBER 5, 1970, NEW ORLEANS, LOUISIANA.

LAWRENCE F. H. ZANE
UNIVERSITY OF HAWAII

VT012453

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

MR. CHAIRMAN, FRIENDS, AND COLLEAGUES, I AM PLEASED TO BE HERE TODAY AND TO SHARE ONE OF THE MOST THRILLING AND EXCITING ACTIVITIES PRESENTLY OPERATING IN THE FIFTIETH STATE. I BRING YOU "ALOHA" FROM MANY AVA MEMBERS AND FRIENDS IN HAWAII. IF I SOUND LIKE A PREACHER GIVING A SERMON, IT'S BECAUSE OF THE INTEREST THAT I HAVE IN THIS AREA. SPEAKING OF SERMONS. . .

THERE IS THE STORY OF A YOUNG PREACHER WHO WAS AT HIS FIRST PULPIT AFTER SEMINARY. HE MUST HAVE THOUGHT THE CONGREGATION WAS STARVING FOR A GOOD SERMON SINCE HE SPOKE FOR A FULL HOUR TELLING THEM THAT FIRST SUNDAY MORNING ABOUT THINGS HE'D LEARNED IN SEMINARY. AS HE CLOSED THIS SERMON, HE LOOKED DOWN AND SAW A YOUNG MAN IN THE FRONT PEW FALLING ASLEEP. IN DESPERATION HE SAID, "ALL THOSE WHO WANT TO GO TO HEAVEN, STAND UP". EVERYBODY STOOD UP EXCEPT THE YOUNG MAN. THEN HE SAID, "SIT DOWN", AND THEN ASKED, "ALL THOSE WHO WANT TO GO TO HELL, STAND UP". BY THIS TIME THE YOUNG MAN HAD AWAKENED AND HE ALONE STOOD UP. THE PREACHER LOOKED DOWN AT HIM AND SAID, "YOUNG MAN, DO YOU KNOW WHAT YOU'RE STANDING FOR"? THE YOUNG MAN LOOKED AROUND AND SAID, "I REALLY DON'T, PREACHER, BUT IT SEEMS TO ME THAT YOU AND I ARE THE ONLY ONES FOR IT".

MY TOPIC THIS DAY IS THE EAST-WEST CENTER, ITS GOALS, ITS ORGANIZATION, AND THE PLACE OF VOCATIONAL EDUCATION IN THE CENTER. I'LL TRY TO AVOID TELLING YOU EVERYTHING I KNOW ABOUT THE CENTER, AND THUS PUTTING YOU TO SLEEP. THE ALTERNATIVES FOR GETTING YOU TO STAND DO NOT SEEM QUITE AS DRAMATIC AS THOSE OF THE YOUNG PREACHER. BUT, I DO HOPE TO RAISE YOUR INTEREST AND UNDERSTANDING OF THIS INSTITUTION'S ROLE IN BRIDGING SOME OF THE PROBLEMS WHICH TEND TO DIVIDE THE EAST AND WEST.

THE EAST-WEST CENTER--FORMALLY KNOWN AS "THE CENTER FOR CULTURAL AND TECHNICAL INTERCHANGE BETWEEN THE EAST AND WEST"--WAS ESTABLISHED IN HAWAII BY THE U.S. CONGRESS IN 1960 WHEN PRESIDENT EISENHOWER SIGNED THE MUTUAL SECURITY ACT WHICH CREATED THE CENTER. AS A NATIONAL EDUCATIONAL INSTITUTION, THE CENTER'S MANDATED GOAL IS

> "TO PROMOTE BETTER RELATIONS AND UNDERSTANDING BETWEEN THE UNITED STATES AND THE NATIONS OF ASIA AND THE PACIFIC THROUGH COOPERATIVE STUDY, TRAINING, AND RESEARCH. . ."

THE ENABLING ACT WAS MORE SPECIFIC, STATING:

1. THAT "THE SECRETARY OF STATE SHALL PROVIDE FOR THE ESTABLISHMENT AND OPERATION IN HAWAII OF AN EDUCATIONAL INSTITUTION THROUGH ARRANGEMENTS WITH PUBLIC, EDUCATIONAL, AND OTHER NON-PROFIT INSTITUTIONS."
2. THAT THE CENTER SHALL PROVIDE: "GRANTS, FELLOWSHIPS, AND OTHER PAYMENTS <u>TO OUTSTANDING SCHOLARS AND AUTHORITIES</u> FROM THE NATIONS EAST AND WEST AS MAY BE NECESSARY TO ATTRACT SUCH SCHOLARS AND AUTHORITIES TO THE CENTER. . ."

3. THAT THE CENTER SHALL PROVIDE: "GRANTS, SCHOLARSHIPS, AND OTHER PAYMENTS TO QUALIFIED STUDENTS FROM THE NATIONS EAST AND WEST AS MAY BE NECESSARY TO ENABLE SUCH STUDENTS TO ENGAGE IN STUDY OR TRAINING AT THE CENTER."
4. THAT THE CENTER SHALL MAKE ITS "FACILITIES...AVAILABLE FOR STUDY AND/OR TRAINING TO OTHER QUALIFIED PERSONS."
5. THAT THE SECRETARY OF STATE MAY "...ACCEPT FROM PUBLIC AND PRIVATE SOURCES MONEY AND PROPERTY TO BE UTILIZED IN CARRYING OUT THE PURPOSES AND FUNCTIONS OF THE CENTER."

WITHIN THE EAST-WEST CENTER'S MANDATE TO FOSTER BETTER RELATIONS AND UNDERSTANDING THROUGH COOPERATIVE STUDY, RESEARCH, AND TRAINING, THE GENERAL GOALS COMMON TO ALL CENTER PROGRAMS ARE:

TO ENHANCE THE QUALITY OF LIFE AMONG THE PEOPLES OF THE UNITED STATES, ASIA AND THE PACIFIC.

TO EDUCATE MEN AND WOMEN TOWARD MULTI-CULTURAL PERSPECTIVES.

TO PROVIDE A SETTING FOR INTERACTION (INTERCHANGE) AMONG MEN AND WOMEN OF DIFFERENT CULTURES, DISCIPLINES, PROFESSIONS, AND SKILLS.

TO INQUIRE INTO THE RELATION OF THEORY AND PRACTICE IN HUMAN AFFAIRS.

TO DEVELOP THE CAPACITY FOR DECISION-MAKING IN MULTI-CULTURAL SITUATIONS.

TO PROVIDE EXPERIENCE IN TESTING AND EVALUATING DECISION-MAKING DESIGNS.

TO DEVELOP THE COLLECTION AND EXCHANGE OF KNOWLEDGE AMONG THE CULTURES OF ASIA, THE PACIFIC AREA, AND THE UNITED STATES.

TO FOSTER CONTINUING RELATIONS AMONG FORMER PARTICIPANTS TO STRENGTHEN THE NETWORK FOR EXCHANGE OF KNOWLEDGE AND MAINTENANCE OF UNDERSTANDING.

THE CENTER IS FUNDED BY ANNUAL APPROPRIATION FROM CONGRESS UNDER A CONTRACT BETWEEN THE UNIVERSITY OF HAWAII AND THE BUREAU OF EDUCATIONAL AND CULTURAL AFFAIRS OF THE UNITED STATES STATE DEPARTMENT. APPROPRIATIONS THROUGH FISCAL 1970 HAVE AMOUNTED TO OVER 59.6 MILLION DOLLARS OR ALMOST SIX MILLION DOLLARS ANNUALLY. ADDITIONAL AMOUNTS OF ONE TO TWO MILLION DOLLARS EACH YEAR COME FROM OTHER SOURCES SUCH AS AID, THE UNITED NATIONS, PARTICIPATING COUNTRIES, AND OTHER INTERNATIONAL ORGANIZATIONS AND PRIVATE FOUNDATIONS.

IN THE FIRST DECADE OF THE CENTER'S EXISTENCE, 15,311 MEN AND WOMEN HAVE PARTICIPATED IN ITS PROGRAMS. AN ADDITIONAL 1,715 AID STUDENTS AND 2,892 NON-EWC CONFEREES ALSO PARTICIPATED. OF THE 15,311 REGULAR PARTICIPANTS, 294 WERE SENIOR SPECIALISTS, 1,701 WERE UNIVERSITY STUDENTS IN DEGREE PROGRAMS--PRIMARILY GRADUATE DEGREES--3,813 WERE NON-DEGREE STUDENTS IN EDUCATIONAL AND TRAINING PROGRAMS AT THE CENTER, 7,422 WERE NON-DEGREE STUDENTS IN SHORT FIELD TRAINING COURSES CONDUCTED BY THE CENTER'S INSTRUCTIONAL TEAMS IN ASIAN AND PACIFIC COUNTRIES, AND ANOTHER 2,081 WERE PERSONS WHO PARTICIPATED IN INTERNATIONAL CONFERENCES AND SEMINARS SPONSORED OR CO-SPONSORED BY THE CENTER ON A WIDE VARIETY OF TOPICS OF MUTUAL CONCERN AND INTEREST.

NON-DEGREE FIELD TRAINING OR HOST-COUNTRY TRAINING OUTSIDE THE CENTER WAS, AND STILL CONTINUES TO BE, A MAJOR PART OF ITS PROGRAM.

EACH YEAR ABOUT A THOUSAND DEGREE STUDENTS, RESEARCH-ORIENTED SENIOR SPECIALISTS, AND NON-DEGREE STUDENTS, INCLUDING THOSE IN VOCATIONAL AND TECHNICAL TRAINING PROGRAMS, COME FROM OVER 35 COUNTRIES AND TERRITORIES TO WORK AND STUDY TOGETHER AT THE EAST-WEST CENTER.

OVER THE PAST TEN YEARS, THESE PARTICIPANTS HAVE COME FROM OVER 56 COUNTRIES FOR TRAINING AND CONFERENCES. WORLD WAR II VETERANS WILL REMEMBER SOME OF THE TROPICAL ISLANDS: THE GILBERTS, TONGA, AMERICAN AND WESTERN SAMOA, ELLICE ISLANDS, FIJI, NEW HEBRIDES, YAP, TRUK, PALAU, AND THE MARSHALL ISLANDS. STUDENTS ALSO CAME FROM AFGHANISTAN, AUSTRALIA, NEPAL, SIKKIM, HONG KONG, JAPAN, KOREA, AND OTHER PLACES IN FAR EAST ASIA, IN SOUTHEAST ASIA, AND IN THE PACIFIC. IN THEIR ORDER OF SIZE, THE TOP TEN COUNTRIES IN ALL EAST-WEST CENTER PROGRAMS EXCLUDING CONFERENCES WERE:

1. OKINAWA 2,560
2. U.S. 1,865
3. TRUST TERRITORY 1,531
4. JAPAN 1,252
5. REPUBLIC OF CHINA 835
6. AMERICAN SAMOA 769
7. THAILAND 469
8. AUSTRALIA 456
9. FIJI 436

   AND

10. WESTERN SAMOA 432

AT THE CENTER, THERE ARE TWO PARTICIPANTS FROM ASIAN AND PACIFIC COUNTRIES FOR EACH AMERICAN PARTICIPANT.

ORGANIZATION OF THE EAST-WEST CENTER

UNTIL RECENTLY THE CENTER WAS ORGANIZED INTO THREE MAJOR INSTITUTES. THE INSTITUTE FOR STUDENT INTERCHANGE, THE INSTITUTE FOR ADVANCED PROJECTS, AND THE INSTITUTE FOR TECHNICAL INTERCHANGE.

THESE THREE INSTITUTES WERE ESTABLISHED TO IMPLEMENT THE CENTER'S GOALS IN THE DECADE OF THE SIXTIES. REVIEW AND EVALUATION OF THE PAST DECADE PROMPTED A CALL TO DEVELOP AND USE NON-TRADITIONAL AS WELL AS TRADITIONAL EDUCATION METHODS AND TECHNIQUES IN SEEKING TO FULFILL THE CENTER'S OBJECTIVES. A JOINT TASK FORCE, ESTABLISHED FOR THIS PURPOSE, RECOMMENDED THAT THE CENTER MOVE TO PROBLEM-ORIENTED PROGRAMS BY FOCUSING THE ATTENTION AND RESOURCES OF THE CENTER ON SELECTED PROBLEMS WHICH ARE COMMON TO THE EAST AND WEST. AS A CONSEQUENCE OF THIS, THE CENTER WAS REORGANIZED EFFECTIVE JULY 1, 1970, AND THE CENTER'S THREE FORMER INSTITUTES (STUDENT INTERCHANGE, ADVANCED PROJECTS, AND TECHNICAL INTERCHANGE) HAVE BEEN REPLACED BY FIVE PROGRAMMATIC INSTITUTES: THE EAST-WEST COMMUNICATIONS INSTITUTE, THE EAST-WEST CULTURE LEARNING AND LANGUAGE INSTITUTE, THE EAST-WEST FOOD INSTITUTE, THE EAST-WEST POPULATION INSTITUTE, AND THE EAST-WEST TECHNOLOGY AND DEVELOPMENT INSTITUTE.

A NATIONAL REVIEW BOARD APPOINTED BY THE SECRETARY OF STATE AND THE UNIVERSITY OF HAWAII BOARD OF REGENTS ADVISE THE CENTER WHICH IS DIRECTLY SUPERVISED BY A CHANCELLOR APPOINTED BY THE BOARD OF REGENTS.

SUPPORTIVE SERVICES INCLUDE AN OFFICE OF PUBLIC AFFAIRS, AN OFFICE OF ADMINISTRATIVE AFFAIRS, THE EAST-WEST CENTER PRESS, AN OFFICE OF PARTICIPANT SERVICES, AND AN OFFICE OF COMMUNITY RELATIONS. AN OFFICE OF OPEN GRANTS SERVES THOSE PROJECTS AND INDIVIDUALS THAT DO NOT FIT INTO ANY OF THE PROBLEMMATIC CORES OF OTHER INSTITUTES.

WHEREAS THE INSTITUTE FOR STUDENT INTERCHANGE FORMERLY OFFERED SCHOLARSHIP GRANTS PRIMARILY TO POST-GRADUATE STUDENTS TO WORK TOWARD THE MASTER'S AND IN SOME CASES THE PH.D. DEGREE, NOW ALL FIVE OF THE NEWLY CONSTITUTED INSTITUTES OFFER THESE SCHOLARSHIPS.

PREVIOUSLY, ONLY THE INSTITUTE FOR ADVANCED PROJECTS BROUGHT SENIOR SPECIALISTS SUCH AS COLLEGE PROFESSORS, GOVERNMENT ADMINISTRATORS, ARTISTS, AND SCIENTISTS TO WORK TOGETHER, OR AS INDIVIDUALS ON RESEARCH PROJECTS. NOW ALL INSTITUTES HAVE SENIOR SPECIALISTS AUGMENTED BY YOUNG PROMISING PROFESSIONALS (USUALLY PH.D.'S) WHO WORK WITH GRADUATE STUDENTS AND NON-DEGREE STUDENTS ON COMMON PROBLEMS.

THE FORMER INSTITUTE FOR TECHNICAL INTERCHANGE HAS BECOME THE NEWLY ESTABLISHED EAST-WEST TECHNOLOGY AND DEVELOPMENT INSTITUTE. IT CONDUCTS MOST OF THE ACTIVITIES RELATING TO VOCATIONAL EDUCATION AT THE CENTER AND IN THE ASIAN AND PACIFIC COUNTRIES. FOR THIS REASON MOST OF MY REMAINING COMMENTS FOCUS UPON THIS INSTITUTE AS HAVING MOST RELEVANCE FOR AN AUDIENCE OF THIS KIND.

THE CENTRAL FOCUS OF THE EAST-WEST TECHNOLOGY AND DEVELOPMENT INSTITUTE (TDI) IS ON PROBLEMS INVOLVED WITH THE INTRODUCTION OF NEW SCIENTIFIC AND SOCIAL TECHNOLOGIES IN DEVELOPING COUNTRIES OF THE

ASIAN AND PACIFIC REGION. WITHIN THE BROAD CONTEXT OF SCIENCE, TECHNOLOGY, AND DEVELOPMENT, SPECIFIC TDI PROGRAMS ARE BEING DEVELOPED TO PROMOTE ECONOMIC AND SOCIAL DEVELOPMENT.

THE TDI APPROACH TOWARDS SOLUTION OF THESE COMPLEX PROBLEMS COMBINES RESEARCH, EDUCATION, TRAINING, AND CONFERENCE PROGRAMS. THESE MULTI-FACETED PROGRAMS ARE DESIGNED TO INCREASE THE KNOWLEDGE AND CAPABILITIES OF SCHOLARS, STUDENTS, AND PRACTITIONERS IN THREE FIELDS: (1) THE APPLICATION OF SCIENCE AND TECHNOLOGY; (2) THE DEVELOPMENT, PLANNING AND ADMINISTRATION WITHIN VARIOUS AREAS INCLUDING ECONOMIC, SOCIAL, EDUCATIONAL, AND URBAN AND REGIONAL DEVELOPMENT; AND (3) IN INSTITUTION BUILDING WITHIN VARIOUS DOMAINS, INCLUDING GOVERNMENT, BUSINESS, EDUCATION, SCIENCE, AND OTHER SOCIAL AND COMMUNITY ORGANIZATIONS.

CONCEPTUALLY, TDI IS DIVIDED INTO TWO MAJOR PROGRAM AREAS: (1) SCIENCE AND TECHNOLOGY; AND (2) DEVELOPMENT PLANNING AND DEVELOPMENT ADMINISTRATION.

EMPHASIS WITHIN THE SCIENCE AND TECHNOLOGY AREA IS PLACED ON: (1) THE INTRODUCTION, APPLICATION, INNOVATION, AND DIFFUSION OF TECHNOLOGIES IN DEVELOPING COUNTRIES; (2) SCIENTIFIC AND TECHNOLOGICAL EDUCATION, ESPECIALLY IN CONNECTION WITH ADVANCEMENTS IN INFORMATION ACQUISITION AND TRANSMISSION; AND (3) THE GENERATION OF NEW IDEAS AND THE INTRODUCTION OF NEW TECHNOLOGIES PERMITTING THE DEVELOPING COUNTRY TO BYPASS SOME OF THE STEPS IN THE DEVELOPMENT PROCESS FOLLOWED BY OTHER COUNTRIES (TECHNOLOGICAL LEAPFROGGING). ALL THREE APPROACHES WILL BE EMPHASIZED IN THE PROJECTED TDI RESEARCH PROGRAMS. THUS, THE MAIN GOALS OF TDI PROGRAMS IN THE SCIENCE AND TECHNOLOGY AREA

INVOLVE THE CREATION OF NEW EDUCATION PROGRAMS IN APPLIED TECHNOLOGY INCLUDING COOPERATIVE PROGRAMS WITH ASIAN AND PACIFIC INSTITUTIONS OF HIGHER LEARNING, THE DEVELOPMENT OF NEW METHODS FOR TECHNOLOGY ASSESSMENT, AND THE CONTINUED EMPHASIS ON PERTINENT RESEARCH PROGRAMS IN THESE FIELDS.

EMPHASIS WITHIN THE DEVELOPMENT PLANNING AND DEVELOPMENT ADMINISTRATION AREA ARE EXPECTED TO REFLECT THE MULTIPLICITY OF PROBLEMS IN THIS COMPLICATED FIELD. SUCH PROGRAMS RANGE FROM MICRO-PLANNING IN INDUSTRY, MANPOWER REQUIREMENTS, HEALTH, AND TOURISM TO REGIONAL ECONOMIC PLANNING. SOCIAL PLANNING AND ADMINISTRATION AND EDUCATIONAL PLANNING AND ADMINISTRATION COMPRISE TWO OTHER CORE PROGRAM AREAS. A SPECIAL JOINT PROGRAM IN URBAN AND REGIONAL PLANNING HAS ALSO BEEN ESTABLISHED IN CONJUNCTION WITH THE PACIFIC URBAN STUDIES AND PLANNING PROGRAM AT THE UNIVERSITY OF HAWAII. OTHER KEY TDI PROGRAMS IN DEVELOPMENT PLANNING AND DEVELOPMENT ADMINISTRATION INCLUDE ADMINISTRATIVE REFORM, EDUCATIONAL PLANNING AND ADMINISTRATION, THE MANAGEMENT OF NEW ENTERPRISES WITH AN EMPHASIS ON LOCAL INDUSTRIES, AS WELL AS FISCAL POLICY AND TAX ADMINISTRATION.

THE INTEGRATIVE MECHANISM IN THE DUAL SCIENCE AND TECHNOLOGY PLANNING BASE OF TDI PROGRAMS REFLECTS THE COMMON GOAL OF INSTITUTION BUILDING. UTILIZING INPUTS FROM LOCAL, STATE, NATIONAL AND INTERNATIONAL ORGANIZATIONS AND AGENCIES AS WELL AS FROM INDIVIDUAL EDUCATORS, SCIENTISTS, AND PRACTITIONERS, TDI PROGRAMS ARE SPECIFICALLY AIMED ON THE DEVELOPMENT OF PERSONNEL IN SELECTED COOPERATING INSTITUTES AND AGENCIES THROUGHOUT THE ASIAN AND PACIFIC REGION. SUCH DEVELOPMENT

TAKES THE FORM OF PERSONNEL EXCHANGES AND COLLABORATIVE PROGRAMS RATHER THAN A UNILATERAL FUNCTION FROM TDI TO OTHER INSTITUTES OR AGENCIES.

TDI'S CAPABILITY TO FOCUS ON SPECIFIC REGIONAL PROBLEMS IS ESPECIALLY REFLECTED IN THE SOUTH PACIFIC. THERE, THE UNIQUE CHARACTER OF THE REGION--COMPRISING AS IT DOES MANY SCATTERED ISLAND TERRITORIES, DEPENDENCIES, AND INDEPENDENT STATES--NECESSITATES A UNIQUE APPROACH TO PROBLEM SOLVING. LET ME CITE AN EXAMPLE FROM ONE AREA--THE TRUST TERRITORY OF THE PACIFIC ISLANDS, IN WHICH I HAVE RECENTLY WORKED. TWO YEARS AGO THE INSTITUTE BROUGHT TO HAWAII 19 VOCATIONAL INSTRUCTORS FROM ALL PARTS OF THE TRUST TERRITORY. THIS TERRITORY CONSISTS OF MORE THAN 2,000 ISLANDS AND IS LARGER THAN THE ENTIRE UNITED STATES, WHEN ONE INCLUDES THE WATER, OF COURSE. ELEVEN DIFFERENT LANGUAGES ARE SPOKEN IN THE AREA. THE IMMEDIATE PROBLEM WAS THE LACK OF SKILLED TECHNICIANS. THESE 19 INDIVIDUALS, WHICH INCLUDED ONE ADMINISTRATOR, NEEDED TO ACQUIRE SKILLS IN SUCH AREAS AS CARPENTRY, REFRIGERATION, SHEET METAL WORK, SEWING, AND COOKING. THEY CAME TO HONOLULU TO IMPROVE THEIR SKILLS AND TO LEARN HOW TO TEACH. THEY RETURNED A YEAR LATER TO START THE MICRONESIAN OCCUPATIONAL CENTER IN PALAU, WHICH OPENED SEPTEMBER, 1969 WITH 30 STUDENTS. THIS PAST SEPTEMBER MORE THAN 300 STUDENTS WERE ENROLLED.

A SAMPLING OF TYPICAL TRAINING PROJECTS CONDUCTED BY TDI IN THE PAST MIGHT BE OF INTEREST.

<u>IN TRADES AND INDUSTRY</u>: INDUSTRIAL ELECTRICITY, REFRIGERATION, HEAVY EQUIPMENT REPAIR, COMMERCIAL COOKING, AND AUTOMOTIVE TRAINING;

<u>IN BUSINESS EDUCATION</u>: DINING ROOM SERVICE, MECHANICAL SHORTHAND, REFRESHER TRAINING IN BUSINESS EDUCATION, COOPERATIVE BUSINESS EDUCATION, AND SUPERMARKET TRAINING;

In Agriculture: Tropical Crop Production, Practical Island Horticulture, Poultry and Swine Production, Rice Production, and Garden Maintenance;

In Home Economics: Commercial Sewing, Home Economics Teacher Training, Dressmaking, Nutrition, and Family Living;

In Technical Education: Architectural Drafting, Meteorological Technician Training, Surveyor's Aides, Radio Equipment Repair and Maintenance, and Barber Shop Management;

In Health Education: Maternal and Child Care, Health Services Administration, Health Education Teacher Training, Speech and Hearing, and Dental Health.

A total of 1,568 Micronesian participants were trained by the former Institute for Technical Interchange between the fiscal years 1962 and 1969. Of this number, 705 participants were trained in Hawaii and 863 were trained in Micronesia. Hawaii Based Projects included 16 in Education; 3 in Government; 7 in Agriculture Education; 15 in Allied Health fields; 15 in Trades or Technical Education. Eighteen Field Training Projects were provided in Micronesian locations during that same period.

The TDI is presently staffed by a director and three program officers. The budget calls for a deputy director and three program officers to be hired in the next twelve months. The professional staff will be composed of two specialists in training, two in education, and two in research. Plans call for the program staff to expand to a total of twelve professionals by 1976.

GRANTEES COME TO THE TECHNOLOGY AND DEVELOPMENT INSTITUTE IN THE SEVERAL CATEGORIES ALREADY MENTIONED.

FIRST, THERE ARE THE SENIOR SPECIALISTS. THESE INDIVIDUALS ARE PREDOMINANTLY MID-CAREER AUTHORITIES OF NATIONAL OR INTERNATIONAL REPUTATION WHO ARE INTERESTED IN THE APPLICATION OF THEORY AND KNOWLEDGE IN PROBLEM AREAS. INCLUDED ARE ALSO PROMISING YOUNG SCHOLARS, USUALLY PH.D.'S, WITH SIMILAR INTERESTS. WHERE FEASIBLE, THESE SCHOLARS ASSIST IN DESIGNING AND CONDUCTING TRAINING COURSES. THEY WORK AT THE CENTER FOR PERIODS VARYING FROM 4 TO 12 MONTHS. STIPENDS ARE COMPARABLE TO FACULTY SALARIES AT THE UNIVERSITY OF HAWAII.

FORMER SENIOR SPECIALISTS FROM THE U.S. INCLUDE SUCH INDIVIDUALS AS DR. CHARLES BRATTON, PROFESSOR OF FARM MANAGEMENT FROM CORNELL UNIVERSITY; DR. R. FREEMAN BUTTS; WILLIAM F. RUSSEL, PROFESSOR IN THE FOUNDATION OF EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY; DR. NORMAN C. HARRIS, CENTER FOR THE STUDY OF HIGHER EDUCATION, UNIVERSITY OF MICHIGAN; DR. WILBUR SCHRAMM, DIRECTOR, INSTITUTE FOR COMMUNICATION RESEARCH, STANFORD UNIVERSITY; DR. EUGENE STALEY, PROJECT SPECIALIST IN OCCUPATIONAL EDUCATION, THE FORD FOUNDATION; AND MANY MORE.

THE SECOND CATEGORY OF PARTICIPANTS INCLUDES DEGREE AND NON-DEGREE GRADUATE STUDENTS. THESE ARE PREDOMINANTLY PERSONS WHO HAVE ALREADY STARTED IN THEIR CAREERS AND WHO EXPECT TO RETURN TO THEIR POSITIONS, THUS HELPING BUILD INSTITUTIONS. DEGREE GRANTS ARE USUALLY MADE TO COVER AN INSTRUCTIONAL PROGRAM FROM 17 TO 19 MONTHS IN LENGTH AND INCLUDE TRAVEL EXPENSES. TUITION FEES AND A $50 PER SEMESTER BOOK ALLOWANCE ARE ALSO PROVIDED. DORMITORY FACILITIES ARE PROVIDED FREE OF CHARGE AND EACH GRANTEE RECEIVES A STIPEND OF $160 PER MONTH FOR FOOD AND INCIDENTALS.

SPECIFIC CRITERIA FOR SELECTION INCLUDE:

1. ACADEMIC RECORDS THAT MEET UNIVERSITY OF HAWAII GRADUATE WORK REQUIREMENTS
2. MATURITY OF OBJECTIVES
3. PROFESSIONAL AND ACADEMIC INTERESTS RELATED TO EWC PROGRAMS
4. POTENTIAL FOR CONTRIBUTING TO EWC OBJECTIVES AND GOALS OF HIS HOME COUNTRY
5. LEADERSHIP POTENTIAL
6. EVIDENCE OF POTENTIAL FOR INTERCULTURAL COMMUNICATION. (GRANTEE SHOULD HAVE THE ABILITY TO INTERPRET HIS OR HER COUNTRY AND CULTURE TO OTHERS AND TO PROFIT FROM THE INTERCHANGE.)

THE THIRD CATEGORY COVERS NON-DEGREE STUDENTS AND TRAINING PARTICIPANTS. THESE INDIVIDUALS ARE PREDOMINANTLY MANAGERS, TRAINERS OF TRAINERS, POLICY-MAKERS, AND PLANNERS, BUT INCLUDE PERSONS SELECTED BY COOPERATING COUNTRIES. PARTICIPATION IS BY INVITATION ONLY. TRAINING FOR THESE INDIVIDUALS ARE GENERALLY PROVIDED ON A COST-SHARING BASIS WITH A SPONSORING AGENCY.

IN THIS BRIEF SKETCH OF THE CENTER'S PROGRAMS, WE HAVE DONE LITTLE MORE THAN SCRATCH THE SURFACE. FOR THOSE INTERESTED IN SENDING PARTICIPANTS INTO ANY OF THE CENTER'S PROGRAMS OR BECOMING A PARTICIPANT YOURSELF, I SUGGEST THAT YOU WRITE:

THE OFFICE OF ADMISSIONS
EAST-WEST CENTER
1777 EAST WEST ROAD
HONOLULU, HAWAII 96822

SEVERAL BROCHURES WILL BE MADE AVAILABLE AT THE DOOR FOR THOSE OF YOU WHO WISH TO KNOW MORE ABOUT THE PROGRAMS AT THE EAST-WEST CENTER.

IN SUMMARY, LET ME QUOTE DR. HAHN BEEN LEE, DIRECTOR OF THE TECHNOLOGY AND DEVELOPMENT INSTITUTE, FORMER SENIOR SPECIALIST AND BUDGET DIRECTOR FOR SOUTH KOREA, WHO IS PRESENTLY ON LEAVE FROM SEOUL NATIONAL UNIVERSITY.

> "THE EAST-WEST CENTER IN HONOLULU IS A LIVING EXAMPLE OF HOW THE UNITED STATES CAN ENTER INTO AN ERA OF REAL PARTNERSHIP WITH ASIA. HERE WE ALL MEET ON EQUAL TERMS, LEARNING FROM THE EXPERIENCE IN THE DEVELOPMENTAL PROCESSES WHICH HAVE BROUGHT SPECTACULAR CHANGES IN ASIA AND THE PACIFIC AREA IN THE LAST TEN YEARS."

I COMMEND YOUR INTEREST IN THE EAST-WEST CENTER. IT HAS MUCH TO OFFER TO THOSE WHO PARTICIPATE IN ITS ACTIVITIES AND PROGRAMS. IN A WORLD WHICH IS TORN BY CONFLICT AND DISSENSION, WE NEED TO PROMOTE INSTITUTIONS WHICH SEEK TO FIND COMMON GROUNDS FOR DEVELOPMENT AND WE NEED TO PROMOTE THE INTERCHANGE OF TECHNICAL SKILLS AND IDEAS, ESPECIALLY IN FIELDS WHICH ARE CLOSELY ASSOCIATED WITH OUR OWN.

NOTE: ACKNOWLEDGEMENT IS MADE TO FREDRICH J. BURIAN AND GREGORY J. TRIFONOVITCH OF THE EAST-WEST CENTER TECHNOLOGY AND DEVELOPMENT INSTITUTE STAFF AND ALSO TO ROBERT B. HEWETT, DIRECTOR, EAST-WEST CENTER PUBLIC AFFAIRS, FOR SHARING SLIDES, PAPERS, AND REPORTS ON THE ACTIVITIES OF THE CENTER.

BRIEF BIOGRAPHICAL SKETCH

AVA CONVENTION

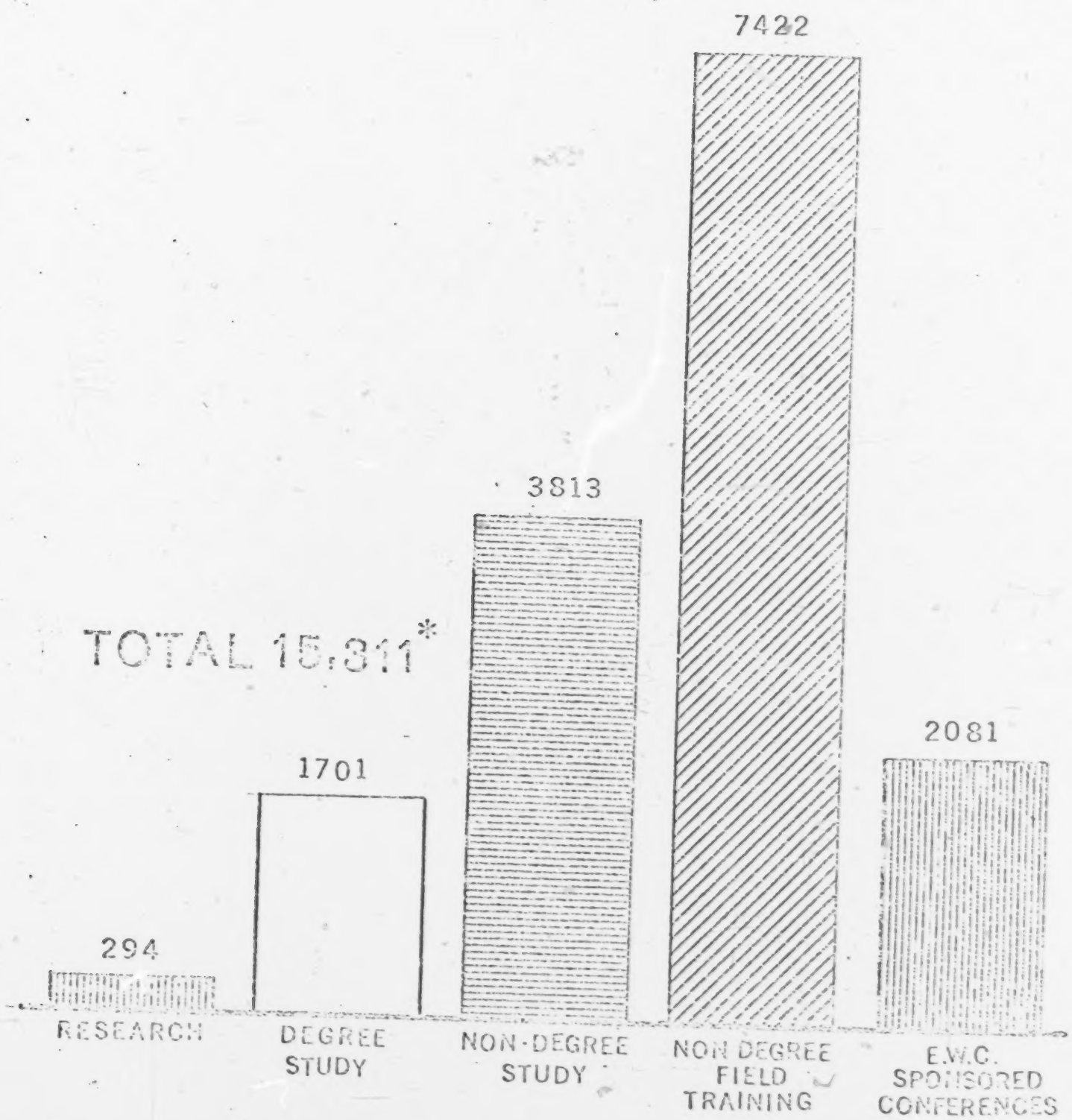
NEW ORLEANS

Dr. Zane is Director for the EPDA Graduate Fellowship Program for Prospective Community College Faculty at the University of Hawaii and Associate Professor in education for Trades and Industry and Technical Education in the College of Education, University of Hawaii. He has taught in public and private institutions at high school, technical school, and community college levels. He was formerly a staff member in the Office of Vice President for Community Colleges, the Hawaii RCU, and the State Department for Education, Division of Post-High, Adult, and Vocational Education. In the Department of Education, he served as State Teacher-Trainer for Adult and Basic Education and as Program Specialist for Industrial Arts Education. Recently, he served as consultant for community colleges and vocational education to the Government of American Samoa and the Government of the Trust Territory of the Pacific Islands and the University of Hawaii, Office of Foreign Contracts and the East-West Center. Among other endeavors, he is currently consultant to the Advisory Committee on Title III, ESEA, of the Trust Territory of the Pacific Islands and a member of the Advisory Committee Pacific Basin Regional Medical Program of Hawaii and Third Vice President for the Hawaii Practical Arts and Vocational Association. He received his B.S. and M. Ed. from the University of Hawaii and his Ph.D. from the University of Maryland.

SLIDE 1

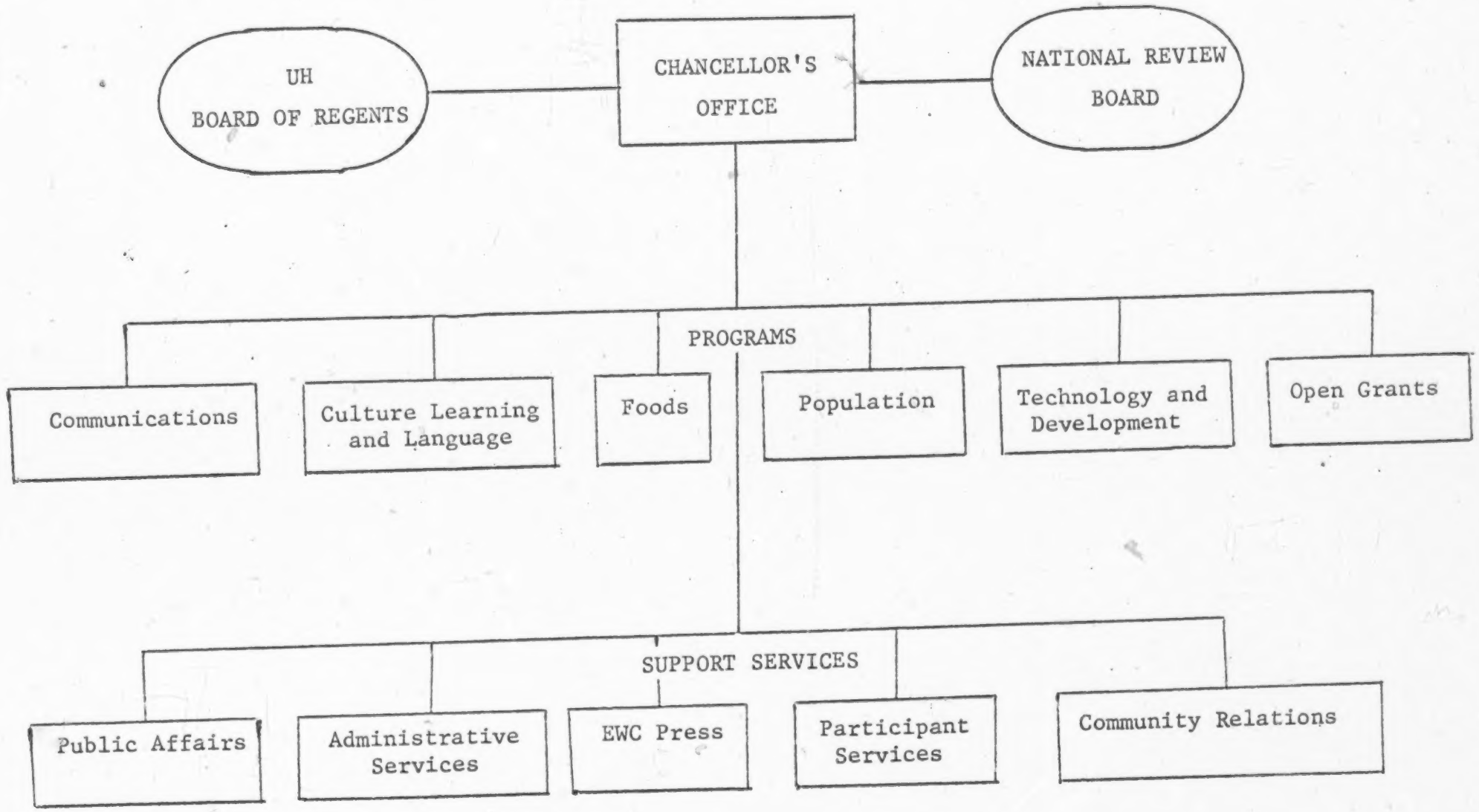
EAST-WEST CENTER PARTICIPANTS 1960-1970

(BY TYPE OF ACTIVITY)



*EXCLUDES: AID/ITI 1715, NON-E.W.C. CONFERENCES 2892

SLIDE 2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OFFICE
NATIONAL REVIEW
BOARD
PROGRAMS
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and Language
Foods
Population
Technology and
Development
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Public Affairs
Administrative
Services
EWC Press
Participant
Services
Community Relations

5155

VISUAL 1

1. THAT "THE SECRETARY OF STATE SHALL PROVIDE FOR THE ESTABLISHMENT AND OPERATION IN HAWAII OF AN EDUCATIONAL INSTITUTION THROUGH ARRANGEMENTS WITH PUBLIC, EDUCATIONAL, AND OTHER NON-PROFIT INSTITUTIONS."

2. THAT THE CENTER SHALL PROVIDE: "GRANTS, FELLOWSHIPS, AND OTHER PAYMENTS TO OUTSTANDING SCHOLARS AND AUTHORITIES FROM THE NATIONS EAST AND WEST AS MAY BE NECESSARY TO ATTRACT SUCH SCHOLARS AND AUTHORITIES TO THE CENTER. . ."

3. THAT THE CENTER SHALL PROVIDE: "GRANTS, SCHOLARSHIPS, AND OTHER PAYMENTS TO QUALIFIED STUDENTS FROM THE NATIONS EAST AND WEST AS MAY BE NECESSARY TO ENABLE SUCH STUDENTS TO ENGAGE IN STUDY OR TRAINING AT THE CENTER."

4. THAT THE CENTER SHALL MAKE ITS "FACILITIES. . . AVAILABLE FOR STUDY AND/OR TRAINING TO OTHER QUALIFIED PERSONS."

5. THAT THE SECRETARY OF STATE MAY ". . . ACCEPT FROM PUBLIC AND PRIVATE SOURCES MONEY AND PROPERTY TO BE UTILIZED IN CARRYING OUT THE PURPOSES AND FUNCTIONS OF THE CENTER."

GOALS OF THE EAST-WEST CENTER

1. ENHANCE QUALITY OF LIFE ON MUTUAL BASIS

2. EDUCATE FOR MULTI-CULTURAL PERSPECTIVES

3. PROVIDE SETTING FOR INTERACTION

4. RELATE THEORY TO PRACTICE

5. DEVELOP DESIGNS FOR MULTI-CULTURAL DECISION MAKING

6. PROVIDE EXPERIENCE IN TESTING SUCH DESIGNS

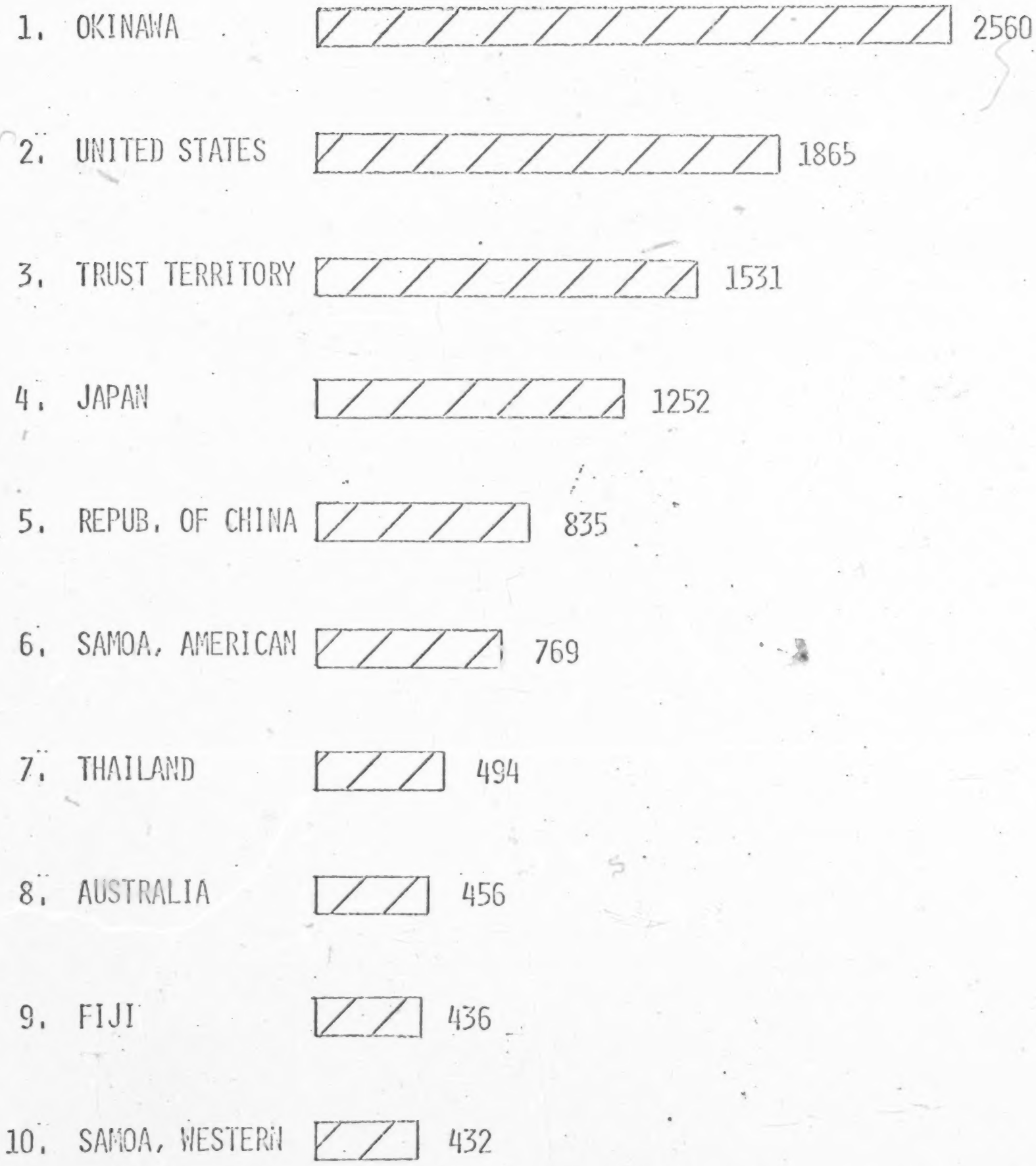
7. EXCHANGE OF KNOWLEDGE -- RESOURCE COLLECTIONS

8. CONTINUE ALUMNI RELATIONSHIPS -- NETWORK OF KNOWLEDGE

VISUAL 3

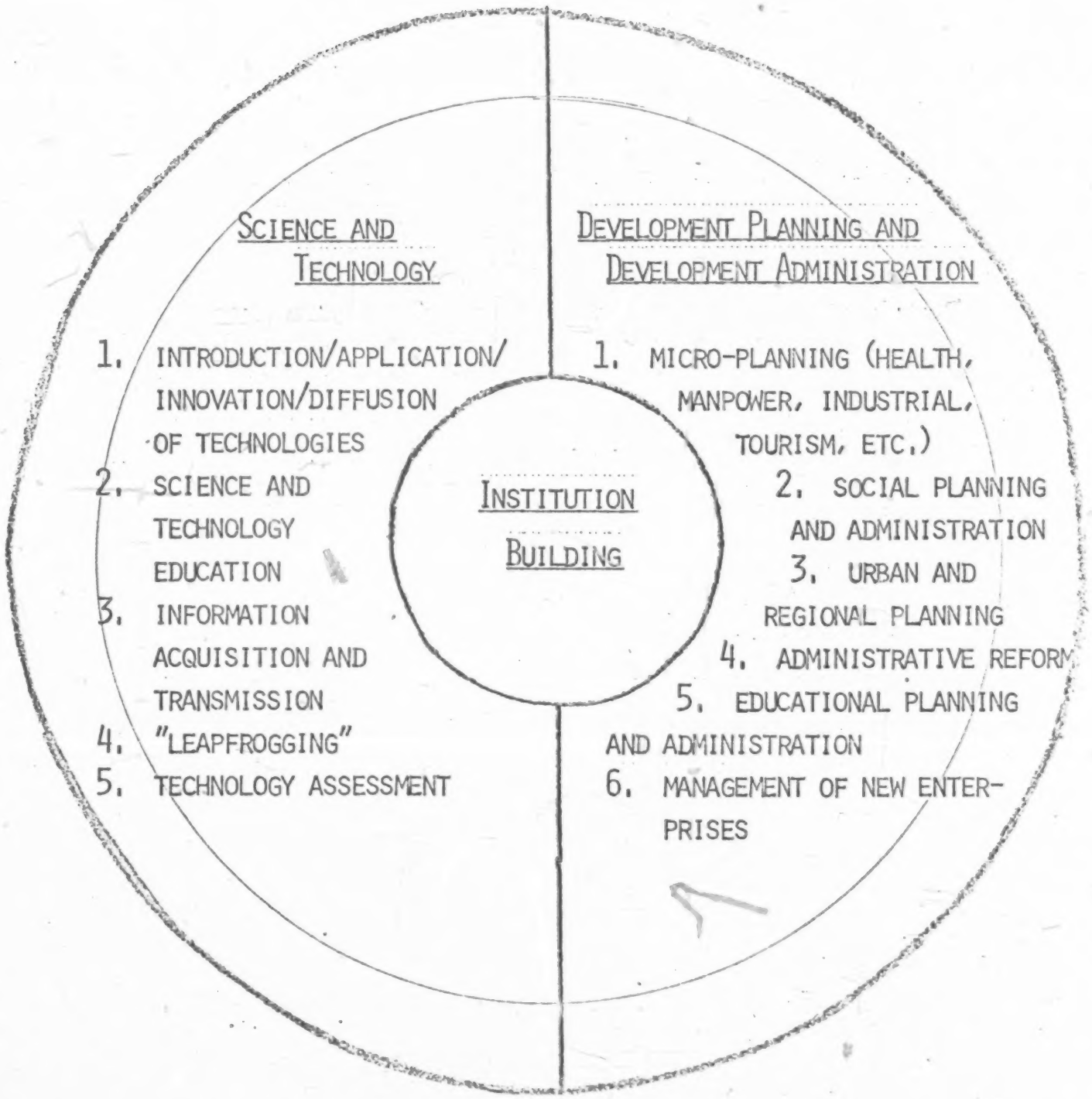
TOP TEN IN ALL EWC PROGRAMS

1960 - 1970



VISUAL 4

EAST-WEST TECHNOLOGY AND DEVELOPMENT INSTITUTE (TDI)



VISUAL 5

CRITERIA FOR DEGREE STUDENT SELECTION

1. ACADEMIC RECORDS THAT MEET UH GRADUATE WORK REQUIREMENTS

2. MATURITY OF OBJECTIVES

3. PROFESSIONAL AND ACADEMIC INTERESTS RELATED TO EWC PROGRAMS

4. POTENTIAL FOR CONTRIBUTING TO EWC OBJECTIVES AND GOALS OF HIS HOME COUNTRY

5. LEADERSHIP POTENTIAL

6. EVIDENCE OF POTENTIAL FOR INTERCULTURAL COMMUNICATION; GRANTEE SHOULD HAVE ABILITY TO INTERPRET HIS/HER COUNTRY AND CULTURE TO OTHERS, AND PROFIT FROM INTERCHANGE.

VISUAL 6

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DEADLINE FOR SEPTEMBER, 1971 CLASSES
DECEMBER 15, 1970

VT 012 459

Young, Israel; Palmer, Rose

Document Abstracts of an Analytical Study of the Effect of Choice Making on the Speed of Writing Symbol Combinations in Gregg and Pitman Shorthand and a Comparison Between Two Groups of Shorthand Writers.

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ABSTRACT - Presented in this document are abstracts of two doctoral dissertations dealing with the subject of shorthand. The first, "An Analytical Study of the Effects of Choice Making on the Speed of Writing Symbol Combinations in Gregg and Pitman Shorthand," has important implications for the construction or revision of shorthand systems. The second study, "A Comparison Between Two Groups of Shorthand Writers," resulted in several interesting findings. Among these was the discovery that both first year and second year students were especially weak in the construction of correct shorthand outlines for unfamiliar words and in correctly transcribing them. It is hoped that these two investigations will lead to improved systems of shorthand and methods of teaching. (JS)

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DOCUMENT ABSTRACTS OF

AN ANALYTICAL STUDY OF THE EFFECT OF CHOICE MAKING ON THE SPEED OF WRITING SYMBOL COMBINATIONS IN GREGG AND PITMAN SHORTHAND

by

ISRAEL YOUNG, Ph.D.

and

A COMPARISON BETWEEN TWO GROUPS OF SHORTHAND WRITERS

by

ROSE PALMER, Ph.D.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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FOREWORD

The hesitation factor in shorthand writing, a byproduct of this writer's research,* was the subject of careful investigation by Dr. Rose Palmer and Dr. Israel Young.

Dr. Young's major finding, which concerns the effect of choice making on hesitancy in outline construction in both Gregg and Pitman shorthand, has very important implications for the construction or revision of shorthand systems. Should his dissertation be seriously studied by shorthand authors, we may in the near future expect further simplification of present-day shorthand systems.

Dr. Palmer's finding that unfamiliar words are written with less hesitation by second-year shorthand students than by first-year students is not surprising. But her discovery that both groups of students were equally weak in the construction of correct shorthand outlines for these words and in correctly transcribing them was unexpected. Further experimentation along these lines is indicated. Those who undertake such experiments should note that of the words dictated during the second minute of dictation, approximately one-eighth were unfamiliar. Perhaps a future experiment might deal with the student's ability to write unfamiliar words and transcribe them correctly when but one or two occur during each minute of the dictation, a more natural situation.

Another interesting question raised by Dr. Palmer's dissertation is

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* A. E. Klein, "Variations in the Speed of Writing of Symbol Combinations in Gregg Shorthand," Thesis Abstracts, Second Series, Number Six, February, 1961, Published by Alpha Chapter, Delta Pi Epsilon, New York University, Washington Square, New York.

this: How accurately do shorthand students write and transcribe unfamiliar words when the dictation is given at a speed used in the production of mailable transcripts? Dr. Palmer's investigation, it should be kept in mind, dealt with the examination of the writing of students who took dictation "at their maximum capacities."

It is our hope that these two exceptionally fine investigations, which were directed by Dr. Herbert A. Tonne, will be but the beginning of a large number of related studies and that these will lead to improved systems of shorthand and new and improved methods of teaching.

A. E. Klein

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Abstract of

AN ANALYTICAL STUDY OF THE EFFECT OF CHOICE MAKING
ON THE SPEED OF WRITING SYMBOL COMBINATIONS
IN GREGG AND PITMAN SHORTHAND

by

Israel Young, Ph.D.

For many years it has been believed that the speed of writing shorthand is reduced whenever the writer has to make a choice in writing an outline. In no instance has experimental evidence been presented to support this contention.

STATEMENT OF THE PROBLEM

It was the purpose of this study to conduct an analytical experiment to determine the effect of choice making on the speed of writing symbol combinations in Gregg Shorthand and Pitman Shorthand.

In order to arrive at some supporting evidence, this study was instituted. It was concerned with the hesitancy before writing symbol combinations in Gregg and Pitman Shorthand, as these symbols are affected when a shorthand writer must choose from two or more possibilities offered by his shorthand system for the writing of each symbol combination. This study was made by means of motion pictures which photographed the writing of nineteen high school shorthand writers who recorded dictated material in shorthand. The dictated material contained the necessary combinations which served as data for this investigation. These combinations occur very frequently at the beginning, middle or end of words. They are used extensively. They are typical combinations found in the usual dictated

material.

IMPORTANCE OF THE STUDY

Pitman Shorthand is an angular or geometric system whereas Gregg Shorthand is a cursive or a combination cursive and geometric system. For many years, both Pitman and Gregg Shorthand have been used with great success. Both systems are written phonetically and constructed on a phonetic basis. These two contrasting systems of shorthand have their followers, users and admirers. In each system there is probable cause for hesitation, while taking dictation, due to the choice-making element in writing shorthand combinations. This hesitation reduces speed when writing shorthand.

Teachers of shorthand have very little scientific knowledge about the teaching of shorthand based on scientific experimentation. Little is understood about the motor activity of the writer in aiming for speed and accuracy in the writing of shorthand. Although many people insist on high standards of accuracy and speed, basic knowledge about them has not been scientifically determined. This fact explains the reason for the existence of so many different approaches and methods used in the teaching of shorthand. No one knows which one of the techniques is best. Little is known about the mastery of this objective based on objective data.

Up to the present time, objective data have not been obtained to throw light on the problem of hesitancy in writing shorthand. It is the investigator's hope that this study will serve as an aid in providing scientific analysis concerning this problem. Objective data that will emerge from this study might stimulate further research concerning many

related questions. Should students be trained to become highly proficient in the knowledge of shorthand theory or not? Are theory tests a waste of time? Is speed development in shorthand entirely dependent on more and more dictation practice? Should the number of abbreviated forms to be memorized be increased or decreased? Should the emphasis on phrasing be increased or decreased? Is penmanship in shorthand important?

It is generally believed that the best system of shorthand is that which requires the fewest number of strokes to represent any given number of words, as well as writing in which the pen has to be raised from the paper the least number of times. In the light of hesitancy in writing, is it wise to build up longer or shorter units of practice? The attainment of speed might be inversely related to the length of an outline. A fuller knowledge of the significance of hesitancy in writing symbol combinations might be useful in answering this question. The planned motion picture study might yield excellent data which would throw light on the problem and on the best method of practice to yield increased fluency in writing.

DEFINITION OF TERMS USED

Symbol Combinations. Gregg Shorthand and Pitman Shorthand are written phonetically. Each sound is represented by a symbol. When two or more symbols are joined in consecutive order, a symbol combination results. At times, a single symbol represents two or more sounds.

Speed of Writing. Speed of writing refers to the amount of time required to record a stenographic symbol combination. This phrase refers to the number of "winks" taken to write a symbol combination. One wink is equal to .03 of a second.

Degree of Hesitation. Degree of hesitation refers to the number of winks that a writer of shorthand takes before he records a symbol combination.

DELIMITATIONS

It was very difficult to include in this study every symbol combination in Pitman and Gregg Shorthand that contains the element of choice making. The number would be enormous and functionally too difficult to handle. The objective of this study was to experiment with ten representative or typical symbol combinations in each system of shorthand under consideration. This selection was approved by a group of ten classroom teachers of shorthand, a chairman of a department of shorthand in a public high school, as well as an expert in Gregg Shorthand and one in Pitman Shorthand.

The symbol combinations that were studied were included in commercial material which was dictated to the participating subjects. Dictation was given to each subject individually at 80 words per minute for a total of approximately 100 words. Preceding this official dictation, each subject was given two minutes dictation of trial material which served as a warming up exercise. This orientation was very helpful. During the official dictation, the shorthand writer's hands and stenographic notes were photographed by means of motion pictures. The student subjects were seniors in high school and had completed two and one half years of shorthand instruction at the time of this experiment. A student who was selected for this experiment had to have an average mark of 80 or more in shorthand and a similar rating in the study of English during his high school years. Each student had to be approved by his shorthand teacher.

In this analytical experiment, motion pictures were used to record the

dictation material which was studied and evaluated. The number of subjects that were tested had to be limited. Otherwise, the project would have become excessively costly and functionally not practical, as far as time is concerned. It should be remembered that the moving pictures were taken at the rate of 24 frames per second. This amounts to 1440 frames per minute. Since each student took the dictation for a minute and a quarter, each one used 1800 frames. Since this figure must be multiplied by 19, the number of subjects in this study, the aggregate number of frames that were studied were approximately 35,000.

PROCEDURE IN COLLECTING DATA

A Gregg Shorthand list of some of the basic principles was distributed to five teachers of Gregg Shorthand and to a Gregg Shorthand expert. A Pitman Shorthand list of some of the basic principles was distributed to five teachers of Pitman Shorthand and to a Pitman Shorthand expert. Both lists were then shown to a chairman of a stenography department who was thoroughly familiar with both systems of shorthand. Each person, indicated above, selected the ten principles he thought should be studied, bearing in mind the problem of hesitancy due to a choice-making factor that precedes the writing of shorthand outlines.

Resulting from the selections made by the shorthand teachers, the chairmen and the specialists, the following shorthand principles were chosen for the ultimate study. Each principle had to be approved by at least five of the aforesaid individuals.

The Gregg Shorthand list included the following problems or principles for the ultimate study:

Problem 1	Use of left and right "s"
Problem 2	Vowel "a" between opposite curves
Problem 3	Addition of "x"
Problem 4	Representing the word ending "ther"
Problem 5	O before "n", "m", "r", "l"
Problem 6	A to straight strokes
Problem 7	"th" joined to "o", "r", "l"
Problem 8	E between two straight strokes
Problem 9	T omitted after "s" in one syllable words
Problem 10	"th" used initially

The Pitman Shorthand list included the following problems or principles for the ultimate study:

Problem 1	Initial "s" to straight downstrokes
Problem 2	Original and reverse "fr"
Problem 3	Shun hook attached to straight horizontal strokes
Problem 4	Stroke "l"
Problem 5	Final hook to straight downstrokes
Problem 6	Final "s" to straight downstrokes
Problem 7	Final "r"
Problem 8	Initial hook to straight downstrokes
Problem 9	Thickened "l" for "r"
Problem 10	"sw" circle to straight downstrokes

In each case, the principle chosen occurs frequently in the respective system of shorthand. The illustrative symbol combinations appear very often in the English language. For an additional check on frequency, specific reference was made to the established sound list of Godfrey Dewey as well as the frequency list of the most used business terms of Ernest Horn. When the shorthand dictation was given, the Gregg symbols were written according to the principles outlined in the Gregg Shorthand Manual, Simplified, Second Edition.

The Pitman dictation was written according to the Basic Course in Pitman Shorthand.

After the specific list of principles to be studied was established, the investigator sought to discover the degree of hesitancy evidenced by each subject in the experiment, as he recorded the dictation that was

dictated. The outlines chosen for this purpose were embodied in two letters, one dictated to the Pitman students and the other to the Gregg students. These outlines required the students to make choices. For instance, in Gregg the student was forced to decide between the use of the left "s" or the right "s," as in the words "sack" and "sale." In Pitman the student was forced to decide between the clockwise "s" circle and the counterclockwise "s" circle, as in the words "spray" and "soap."

The outlines studied to determine the degree of hesitancy in making these choices are shown in pairs below.

Gregg Pairs

past	paste	either	neither
roll	pole	fix	mix
thread	thick	booth	both
sale	sack	deed	
care	rack	day	

Pitman Pairs

fell	fellow	car	carry
pave	pain	sweet	sweeter
pace	pains	offer	free
play	pray	soap	spray
full	fuller	action	occasion

Index of Writing Hesitancy. A wink is equal to .03 of a second. A record was made of the number of winks that passed before each outline in the entire dictation. A total of all the winks used was ascertained. This total number of winks used was divided by the number of outlines recorded by each subject during the dictation. The result represented the

index of hesitancy for each subject who participated in the experiment. Tables I and II show the index of hesitancy for each student.

Table I. Index of Hesitancy for Gregg Students

The "index of hesitancy," used in this study, is equal to the total number of "winks" used by each shorthand writer in the entire dictation excercise preceding the writing of the shorthand outlines, divided by the number of outlines written.

Student	Index of Hesitancy
1	17
2	13
3	17
4	17
5	14
6	16
7	16
8	17
9	24

Table II. Index of Hesitancy for Pitman Students

Student	Index of Hesitancy
1	15
2	17
3	16
4	23
5	16
6	23
7	16
8	20
9	23
10	17

Table III. Number of winks of hesitancy required by the writers of Gregg Shorthand before each of the experimental words was written during the dictation

	STUDENTS								
WORDS	1	2	3	4	5	6	7	8	9
sale	8	9	5	12	11	12	17	13	4
sack	22	9	20	12	4	10	7	9	25
rack	32	13	23	10	8	13	20	14	28
care	7	4	21	19	17	10	12	11	6
fix	5	32	20	12	4	20	8	25	20
mix	18	8	27	14	69	17	7	65	16
neither	11	11	11	30	8	8	13	27	27
either	10	8	18	13	21	10	24	21	4
pole	12	8	28	22	24	9	7	24	25
roll	57	45	61	35	46	34	20	7	40
day	13	6	5	11	4	12	15	15	14
booth	12	15	20	20	9	17	45	20	30
both	29	49	30	35	42	30	30	33	57
deed	18	21	22	22	10	20	17	25	10
past	4	9	15	6	9	7	14	16	5
paste	14	10	9	4	8	9	29	11	15
thick	11	7	27	24	11	8	20	17	42
thread	46	46	22	36	37	28	30	53	44

Table IV. Number of winks of hesitancy required by the writers of Pitman Shorthand before each of the experimental words was written during the dictation

	STUDENTS									
WORDS	1	2	3	4	5	6	7	8	9	10
soap	23	32	22	36	10	39	17	10	33	18
spray	27	22	10	20	42	20	23	17	17	10
offer	5	15	9	16	10	51	9	24	15	11
free	36	5	22	19	28	29	10	13	35	23
action	28	20	15	12	30	16	41	18	20	8
carry	11	18	50	10	17	16	5	12	20	8
play	48	80	72	62	5	75	104	69	7	64
pray	17	20	16	31	12	16	7	27	29	38
fuller	15	8	25	53	10	38	8	27	30	21
full	35	34	29	12	30	48	10	31	38	38
sweeter	21	11	19	19	30	23	35	14	19	24
sweet	15	4	52	55	10	40	51	43	47	18
occasion	13	12	11	26	17	29	13	19	31	14
fell	15	20	16	24	11	24	19	22	17	20
fellow	8	17	16	18	7	25	20	12	32	17
pave	15	31	31	33	10	51	18	16	68	49
pain	14	19	17	7	10	8	6	18	19	12
pace	18	16	7	6	14	24	8	18	15	11
pains	6	15	19	15	17	11	8	20	49	11
car	16	3	8	24	13	22	17	6	29	14

RECORDING THE FINDINGS OF THE RESEARCH

The following illustrative data sheets, Tables V and VI contain the results of the dictation of the first sentence taken by two of the subjects who participated in the experiment which was recorded photographically. On each sheet Column 1 shows the actual dictated material that was recorded by each shorthand writer. Next to Column 1 is the wink-clock recording of the exact point when the shorthand for each word or phrase in Column 1 was completed. The wink-clock reading in Column 2 records the exact point on the wink clock when the next shorthand outline began. The difference between the wink-clock readings in the two columns represents the number of winks the shorthand writer took before he started the next shorthand outline. The difference represents the shorthand writer's hesitancy expressed in winks. A wink is the equivalent of .03 of a second.

Table V. Wink-Clock Reading of the Recording of the Dictation Written by the Gregg Shorthand Writer Number 1 (Partially Reproduced)

COLUMN 1 Wink-Clock Reading at End of Outline		COLUMN 2 Wink-Clock Reading at Beginning of Next Outline		Difference Between Columns 1 and 2 --- Hesitancy in Winks
Dear Sir	72.4	72.9	(period)	5
(period)	73.3	76.5	in	32
in	77.5	78.5	the	10
the	78.9	79.3	past	4
past	81.9	84.8	both	29
both	86.5	86.9	of you	4
of you	88.3	90.1	did	18
did	91.4	93.2	a	18
a	93.4	94.3	definite	9
definite	96.6	97.8	good	12
good	99.1	100.9	deed	18
deed	104.5	107.9	each	34
each	108.7	110.0	day	13
day	110.9	111.2	(period)	3

Table VI. Wink-Clock Reading of the Recording of the Dictation Written by the Pitman Shorthand Writer Number 1 (Partially Reproduced)

COLUMN 1 Wink-Clock Reading at End of Outline		COLUMN 2 Wink-Clock Reading at Beginning of Next Outline		Difference Between Columns 1 and 2 --- Hesitancy in Winks
Dear Sir	971.2	972.2	at	10
at	973.1	973.8	a	7
a	974.5	975.5	fire	10
fire	978.2	978.9	that	7
that	979.8	980.5	broke	7
broke	982.6	985.7	out	31
out	986.5	987.1	in	6
in	987.9	988.6	our	7
our	989.6	991.9	store	23
store	993.7	995.2	I	15
I	996.0	997.5	fell	15
fell	999.3	000.3	and	10
and	000.5	003.1	suffered	26
suffered	003.8	005.3	great	15
great	006.7	008.1	pain.	14

There is evidence that whenever many of the Pitman Shorthand writers in this study had to make a choice in writing an outline, the speed was reduced. This is proven by the fact that 33 to 43 percent of the outlines in the total dictation were written with a preceding pause greater than the "index of hesitancy" of the Pitman Shorthand writers in this experimental study. This is indicated in Table VII.

Table VIII correctly shows that whenever the Gregg Shorthand writers in this study had to make a choice in writing an outline, the speed was reduced. Upon reviewing the total dictation, it becomes clear that 27 to 44 percent of the outlines were written with a preceding pause greater than the index of hesitation of the Gregg Shorthand writers in this experimental study.

There is evidence that whenever the Gregg Shorthand writers in this study had to make a choice in writing an outline, the speed was reduced. This is proven by the fact that 33 to 72 percent of the outlines in the experimental list of words studied in this experiment, required longer preceding pauses than the index of hesitation for the Gregg Shorthand writers. This is clearly substantiated in Table IX.

The effect of choice making on the speed of writing is presented in Table X. On examining the shorthand outlines of the experimental words, it is evident that 35 to 60 percent of these outlines required longer preceding pauses than the index of hesitation for the Pitman Shorthand writers.

Table VII. Percent of Outlines, in the Total Dictation, that Evidenced Greater Preceding Hesitation than the Index of Hesitation for Each Student

Pitman Students

Student	Percent of Outlines
1	36
2	33
3	40
4	43
5	36
6	42
7	38
8	34
9	41
10	38

Table VIII. Percent of Outlines, in the Total Dictation, that Evidenced Greater Preceding Hesitation than the Index of Hesitation for Each Student

Gregg Students

Student	Percent of Outlines
1	37
2	27
3	44
4	38
5	31
6	32
7	35
8	40
9	40

Table IX. Percent of Outlines in the Experimental List of Words that was Studied, that Evidenced Greater Preceding Hesitation than the Index of Hesitation for Each Student

Gregg Students

Student	Percent of Outlines
1	38
2	33
3	72
4	50
5	38
6	38
7	55
8	50
9	44

Table X. Percent of Outlines in the Experimental List of Words that was Studied, that Evidenced Greater Preceding Hesitation than the Index of Hesitation for Each Student

Pitman Students

Student	Percent of Outlines
1	50
2	50
3	55
4	45
5	40
6	60
7	50
8	35
9	55
10	50

A clear relationship between choice making in writing an outline and the speed with which it is written is presented in Table XI. Gregg Shorthand writers wrote the shorthand outlines for the eighteen experimental words during the course of the entire dictation. A record was made of the number of outlines of the experimental words in this study, which required more winks of hesitancy than the index of hesitancy for the shorthand writers. This number ranged from 6 to 13, out of the total group of 18.

Whenever the Pitman Shorthand writers in this study had to make a choice in writing an outline, the speed was reduced. Each Pitman Shorthand writer wrote the shorthand outlines for the twenty experimental words during the course of the entire dictation. A record was made of the number of outlines of the experimental words in this dictation study which required more winks of hesitancy than the index of hesitancy for the shorthand writers. This number ranged from 7 to 12 out of a total group of 20. The complete results are indicated in Table XII.

Many of the Pitman Shorthand students who wrote the outlines for the experimental words in this dictation study, evidenced definite hesitancy before writing these outlines. Among the Pitman Shorthand writers this hesitancy exceeded the index of hesitancy in varying degrees. The range was from 20 to 80 percent, with a general average of 51 percent. These facts are indicated in Table XIII.

Table XI. Number of Outlines of the Experimental Words in this Dictation Study, which were Written by Each Shorthand Writer, which Required More Winks of Hesitancy Before the Outlines were Written, than the Index of Hesitancy for the Same Student

Gregg Students

Student	More Than Index of Hesitancy
1	7
2	6
3	13
4	9
5	7
6	7
7	10
8	9
9	8

Table XII. Number of Outlines of the Experimental Words in this Dictation Study, which were Written by Each Shorthand Writer, which Required More Winks of Hesitancy Before the Outlines were Written, than the Index of Hesitancy for the Same Student

Pitman Students

Student	More Than Index of Hesitancy
1	10
2	10
3	11
4	9
5	8
6	12
7	10
8	7
9	11
10	10

Table XIII. Percentage of Students, whose Hesitancy Expressed in Winks, Preceding the Writing of the Experimental Words in this Study, Exceeded the Index of Hesitancy

Pitman Students

Experimental Word	Percentage of Students	Experimental Word	Percentage of Students
soap	80	pace	20
spray	50	pains	30
offer	20	car	40
free	60	carry	40
action	40	play	90
occasion	40	pray	60
fell	60	fuller	60
fellow	30	full	80
pave	70	sweeter	50
pain	20	sweet	70

A large percentage of Gregg Shorthand students who wrote the outlines for the experimental words in this dictation study, evidenced definite hesitancy before writing these outlines. This hesitancy exceeded the index of hesitancy of the Gregg Shorthand writers in varing degrees, from zero to 100 percent, with a general average of 46 percent. Table XIV presents these facts.

There is evidence that whenever the Gregg Shorthand writers in this study had to make a choice in writing an outline, the speed was reduced. This is proven by the following analysis. Each shorthand writer wrote a total of 89 to 97 outlines in the total dictation. For each writer an index of hesitation was calculated. This index of hesitation was used as a base to determine how many outlines in the total dictation each shorthand writer wrote with greater hesitation than the index of hesitation. The results varied as indicated in Table XV. The large number of outlines reveals the result of choice making before writing a shorthand outline.

The Pitman Shorthand writers wrote a total of 94 to 102 outlines in the total dictation. An index of hesitation was calculated for each writer. This index of hesitation was used as a base to determine how many outlines in the total dictation were written with greater hesitation than the index of hesitation. Table XVI indicates the degree of variation. The large number of outlines is evidence of the result of choice making before writing a shorthand outline.

Table XIV. Percentage of Students, whose Hesitancy Expressed in Winks, Preceding the Writing of the Experimental Words in this Study, Exceeded the Index of Hesitancy

Gregg Students

Experimental Word	Percentage of Students	Experimental Word	Percentage of Students
sale	11	roll	88
sack	33	day	0
rack	44	booth	77
care	33	both	100
fix	44	deed	77
mix	55	past	0
neither	22	paste	11
either	44	thick	44
pole	55	thread	100

Table XV. Number of Outlines in the Total Dictation That Evidenced Greater Preceding Hesitation than the Index of Hesitation for Each Student

Gregg Students

Student	Number of Outlines
1	35 out of 94 in the total dictation
2	26 " " 93 " " " "
3	42 " " 95 " " " "
4	35 " " 90 " " " "
5	28 " " 89 " " " "
6	30 " " 92 " " " "
7	33 " " 93 " " " "
8	37 " " 92 " " " "
9	39 " " 97 " " " "

Table XVI. Number of Outlines in the Total Dictation That Evidenced Greater Preceding Hesitation than the Index of Hesitation for Each Student

Pitman Students

Student	Number of Outlines
1	35 out of 96 in the total dictation
2	33 " " 100 " " " "
3	41 " " 102 " " " "
4	44 " " 101 " " " "
5	36 " " 99 " " " "
6	43 " " 101 " " " "
7	38 " " 99 " " " "
8	32 " " 94 " " " "
9	41 " " 99 " " " "
10	38 " " 100 " " " "

For each Gregg Shorthand writer an index of hesitation was calculated. Based on this index, a definite percent of the experimental words was written with greater hesitation than the index of hesitation. In addition to this, again based on the index of hesitation, a certain percent of the outlines in the total dictation was written with greater hesitation than the index of hesitation. A comparison was then made of the two results. It became quite apparent that the experimental group showed a larger percentage than the percent applicable to the total dictation. The prevalence of this difference indicates the effect of choice making before writing a shorthand outline. The degree of this effect is indicated in Table XVII.

There is evidence that whenever the Pitman Shorthand writers in this study, had to make a choice in writing an outline, the speed was reduced. This is proven by the following analysis. For each writer an index of hesitation was calculated. Based on this index, it became evident that a certain percent of the experimental words was written with greater hesitation than the index of hesitation. In addition to this, again based on

the index of hesitation, it was clear that a definite percent of the total dictation was written with greater hesitation than the index of hesitation. A comparison was then made of these two results. It became evident that the experimental group showed a larger percentage than the percent applicable to the total dictation. The prevalence of this difference indicates the effect of choice making before writing a shorthand outline. This fact is shown in Table XVIII.

Table XVII. The Following Tabulation Indicates how Much Greater the Percentage of Outlines in the Experimental List of Words is, Compared with the Percentage of Outlines in the Total Dictation, that Required Greater Preceding Hesitation than the Index of Hesitation for Each Student

Gregg Students

Student	Percent of Experimental Group	Percent of Total Dictation	Percentage Greater
1	38	37	2
2	33	27	22
3	72	44	63
4	50	38	31
5	38	31	22
6	38	32	18
7	55	35	57
8	50	40	25
9	44	40	10

Table XVIII. The Following Tabulation Indicates how Much Greater the Percentage of Outlines in the Experimental List of Words is, Compared with the Percentage of Outlines in the Total Dictation, that Required Greater Preceding Hesitation than the Index of Hesitation for Each Student

Pitman Students

Student	Percent of Experimental Group	Percent of Total Dictation	Percentage Greater
1	50	36	38
2	50	33	51
3	55	40	37
4	45	43	4
5	40	36	11
6	60	42	42
7	50	38	31
8	35	34	3
9	55	41	34
10	50	38	31

The Writing Time. Tables XIX and XX describe the performance of the Gregg and Pitman Shorthand writers in this experiment. Special emphasis is made concerning the question of the actual writing time during the dictation taken by the subjects.

The analysis includes the number of winks used in the actual writing of shorthand, the winks recalculated into seconds of time, the rate of writing shorthand during the actual writing time, expressed in words per minute, the percent of time spent in actual writing.

The following are pertinent facts concerning the actual writing time of the Gregg and Pitman Shorthand writers as indicated on the tabulated data on the next two pages.

1. The average time spent in actual writing in the 80-second interval under consideration, by the Gregg Shorthand writers, was considerably less than the allotted 80 seconds.

2. The average time spent in actual writing in the 76-second interval under consideration, by the Pitman Shorthand writers,

was considerably less than the allotted 76 seconds.

3. The Gregg and Pitman Shorthand writers wrote at a rate much greater than the actual dictation rate.

4. It appears, therefore, that speed of writing shorthand will increase as hesitation decreases.

Table XIX. Actual Writing Time of Pitman Shorthand Writers (Dictation was taken at the rate of 80 words per minute for a total of 102 words completed in 76 seconds.)

Student	Number of Winks Used	Seconds	Words per Minute	Percent of Time Spent in Actual Writing
1	1386	41.58	147	54
2	1286	38.58	158	50
3	1341	40.23	152	52
4	1689	50.67	120	66
5	1895	56.85	107	74
6	1282	38.46	158	50
7	1535	46.05	132	60
8	1551	46.53	131	61
9	1523	45.69	133	60
10	1552	46.56	131	61

Table XX. Actual Writing Time of Gregg Shorthand Writers (Dictation was taken at the rate of 80 words per minute for a total of 107 words completed in 80 seconds.)

Student	Number of Winks Used	Seconds	Words per Minute	Percent of Time Spent in Actual Writing
1	1326	39.78	161	49
2	1301	39.03	164	48
3	1360	40.80	157	51
4	1256	37.68	170	47
5	1336	40.08	160	50
6	995	29.85	211	36
7	1232	36.96	173	46
8	1432	42.96	149	53
9	1583	47.49	134	59

FINAL CONCLUSION AND SUGGESTIONS

The aim of this study was to ascertain whether the existence of choice

making in the writing of stenographic outlines has any effect on the speed of writing shorthand. After an index of hesitancy for each writer of shorthand in the experiment was determined, it was used as a base for comparison and ultimate conclusion.

The sum total of the evidence results in the judgment that the hesitancy, as defined in this study, is probably caused in considerable measure by the choice-making element preceding the writing of the shorthand outline. A considerable percentage of the experimental words required more winks of hesitancy than the index of hesitancy for the respective shorthand writers. When the time lost due to hesitancy was not counted, the actual writing speed of each shorthand writer increased. The anticipated opinion of many teachers of shorthand, that choice making has a direct effect on speed of writing shorthand, was to a reasonable degree substantiated.

An increase in the speed of writing shorthand should result if the hesitancy, due to choice making, can be reduced by eliminating the possibility of more than one form for the shorthand outline which the writer of shorthand must choose. The study presents evidence that choice making should be replaced by a single possibility where feasible. The mental mastery of this specific form will facilitate the learning of shorthand and increase the writing speed.

Further Research. An analysis of other significant choice-making elements in Gregg and Pitman Shorthand in order to determine the degree of hesitancy in each case.

Variations in the speed of writing shorthand during the actual writing time as the rate of dictation increases.

An analysis of the relationship between the speed of writing shorthand and the number of errors in the recorded dictation.

What possible physical and mental factors cause hesitation while writing shorthand.

Determination of the reliability of the findings of a study dealing with hesitation while writing shorthand. This would be done by getting the results from one dictation exercise and repeating the identical experience at some subsequent time. The same students and the same exercise would be used. The comparison would indicate the reliability of the findings.

After the experimental dictation exercise is recorded, a personal, subjective interview would be conducted with the writer of the shorthand. Each outline would be examined. The object would be to ascertain the reason for any hesitation at any given point.

A comparison of the degree of hesitation to be found in the recorded dictation of student who learned Gregg Shorthand using Notehand, compared with students who were trained by means of the Diamond Jubilee Edition of the Gregg Shorthand Manual.

Abstract of

A COMPARISON BETWEEN TWO GROUPS
OF SHORTHAND WRITERS

by

Rose Palmer, Ph.D.

THE PROBLEM

The purpose of this investigation was to compare the shorthand writing habits of students under pressure of dictation at 80 words a minute with the writing habits of students writing at 120 words a minute, in relation to the factors of accuracy, speed of execution of outlines, hesitation in writing, and fatigue.

REASONS FOR UNDERTAKING THE STUDY

Although numerous studies have been reported in the field of shorthand teaching and learning, few have concerned themselves with the area of speed building, that is, the second year of shorthand. Also virtually non-existent was research in the area of fatigue and its effect on shorthand writing. In view of the fact that the average dictation period is 10 or 15 minutes,[1] it appeared that some research was called for in this area. Many early researches in shorthand stressed the need for actual classroom experimentation to ascertain how students were applying the rules of shorthand learned during their first year of study. It was particularly urgent that the manner in which they wrote under pressure

[1]H. H. Green, "The Nature of Business Dictation" (unpublished Doctor's dissertation, The University of Pittsburgh, 1951), p. 141.

of actual dictation be ascertained.

A second reason for undertaking this study was the reported poor performance of students after completing two years of study in shorthand. Reports of poor performance on entrance examinations, on Civil Service tests and on the job buttressed what many business teachers already knew--that there was a high rate of failure and dropout in shorthand courses in the schools.

A third reason for undertaking the study was the fact that pressures are mounting on the Gregg system for further modification of the system in the direction of greater simplification. Competition in the form of machine stenography, alphabetic shorthand, mechanical dictating devices has resulted in efforts to reduce the learning time of shorthand by decreasing the amount of memorization necessary. Whether the successive simplifications of the system have lowered top writing speed cannot be ascertained by other than classroom experimentation. Up to the present time, there is no indication that vocational competency can be achieved in Gregg Shorthand in less than two years.

The alphabetic systems and mechanical devices have undoubtedly drawn a certain number of students from the study of shorthand. The real or imagined difficulty of a symbol shorthand system has driven some from the field altogether. This study was concerned with learning what some of the difficulties were and what could be done to correct them.

Another area in which this study concerned itself was shortcuts. No clear-cut verdict on the use of shorthand abbreviations has been delivered over the years. The latest revision of Gregg Shorthand, Diamond Jubilee, has reduced drastically the number of brief forms the

student must memorize on the theory that the less the mind is burdened with, the more rapidly the student writes. While the claim is made that students can write up to 140 words a minute without learning any special abbreviated forms, few classroom teachers have found this goal readily attainable. Further adding to the confusion is the fact that shortcuts are strongly recommended for the shorthand reporter who must write at very high speeds. If the shortcuts were a hindrance at lower speeds, as the authors contend, they would, it would appear, cause relatively dangerous delays at the higher speeds of the shorthand reporter also.

This study was concerned, too, with how students wrote infrequently used words. Although it had been suspected as early as 1910[2] that infrequently used words were the cause of a great deal of the shorthand learner's difficulty, it remained for later researches to enlarge on this theory by the use of mechanized devices. This study attempted to shed further light on this subject.

Closely related to all of the topics chosen for study in this research were the successive changes in the shorthand system itself. These changes had been the subject of numerous studies over the past thirty years, but were all characterized by a lack of experimental method.

In the face of the continued debate as to whether shortcuts help or hinder the student; as to whether a student acquires the ability to

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[2]David Wolfe Brown, The Factors of Shorthand Speed (New York: Gregg Publishing Company, 1910), p. 35.

construct outlines for infrequently used words more rapidly as a result of a second year of training; and as to the effect of fatigue on the writing habits of students, the study was an attempt to gather concrete evidence on these three facets of the problems of shorthand learning in the second year of transcription. It was the purpose of this study to supply incontrovertible evidence, primarily from motion pictures, but also from shorthand notes and transcripts, of the way in which students actually construct their outlines at various stages of their training and under pressure of actual dictation at their maximum capacities.

From the facts so accumulated, a number of implications were subsequently derived. An attempt was made to answer the age-old questions of "What shall we teach?" and "How shall we teach it?" as they relate to stenography, with the ultimate goal of better student performance in school and on the job.

ANALYSIS OF THE PROBLEM

The specific problems which were inherent in the basic problem are listed below:

1. What is the percentage of correct outlines and correctly transcribed outlines of unpreviewed, unfamiliar words written during the course of 80-word-a-minute dictation as compared with the percentage of correct outlines and correctly transcribed outlines of the same words written at 120 words a minute?

2. What is the percentage of correct outlines and correctly transcribed outlines of words for which no shortcut has been learned, dictated at 80 words a minute, compared to the percentage of correct outlines and correctly transcribed words for these same words dictated at 120 words a

minute after a shortcut has been learned for these words?

3. What is the degree of hesitation and the actual writing time in the writing of unpreviewed, unfamiliar words written at 80 words a minute as compared with the same words written at 120 words a minute?

4. What is the degree of hesitation and the actual writing time in the writing of words dictated at 80 words a minute for which no shortcut has been learned as compared to the hesitation time and the actual writing time of the same words dictated at 120 words a minute after a shortcut has been learned for such words?

5. To what degree does fatigue affect the ability of students to write at 80 words a minute as compared with the ability of students to write at 120 words a minute?

DEFINITION OF TERMS

As used in this research, certain specific or technical terms are defined as follows:

Outline. The shorthand representation for any given word or phrase. This may consist of one connected element, as in the word green or may have other elements, such as a dot separate from the main part of the outline, such as in the words hair or going or may even consist of two or three disjoined elements as in the word accumulated

Correctly Written Outline. One which has been constructed in accordance with previously learned principles of the system and which conforms to the dictionary representation of the given word.

Correctly Transcribed Outline. Refers to the typewritten or handwritten representation of the exact English word dictated, regardless of

whether or not the shorthand outline was correctly written. It is perfectly possible for a student to write an outline which is technically incorrect and still be able to read and transcribe it perfectly.

Unpreviewed Material. It is customary for teachers of shorthand to place on the blackboard, prior to dictation, particularly difficult or unusual outlines, in order to facilitate the dictation and help students memorize the outlines for such words. "Unpreviewed" means that no such pre-dictation board demonstration or practice had ever been given, nor was it given for the words dictated on the tests used for this study.

Unfamiliar Words. Words which have not been previously emphasized for special study or which have not occurred in previous dictation. All words selected for this part of the investigation were checked against a list of the 5,000 most frequently used words and none of the words in the "unfamiliar" category appear on this list.

Eighty-Word-A-Minute Dictation. For the purposes of this study, dictation was given at a sustained rate of 80 words a minute for a period of six minutes.

One Hundred and Twenty-Word-A-Minute Dictation. Dictation given at a sustained rate of 120 words a minute for six minutes.

Hesitation. Refers to pauses before actually placing pen to paper to write a given word in shorthand, as measured by a chronometer in 50ths of a second.

Actual Writing Time. Refers to the actual time in 50ths of a second which it takes to complete the outline for a given word.

Shortcut. As used in this study, shortcut means an abbreviated form for a word, (separate and distinct from the standard brief forms taught in

the basic Gregg system) which has been taught to advanced shorthand students.

Fatigue. As used in this study, fatigue refers to the decreased ability of the student to write correct, fluent or legible outlines because of the prolonged exertion of writing shorthand at the top speed of which they are capable for a period of six minutes.

Ability to Construct Outlines. Refers to the capacity of students to invent outlines for words for which they have not previously memorized a precise outline.

DELIMITATIONS

The study was limited to attempting to ascertain to what factors the increased speed attained by the second-year students could be attributed: greater writing speed, the ability to construct new outlines more rapidly or a decrease in pausing time. The study also sought to ascertain the effect of learning of shortcuts on the writing habits of students, as well as the effect of fatigue on the writing ability of both groups.

BASIC ASSUMPTIONS

1. It was assumed that fatigue would affect the stenographic ability of both groups of students.

2. It was assumed that differences in writing habits of the two groups could be attributed to the added competency acquired by the additional year of training experienced by one of the groups.

3. It was assumed that changes in construction, legibility and speed of writing identical outlines from the second to the sixth minutes could be attributed to fatigue.

4. It was assumed that the 120 word-a-minute students had had adequate drill and practice on shortcuts.

5. It was assumed that college records of student entrance examinations, I. Q. tests and class tests were a reasonable accurate basis for determining the rank of each student within her group.

BASIC HYPOTHESES

The following hypotheses were tested in this investigation:

1. That the shorthand writing of students at 120 words a minute would reveal a significant decrease in hesitation time in construction of new outlines and in writing of shortcuts which had been learned to a point of mastery.

2. That the shorthand writing of students at 120 words a minute would reveal a significant decrease in hesitation time in the writing of unfamiliar, unpreviewed words as compared with the hesitation time of the students writing at 80 words a minute.

3. That the actual writing time of students writing at 120 words a minute, the words for which shortcuts have been learned, would show a significant decrease from the writing time of students writing these same words at 80 words a minute, without having learned a shortcut for such words.

4. That the shorthand writing of students at 120 words a minute would reveal little or no significant decreases in writing time of unfamiliar, unpreviewed words as compared with the writing time of the students writing at 80 words a minute.

5. That the students writing at 120 words a minute would construct a higher percentage of correct outlines for unfamiliar, unpreviewed words than the students writing at 80 words a minute; that they would write the learned shortcuts correctly, whereas the students at 80 words a minute

would make frequent errors on these same words for which no shortcuts had been learned.

6. That the speed and accuracy of both groups of students would be significantly affected by the fatigue element in taking sustained dictation, but the speed and accuracy of the 120-word-a-minute students would be more significantly affected by fatigue than the 80-word-a-minute students.

PROCEDURE IN COLLECTING AND TREATING DATA

General Methodology

Material to be Dictated. Two articles, substantially identical in context, but with the important words placed in somewhat different arrangements, were composed by the investigator. The first of these articles was 720 words in length and the second 480 words in length, to test the groups at 120 words a minute and 80 words a minute, respectively, for six minutes. Inasmuch as ordinary business vocabulary is generally considered the most satisfactory test material, the context of the article dealt with the subject of credit management. Words categorized as "unpreviewed, unfamiliar" were checked against the 5,000 most commonly used words in the Horn-Peterson and Silverthorn lists. Insofar as the general matter of the material was concerned, every effort was made to keep the subject matter of moderate difficulty. This vocabulary was chosen from the 5,000 most frequently used words. Also included in the dictation were words for which shortcuts had been learned by the second-year students. The second and sixth minutes of dictation were heavily loaded with both shortcuts and infrequently used words, which were of particular interest to this study. The articles chosen were submitted to a panel of shorthand teachers

and a department chairman who agreed that the test was suitable for the purposes intended. Because none of the students participating in the test had ever been subjected to sustained dictation for more than five minutes, it was felt that six minutes of dictation would constitute a moderate test of the fatigue element.

The following lists of words were written in full by the first-year group and as shortcuts by the second-year group. The minute of dictation during which these words were written is also indicated.

FIRST-YEAR GROUP
(80 wam)

First Minute	Second Minute	Third Minute
increasingly	negotiation	approximately
Federal Government	disappointing	bankruptcies
committee	disagreement	accumulated
services	economic	negotiable instruments
regulations	unemployment	provide
	increasingly	industrial
	finance committee	undertakings
	resolutions	expenses
	provide	involved
	compensation	
	communities	
	develop	
	regulations	

Fourth Minute	Fifth Minute	Sixth Minute
developed	reduction	increasingly
Congress	bankrupts	finance committee
obligations	committee	regulation
opponents	developed	disappointing
	provide	negotiations
	services	communities
	headquarters	develop
	agrees	economic
	committee's	resolutions
	reduction	unemployment
	guarantee	compensation
	reduced	recession
		provide

SECOND-YEAR GROUP
(120 wam)

First Minute	Second Minute	Third Minute
this year	negotiation	even though
increasingly	this year	bankruptcies
committee	developed	negotiable instruments
services	production	industrial
regulations	circumstances	approximately
	provided	provide
	increasingly	accumulation
	production	expenses
	communities	involved
	disagreement	preparation
	economic	undertakings
	unemployment	
	compensation	
	disappointing	
	resolution	
	committee	
	regulation	

Fourth Minute	Fifth Minute	Sixth Minute
Congress	bankruptcies	provide
opponent	committee	production
develop	provided	increasingly
obligations	reduction	legislation
amount of money	instruments	negotiated
reason why	committee	economic
bankrupts	developed	disappointing
committee	guarantee	circumstances
provided	headquarters	avoided
reduction	service	develop
instruments	industry	finance committee
	providing	compensation
	reduced	unemployment
	agrees	disagree
	expensive	regulation

The following lists of unfamiliar words were also incorporated in the two dictation passages embodying the shortcut words.

FIRST-YEAR GROUP
(80 wam)

First Minute	Second Minute	Third Minute
ambiguous	formidable	aspect
anticipated	intervention	fallacious
abatement	recession	bountiful
diminution	expansion	rehabilitation
function	abatement	vindicated
	functions	
	impoverished	
	elicit	
	unabated	

Fourth Minute	Fifth Minute	Sixth Minute
climax	paradox	impoverished
skeptical	unprecedented	elicited
uncollected	potential	unabated
stringent	implemented	formidable
irremediable		intervention
demoralized		abatement
degenerating		expansion

SECOND-YEAR GROUP
(120 wam)

First Minute	Second Minute	Third Minute
ambiguous	gravitate	aspect
anticipated	abatement	bountiful
abatement	intervention	vindicated
diminution	form dable	fallacious
	fortuitous	rehabilitation
	impoverished	
	elicited	
	adamant	
	forestalled	
	recession	
	expansion	
	unabated	
	functions	

SECOND-YEAR GROUP (continued)
(120 wpm)

Fourth Minute	Fifth Minute	Sixth Minute
climax	paradox	intervention
subsidy	unprecedented	formidable
skeptical	potential	gravitate
stringent	implement	forestall
uncollected		recession
irremediable		adamant
degenerating		hostility
demoralized		abatement
paradox		expansion
unprecedented		impoverished
potential		communities
		elicited
		unabated
		function

Syllabic Intensity. Because most textbooks use a syllabic intensity of 1.4 (average syllables to a word) the same criterion was used in this dictation.

Recording the Articles. The articles were timed and dictated to a Gelosi portable tape recorder. The clarity of this recording was tested by having it dictated to a group of Pitman writers at the same stage of training as the students who participated in this test.

The Students. The students chosen to participate in this test were examined during the third and fourth weeks in May, 1963. The groups had just achieved speed goals of 80 words a minute and 120 words a minute, respectively, based on five minutes of dictation. Twelve students in the second-year group were paired on the basis of entrance scores, stenographic grades and school averages, with twelve students of the first-year group. The mean I. Q. of the groups was 100.8 and 102.4, respectively, closely approximating the national mean of junior college freshmen

of 101.80.[3] An attempt was made to gain a reasonably normal bell-curve distribution, with one student in each group considered outstanding, two very good, three good, five average and one poor. It was considered inadvisable to include the very poor or failing students in this test, as they would be unable to provide a meaningful record.

Methodology

The articles were dictated by the tape recorder to each student individually. During the second and sixth minutes of dictation, a motion picture camera was activated which photographed in slow motion every outline set down on paper during these two minutes. At the conclusion of the dictation, the student went to another room in which she transcribed her notes while under supervision of a proctor.

All of the notes and transcripts were collected at the conclusion of the test. Charts were prepared for each student on which were recorded hesitation times, writing times, transcription errors and shorthand errors for each of the words considered important to the study. These classifications were further broken down into unfamiliar words and shortcut words. Only errors which were considered inability to read shorthand were considered as transcription errors. For the purpose of this study, errors in spelling, punctuation and form were not considered to be transcription errors. Only errors in shorthand formation which differed markedly from the dictionary outline were considered to be shorthand errors. For the purposes of this study, poorly written but generally correct outlines

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[3]Tyrus Hellway, The American Two Year College (New York: Harper Brothers, 1958), p. 85.

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or outlines with proportion errors were not considered to be shorthand errors.

The Camera. The camera used in this study was a Bolex H 16, Rex model, a product of the Bolex Paillard Company. This model is capable of being operated at 16 to 64 frames a second, a top speed of four times that of the average "home movie." This produces the effect of slow motion on the screen, which is essential to a split-second analysis of shorthand writing. A motor was rented to enable the camera to be operated for a minute at a time, the minimum required for meaningful results.

Other equipment used were the interchangeable lenses, the Pizar f 1.5; the Cinor f 2.5 and Yvar 4.0. A Bolex Tripod, cable release and flood lights completed the photographic equipment.

Other Equipment. After numerous trials, it was found that a Bic jet black ball point pen, green stenographic notebooks and an exposure of f.8 produced legible motion pictures. A Jacquet laboratory michrochronometer which shows times in hundredths of a second was taped to the table to insure absolute stability. It was necessary to remove the glass from the chronometer to reduce glare in the camera.

The films were edited by means of a Craig Projector-Editor, Model No. KE 16 DS, made by Kalart. This model was chosen because it produced a clear, bright picture.

The finished films were projected on a Revere 16 mm. projector equipped with a clutch device which enabled it to be stopped at any time for a frame-by-frame examination. This is absolutely essential, because stopping an ordinary motion picture camera would burn up the film immediately. This particular model had no means of running the film backwards,

however, which proved to be a severe handicap. If the film ran past the end of an outline, it was necessary to turn the film back one frame at a time to the desired point, a slow, time-consuming process.

The films were projected on a piece of 10 x 12 plasterboard painted an opaque white and mounted on a desk. With the projector directly behind the investigator, it was possible to manipulate the projector, study the film and record times without moving from the seat. The small image also produced pictures of great sharpness and clarity, extremely essential to the reading of the split-second times from the chronometer.

Test Conditions. All the students had had at least one experience of sitting under the camera and writing shorthand prior to the date of the test. Only one student indicated any difficulty with the position. Her notes were not used. It was necessary at times to caution students against bending too far over their notes, because of the possiblity that their head would obscure the notes being photographed. The students were photographed during the morning hours when they were relatively fresh. Efforts were made to keep them in a relaxed state of mind. Only one student was admitted to the room where the dictation was in progress, so that no student heard the dictation prior to the time she actually was subjected to the test.

The photographer was supplied with a typewritten copy of the articles being dictated, with the sections he was to photograph clearly indicated by red lines around the second and sixth minutes. Because ten trials had been made prior to the test, no technical difficulties were encountered other than some mechanical trouble with the camera itself which was corrected in time for the tests to go on as scheduled.

Findings

The first figures sought were those relating to percentage of shorthand errors made by the two groups on unfamiliar words. The students writing at 80 words a minute showed an error rate of about 45 per cent as compared to a slightly improved 39 per cent recorded by the 120-word-a-minute students. In writing words for which shortcuts were later learned by the 120-word-a-minute students, the 80 word students showed an error rate of 15 per cent on these words written in full. When the 120-word-a-minute students employed the shortcut they had learned for the same words, the error percentage showed a decrease to 11 per cent, which compares favorably to the error percentage on familiar words. This would appear to indicate that once a shortcut has been mastered, it is written with a high degree of accuracy.

Transcription error percentages showed striking parallels to the figures obtained for shorthand errors. Against the shorthand error rate of 45 per cent recorded for the first-year students on unfamiliar words, the transcription error rate shows 38 per cent. The 15 per cent error rate on shortcut words by the first-year students is followed by an 11 per cent transcription error rate. For the advanced students, the 39 per cent error rate on outlines was reflected in a 38 per cent error rate in transcription on unfamiliar words. For shortcuts, the 11 per cent error rate recorded when shortcuts were used by the 120-word-a-minute students found its parallel in a transcription error percentage on shortcuts of 10.8 per cent.

An examination of the words in which the greatest number of shorthand

errors occurred indicates that factors other than choice-making could figure strongly in why students fail to write a shorthand outline correctly. Factors such as number of syllables, and even more significantly failure to comprehend meaning of a word, would seem to weigh as heavily as choice-making. Where shortcuts had been learned to a point of mastery, the score for correctness both in shorthand outline and transcribed word was 100 per cent. This would seem to indicate that where time can be given to drill on these words, their use results in greater accuracy as well as the expected greater speed. While the over-all error transcription rate does not show improvement on the shortcuts between first and second year, a sizable number of such words were written errorlessly by all of the students taking part in the examination.

A listing of the greatest number of shorthand and transcription errors shows that 8 of the 13 words on which most errors occurred appear on both lists. Although students occasionally transcribed the correct word from an incorrect outline, this occurred in only 21 out of 59 instances. Familiarity with the word would appear to have some bearing as to whether a student can transcribe correctly from a faulty outline. In two-thirds of instances an incorrectly transcribed word followed an incorrect shorthand outline. This would appear to be making a case for more emphasis on correct outlines than has traditionally been given in the second year of shorthand transcription.

Writing Time--Unfamiliar Words. The actual writing time of outlines in this category showed a significant decrease among the second-year students as compared to the time used by the first-year students to write unfamiliar words. Many students in both groups actually improved their writing time on unfamiliar words in the sixth minute, as compared to the second minute,

indicating that even one exposure to an unfamiliar word could have an effect on reduction of writing time. Extensive rather than intensive drill might be a logical outgrowth of this finding.

Hesitation Time--Unfamiliar Words. Hesitation time, long considered to be an important factor in the ability to take rapid dictation in shorthand, showed a significant decrease in the writing of the second-year students, as compared to the first-year, 80-word-a-minute students, in this category. Fatigue appeared to affect hesitation time adversely in both groups, although fatigue was not to prove a serious factor in the over-all ability of students to take shorthand in a six-minute period. Occasionally, abnormally high hesitation times were recorded for such familiar words as "due," "credit" and "subject"--words learned in the first weeks of shorthand study. It would appear that factors other than familiarity are in need of investigation as producers of long hesitations or pauses.

Fatigue--Shortcuts. While no significant differences were recorded in the writing of the second minute as compared to that of the sixth minute, the changes recorded actually favor the sixth minute of writing.

Hesitation Time--Shortcuts. Although writing time was markedly decreased on shortcuts learned, it was not expected that hesitation time would drop as well. However, a slight decrease was recorded in this important area of hesitation time as well. Hesitation time tended to increase slightly in the sixth minute for both groups. This is an important finding. It has been contended that one of the objections to the learning of shortcuts is that although writing time is decreased, the added memorization burden will cause increase in hesitation time. The

decrease in hesitation time was reflected in the mean for both groups and also in each pair of students. Although statistically insignificant, this fact that there was any decrease at all would appear to warrant further examination. This would seem to indicate that the learning of shortcuts, per se, does not necessarily result in a significant increase in hesitation time, as had been advanced by Brown[4] and others.

Transcription Errors--Unfamiliar Words. Virtually no change was recorded in the error percentage on unfamiliar words after an additional year of training. While this was a disappointing finding, a more careful examination of the work of individual students led the investigator from adducing any specific conclusions based on this finding. In no other aspect of shorthand do so many extraneous factors appear. In numerous instances, the students failed to read and transcribe correctly a perfectly written outline. Was this a failure in reading stenography, or a failure of the student's limited vocabulary? The appearance of students far down in group ranking with surprisingly low percentages of transcription errors leads to the possible conclusion that factors not considered in this study may more than offset pure stenographic ability. These factors--spelling, typographical accuracy, punctuation and word division were not considered in this study, but the indications are that these are at least of equal importance in the production of a first-class stenographer as is the ability to take dictation and read it back.

Writing Time--Shortcuts. The most dramatic finding of the study, although one which could reasonably have been anticipated, was that where

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[4]Brown, op. cit., p. 140

shortcuts had been learned for given words, writing time was reduced by half, both for the group as a whole and in the writing of each member of the group. This finding would have to be read in conjunction with the findings concerning hesitation times, stenographic and transcription accuracy before an unqualified endorsement could be offered for the teaching of shortcuts on a wider scale than now used.

Comparison of Shorthand Errors--Shortcuts. Two sets of figures were used in the comparison of errors on words for which shortcuts were learned by the advanced group. By counting as an error all instances where the shortcut was written in full, the 120-word-a-minute group showed a higher percentage of shorthand errors than their 80-word-a-minute counterparts writing the same words in full. However, it was felt that a more meaningful figure would be obtained by considering as errors only those occuring in words where the student attempted to use the shortcut she had been taught. Using this criterion, it was found that commission of errors decreased slightly on the same words that the first-year students had written in full. The 11 per cent error rate in this category compares very favorably with the nearly 40 per cent error rate recorded on familiar words by students writing 120 words a minute. It may be seen that while errors tend to increase generally as the student writes more rapidly, the shortcuts do not show the heavy error increase usually feared because of over-memorization.

Comparison of Transcription Errors--Shortcuts. Transcription errors amounted to roughly 11 per cent for both the first and second-year students. Thus, while no significant change may be recorded, it is worth noting that the pressure of writing at a speed of 50 per cent higher than the 80 words

a minute being set down by the first-year students did not produce any greater number of transcription errors. It is possible that the learned shortcuts and increased drill on unfamiliar words had offset this possible outcome.

Comparison of Errors--Second to Sixth Minute--Shortcuts. Error percentages which had been expected to increase as a result of fatigue in the sixth minute, actually decreased in the area of shortcuts. Apparently fatigue, at least insofar as six minutes of sustained dictation would cause fatigue, did not have any bearing on the ability of students to write correct outlines for words for which they had learned shortcuts.

Comparison of Errors in Shorthand--Second to Sixth Minute--Unfamiliar Words. On unfamiliar words it was difficult to draw a clear-cut conclusion between the writing of both groups of students in the second and sixth minutes. It would appear that here, too, fatigue did not appreciably affect the ability of students to write correct outlines.

Comparison of Transcription Errors--Unfamiliar Words. In this area, the 120-word-a-minute students registered slight, but statistically insignificant improvements. This figure was clouded by an abnormal .8750 error rate recorded by one student in the 80-word-a-minute group, which raised the mean to .3263. Without this figure, the sixth minute would have actually shown a significant improvement in transcription of unfamiliar words for the 80-word groups as against the second minute. The 120-word group showed slight, but statistically insignificant improvement in accuracy in the sixth minute.

On the entire fatigue factor, the results were disappointingly inconclusive. In no instance was a strong trend revealed which could

logically have been attributed to the fatigue factor. Indeed, in many instances, performance was improved in the sixth minute, either because of the repetition of certain words, or the fact that the students were writing at a top achieved rate by that time.

If any point was proved, it was that six minutes are not long enough to test the effect of fatigue on any aspect of stenographic writing and transcription, where students have been accustomed to five minutes of sustained dictation.

Legibility. Legibility was subjectively evaluated by a panel of teachers. Here again, the teachers agreed that the writing of both groups was as legible in the sixth minute as it had been in the second minute.

Ranking of Students. Students were ranked on several factors, with most weight being given to the evaluation of their teachers as stenographic students. I. Q.'s were used merely to establish the relationship of this group to junior college freshmen throughout the country. It was felt that because I. Q. bore little correlation to predicted success in shorthand,[5] it should not be used as a prime basis of ranking. Other scores which were used were: the S. C. A. T. test administered to all entering freshmen at New York City Community College; school grades in general as reflected in cumulative averages. No D or F students were used for this test, because of their demonstrated inability to take a

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[5]Agnes E. Osborne, "The Relationship Between Certain Psychological Tests and Shorthand Achievement" (unpublished Ph.D. dissertation, Columbia University, 1943); Dorothy H. Veon, Relationship of Learning Factors Found in Certain Modern Language Applied Tests to the Prediction of Shorthand Achievement in College (New York: Delta Pi Epsilon Publication, 1948); Berle Haggeblade, "Is Shorthand Success Predictable" Journal of Business Education, Vol. 36, pp. 335 et seq.

sufficient amount of even five minutes of dictation in class. It was felt that they would not complete enough of the test to make a meaningful record. With this exception, students were distributed in a rough bell curve, with the largest percentage being good and average students.

Every precaution was taken to prevent extraneous factors from contaminating the outcome of the examination. These precautions included trial photographing sessions to ascertain whether students would find the situation a strain; not photographing any student who complained of not feeling well; pre-recording the tape; allowing only the students taking the test in the room at any one time, remaining with the students until they took the test to maintain a feeling of relaxation.

Since it was difficult to correlate a test of this nature with the usual criterion for validity, namely a standardized test, the judgment of a panel of teachers was substituted. The panel passed on the suitability of the material being dictated as a valid test for the purposes of this study.

Reliability of the Data. Because even one repetition of the test would per se result in some improvement in student performance, the reliability of this test could not be established in this manner. However, since the second and sixth minutes did use the same words in different contextual arrangement, these figures proved of some assistance in establishing the reliability of the data. In no instance did any word show an inordinately disparate variance in time of writing, hesitation or accuracy between the second and sixth minute. A comparison of every factor in this study: writing time, hesitation time on shortcuts and unfamiliar words reveals correlation coefficients of .87 to .9727, with most cases falling

into better than 95 per cent.

Statistical Analysis of the Data. All figures obtained from analysis of the motion pictures and shorthand notes and transcripts were charted on individual student charts. The figures were then listed for each student in ranked order. Since the students were paired, that is the highest ranking student in the first-year group was matched against the highest ranking student in the second-year group, and the second with the second, etc., it was necessary to find some means of ascertaining whether the mean figure for each of the aspects under study was reflective of significant differences. A statistical test known as the "t" test is designed to test the significance of the difference of the means with a small, ranked sample. The formula is as follows:

$$t = \frac{M_1 - M_2}{\sqrt{\frac{N\,(D^2) - (D)^2}{N^2\,(N - 1)}}}$$

In this formula, M_1 represents the mean of the first group; M_2 represents the mean of the second group; N represents the number in each group (in this case, 12). D represents the difference between the two groups, D^2 the square of the difference. For a group of this size, the t value would have to be 3.106 or better to indicate any significance.

Using this test, the following comparisons were found to be significant:

A comparison of the writing times of the two groups on unfamiliar words (the second-year group significantly decreased writing time);

A comparison of the hesitation times of the two groups on unfamiliar words (the second-year group showed significantly less hesitation in writing these words than did the first-year group);

A comparison of the writing times of the two groups on words for which shortcuts were learned by the second-year group (the 120-word-a-minute writers showed a 14.3 t level for this aspect of the work; they cut writing time by more than half);

A comparison of writing times on writing unfamiliar words at 120

words a minute between the second and sixth minutes (the second-year students wrote significantly more rapidly).

SUMMARY AND CONCLUSION

Only two of the six hypotheses originally adopted by the investigator proved to be valid. The students writing at 120 words a minute showed a significant decrease in hesitation time in the writing of unfamiliar words; they also showed a dramatic decrease in the writing time on words for which they had learned shortcuts.

Hesitation times were not significantly decreased on words for which shortcuts were learned, although some decrease was recorded. Unfamiliar words were written at a significantly accelerated rate, which negated not only the hypothesis advanced by the investigator, but also the findings of Klein who worked with higher-speed students and the earlier findings of Rowe on which the investigator's hypothesis had been predicated.

Error percentages for both shorthand and transcription remained at a disconcertingly high rate for both groups, indicating little or no improvement in this vital area after an additional year of study.

The findings on errors indicate that at high rates of speed students tend to panic and even commit errors on the most familiar words. Many times at the higher speeds, students were unable to transcribe correctly outlines which were accurately written.

This finding appears to indicate the need for further drill and study on outline construction into the second year of shorthand, where, traditionally, it has been relegated to a secondary position to dictation practice.

On shortcuts, this study was not able to resolve conclusively the dispute concerning the teaching of shortcuts to ordinary students who did not aspire to

the high speeds of the court reporter. While it is true that hesitation times did not show a significant decrease when the shortcuts were used, the hesitation times also did not increase significantly, which is feared by those who disapprove of the teaching of shortcuts as burden to the mind and a cause of indecision. To this fact must also be added the remarkable decrease in writing time achieved by the second-year students on those shortcuts which had been mastered by them. It is obvious that the students did not hesitate within the writing of the word.

Fatigue failed to prove a significant factor in any major aspect of the writing of the students of either group, although it had been hypothesized that fatigue would adversely affect the writing of the both groups, with the faster group being more seriously affected.

Side-Problems. Some interesting side-problems were uncovered in this study. While this study sought answers to problems only in the specific areas delimited, namely, a comparison of the work of first and second-year writers in the area of shortcuts and unfamiliar words, it is interesting to note that a number of problems not anticipated by the writer might be further analyzed by subsequent research.

First among these was the continued evidence of the unreliability of I. Q. as a prognostic device for shorthand. In many instances no correlation could be ascertained between the I. Q. and the ability of the writer in shorthand. Indeed, the twelfth ranked student on the basis of shorthand grades in the 120 group possessed the highest I. Q. of all 24 students, 129.

Although familiar words were not the subject of this study, it was found that the error commission on this group of words was about one-fourth as high as on unfamiliar categories under survey.

One aspect of the writing of students which had not received prior study and which apparently deserves some future consideration, is the fact that students hesitate not only before writing a word, but often hesitate within the word, probably because of confusion as to which way to turn. Also students writing particularly disastrous words come to a dead stop after writing the word and the next five to ten words reveal abnormally high hesitations, even though the words may be the most familiar in the language.

It is difficult to ascertain from the charted figures whether the times attributed to hesitation before the writing of a word are, in reality, hesitation, or are instances where the writer was ahead of the dictator. This investigator marked a number of places where the student was obviously ahead of the dictator and the so-called hesitation was really waiting time.

Another factor noted was that among the 80-word-a-minute students, six students were behind one word at the conclusion of the second minute; one was behind three words; one was behind ten words. Among the 120-word-a-minute students, seven were behind one word at the conclusion of the second minute. As the students entered the sixth minute, however, only three students of the 120-word-a-minute group lagged behind the dictator. All of these students were able to make up the word by the conclusion of the sixth minute; the camera did not record a single instance of a student being cut off while still writing at the end of the sixth minute.

Suggestions for Further Research. It was suggested that further attempts to study the effects of fatigue on the writing of shorthand

students should be predicated on a sustained duration of more than six minutes. Tests of eight, ten or even fifteen minutes, dictated at uneven rates of speed as they might be in an office, but using high speeds frequently, might be illuminating on the subject. Also, using students who had acquired and were using the speeds tested for several months might yield different results as compared with students used in this test who had just mastered the speed on which they were being tested.

In the area of system evaluation, which this study did not attempt to examine, it might be interesting to learn just what effect the changes instituted in the 1963 version of the system, known as Diamond Jubilee, had on the writing habits of students, particularly in the area of shorthand and transcription error reduction.

Another unanswered question concerning the new system and even the older Simplified system is: Can shorthand reporters be trained to write 200 words and better using these systems which eliminate many brief forms and elongate many words.

Another study might contemplate an examination similar to this investigation, but substituting high school students instead of the junior college students used in this study. Since most of the shorthand is now taught at the high school level, this study would be meaningful both as corroboration or lack of corroboration for the present study, and also as an indication of whether different age levels require different teaching approaches. Ideally, the study should trace the writing habits of the same students from their first sustained writings at 60 words a minute to whatever speed they achieve on the completion of their course of study.

This investigation strongly suggests the possibility that additional

training in the second year of study on shorthand construction, even at the expense of traditional dictation time, might prove worthwhile. A study in which two matched groups, one trained in the traditional manner and one trained with heavy emphasis on accuracy of outline construction might be compared with a view to ascertaining if accuracy were measurably improved by this change in emphasis.

In the area of hesitation, a study of the factors which cause hesitation within words would be helpful to ascertain which common elements in many words are creating abnormally long hesitation times. The effect of dictating several difficult words in close proximity to easy or familiar words should be analyzed by means of slow-motion pictures to observe just what the effect of this combination might be.

The inconclusive findings on the use of shortcuts, namely that while speed of execution is most markedly accelerated, hesitation times are not significantly decreased, could form the basis for further study in this area. It was found that the shortcuts were actually used by the students about 75 per cent of the time, with some being used 100 per cent of the time. A further study on this subject in which the efficiency of use of certain shortcuts might be instrumental in developing a set of these words which would be easy to memorize and of sufficiently frequent use to be automatized 100 per cent of the time. Conversly, it would serve to eliminate arbitrary, difficult or seldom used shortcuts.

Conclusion. This study found that substantial improvements were recorded in writing times by second-year students in all categories of words under study; often hesitation time was substantially reduced. However, in the critical area of accuracy of transcription, virtually no improvement

was recorded. The failure to effect any substantial improvement in this area, coupled with a correlated high degree of shorthand errors, again with little or no improvement after an additional year, would appear to indicate the need for a re-examination of the traditional practices of the second year of stenography. In second-year stenography, emphasis is ordinarily placed on dictation, with little or no check on the accuracy of the outlines being set down.

If any conclusion can be validly drawn from this study, it must be that the build-up of speed attained by the second-year students was not accompanied by a corresponding increase of accuracy of either outlines or transcripts. The value of building up such speeds may well be questioned. A student able to write 120 words a minute for six minutes is capable of considerably higher speeds for shorter lengths of time. Many have questioned the necessity of attaining such speed for the ordinary shorthand writer, particularly if unaccompanied by a corresponding improvement in accuracy.

It is to be hoped that future investigations may shed some light on just how much speed is necessary and how this speed can be achieved concomitantly with the accurate transcripts demanded by business and the professions.

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ABSTRACT - Papers presented during two vocational-technical education conferences were: (1) "Curriculum--Programs--Technology," which reviews 2 topics dealing with examples of new programs and curriculum development projects, the cluster concept, behavioral objectives, instructional aids, and teaching methods and techniques, (2) "Student Centered Curriculum Development in Vocational-Technical Education," which reviews 17 considerations in curriculum development, including teacher involvement, basic educational decisions, educational and behavioral objectives, the cluster concept, occupational analysis, advisory committees, evaluation, and examples of new programs, and (3) "Foundations of Curriculum Development in Vocational-Technical Education," which discusses and illustrates a conceptual framework for curriculum development and program evaluation. (SB)

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OCCUPATIONAL CURRICULUM DEVELOPMENT: A COLLECTION OF PAPERS

by

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The State University of New Jersey

June 4, 5 and 6, 1969

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"CURRICULUM - PROGRAMS - TECHNOLOGY"

by

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Presentation at

Delaware Vocational-Technical Education Conference

June 4, 5 and 6, 1969

"Curriculum - Programs - Technology" represents an attempt to combine the three topics into some reasonable form of order. Selecting the "pieces" to include in a limited time segment presented a difficult challenge to this writer. I do hope the presentation will be of value to all planning or operating a vocational-technical school.

What follows are twenty-two (22) topics, each worthy of their own presentation, if time permitted. Every attempt has been made to make use of the technology or at least present it in visual form where practical and possible.

I. OCCUPATIONAL EDUCATION IN MASSACHUSETTS

Schaefer and Kaufman recently made recommendations to the Commonwealth of Massachusetts as a result of their study of occupational education. (Occupational Education for Massachusetts, June 1968) Their report proposes the elimination of strictly segregated vocational training through a plan that would allow the highly-skilled vocational student to divide his time between his home or "sending" high school and a "receiving" school called an Institute for Educational Development.

They recommended a Careers Development Curriculum which would be non-graded, and would involve an occupational cluster system and it would be elected by students in grades 9 to 12. Some of these students would then go on "spin off" into the Institutes for Educational Development which would train highly-skilled specialists.

They recommend that team teaching be used throughout the curriculum.

Careers Development Curriculum

Building Construction

Industrial and Fabrication

Transportation and Power
Business and Office
Distributive Occupations
Health Occupations
Foods and Kindred
Agricultural Occupations
Communication, Information
Storage and Retrieval

II. TECHNOLOGY FOR CHILDREN PROJECT

Any program of occupational education should involve a career ladder approach from the elementary school through the post-high institute or community college.

The Ford Foundation's Technology for Children Project is operational in New Jersey and functions in the elementary schools. It is anticipated that the outgrowth of the project will provide parameters for both the training of the elementary school teacher in the content of the subject as well as the preparation of resource persons to work with her.

It is an attempt to make children aware of, at an early age, the relevance of technology in our modern society.

III. THE MARYLAND PLAN

The Maryland Plan is a program of Industrial Arts Education developed by Dr. Donald Maley at the University of Maryland in cooperation with the Montgomery County School System (Maryland). The plan is operational and functions in grades 7, 8 and 9. In the 7th grade, an anthropological approach to the study of certain basic elements common to all civilized mankind makes use of the unit method of instruction. At the 8th grade level, the contemporary approach to the study of American Industry uses the group process, group project and line production technique. At the 9th grade level, the program is an elective and is of a personal nature. The content emphasis is on contemporary units of study.

IV. INTRODUCTION TO VOCATIONS

The Introduction to Vocations program was started in 1965 by the Division of Vocational Education of the

New Jersey Department of Education. The program is designed to aid 9th grade students in gaining occupational awareness. Exploratory experiences in Home Economics, Industrial Arts, Business Education and Science are provided on a "cycling basis."

V. RICHMOND PLAN

The Richmond Pretechnical Program is now at work in 19 high schools in the San Francisco Bay area. At the core of the plan is an attempt to end the artificial fragmentation of subject matter that typifies the usual school curriculum. Instead of separating lessons under such unreal labels as physics, math, English, and shop, school work tries to reflect the real world of interrelated knowledge.

The shop work was used as the catalyst to create an interest in the other subjects. It seems to be one way to make education more relevant to boys and girls in our schools.

VI. THE CLUSTER CONCEPT

"Cluster concept" is a descriptive term applied to a form of vocational education directed toward the preparation of individuals for entrance into a spectrum of occupations. The occupations selected for a "spectrum" or "cluster" are those found to require the same proficiencies in a number of areas, namely measurement, communications, mathematics, science, skill and general information. (Dr. Maley, American Vocational Journal, October 1967.)

The Maley concept suggests a 2 year sequence in grade 11 and 12, with no more than 2 hours per day. This is to help the student remain in the main stream of education.

Maley has developed and field tested in three occupational clusters: 1) construction, 2) electro-mechanical and 3) metal-forming and fabrication.

VII. INDUSTRIAL ARTS CURRICULUM PROJECT (IACP)

A completely new industrial arts program is being developed at the Ohio State University. The Industrial Arts Curriculum Project (IACP) is a two year industrial program in industrial technology for junior high school age students. Twenty-five schools across the country are using the new curriculum on an experimental basis. The first of the two year course is called "The World of Construction," which is a study of man's managed production system which produces society's constructed projects. The second year's course is a study of man's managed production system which produces society's manufactured products. Dr. Edward R. Towers at Ohio State is the project director of the IACP.

VIII. BEHAVIORAL OBJECTIVES

Mager and Beach (1967) in Developing Vocational Instruction stress the importance of behavioral objectives in, and for, occupational education. They write in a clear form and relate much of the material suggested by Tyler and Gagne.

I feel we should encourage our curriculum coordinators and teachers to state objectives in behavioral terms. This procedure should be encouraged in constructing courses of study, term plans and daily lesson plans.

Learning means a change in performance and what better way to evaluate learning than to evaluate student performance on behavioral objectives. The criteria for objectives follows:

a) Statement about students.
b) Statement about performance capabilities of the student(s) at the end of the course, unit, practice session.
c) Statement of criteria or condition whereby objectives will be met. The student should know when the criteria has been met.
d) Specificity: how large or small amount of behavior should be included in an objective?

IX. SCOPE

SCOPE is an acronym for the Study of Curriculum for Occupational Preparation and Education. Its major objective is to coordinate and contribute to a national curriculum development effort at the secondary level aimed at increasing the relevance of high school curriculum for the large majority of our youth who must seek employment upon graduation.

The project is funded by the U.S. Office of Education (OE-8-0334) and is directed by Dr. Bruce Tuckman, Rutgers University.

One of the project's three main objectives is "refining and testing a scheme for reorganizing educational objectives in terms of behavioral processes used to accomplish each objective and the object of the process in each instance (the process-object model)."

X. PERFORMANCE CURRICULUM

Johnson (1968) presented a paper at the Upper Midwest Vocational-Technical Teacher Education Conference at the University of Minnesota entitled, The Preparation of Education Manpower A Performance Curriculum. He presented a framework for the development of a performance based curriculum. Four steps were suggested:

a) Job analysis.
b) Task analysis.
c) Describe your educational objectives.
d) Develop course content and materials which will enable the student to reach each objective.

XI. COBET

Project COBET (Common Basic Electronics Training), a military sponsored project, is operational at the U.S. Army Signal Center and School at Fort Monmouth, New Jersey. The idea for a course in Common Basic Electronics Training (COBET) to serve all electronics and maintenance courses throughout the USCONARC school originated as a result of policy guidelines sent to

all the services.

Two of the major characteristics of the project are: first, continuous individual pacing and, second, 75 percent practical training.

The project development was based on the systems approach. The seven steps follow:

a) Job analysis.
b) Selection of tasks for training.
c) Training analysis.
d) Preparation for training.
e) Testing (performance orientated tests).
f) Conduct of training.
g) Quality control.

The project follows closely the suggestions of Mager and Beach as suggested in their book Developing Vocational Instruction. A visit to Fort Monmouth and Mr. Charles Anderson, COBET Project Manager, should be of value to all occupational curriculum planners.

XII. PROJECT ABLE

Project ABLE is sponsored jointly by the Quincy Public Schools and the American Institutes for Research. The principal goal of the project is to demonstrate increased effectiveness of instruction whose content is explicitly derived from analysis of desired behavior after graduation and which in addition, attempts to apply newly developed educational technology to the design, conduct, and evaluation of vocational education. The curriculum for the new school is intended to extend from the 10th to the 14th grade, to include post-12th grade instruction in areas like electronics, computer data processing and the machine tools technology.

XIII. THE OVERHEAD PROJECTOR

The overhead projector can be an excellent aid for shop and classroom teachers. Each and every shop instructor should be encouraged to make use of the overhead projector in his teaching assignment.

Both commercial and teacher made transparencies can be of valuable assistance in the instructional setting. If projectors are available, the equipment and supplies should also be made available to the instructors.

Various companies supply the projectors and supplies and most are willing to demonstrate their products to teachers. Teachers need encouragement in the use of audio-visual equipment.

XIV. MICRO-TEACHING

Dr. Dwight Allen describes micro-teaching as a teaching situation which is sealed down in terms of time and number of students. In typical practice, this means that a four to twenty minute lesson is taught to three to ten students. Usually a single micro-teaching episode, for any given teacher, includes teaching a lesson and getting immediate supervisory and pupil feedback, plus the teacher's own appraisal of his performance.

Micro-teaching can involve film or video tape. Its greatest value in occupational education is for in-service teacher education programs at the local level.

XV. COMPUTER ASSISTED INSTRUCTION

Computer assisted instruction (CAI) systems are operational in the public schools as well as in the military and industrial community. One of the best single reasons for using computers for instruction is that computer technology provides the only serious hope for accommodation of individual differences in subject matter learning. A student may progress at his own rate - "self pacing."

IBM, RCA, McGraw-Edison, and Philco Ford are all bidding strenuously for the multi-million dollar market in computer education. Approximately 500 elementary and secondary schools across the country use CAI to teach math, reading, science and economics courses. (Parade, February 2, 1969)

Harnack and others at the State University of New York at Buffalo have experimented with computerized instructional units in an attempt to individualize instruction. The results have been favorable in a number of studies conducted at the University and field tested in the public schools.

XVI. IPI

"Individually Prescribed Instruction as an instructional system represents one of the more interesting ways of providing for the wide range of differences that we all know exist in any classroom." (Research for Better Schools, 121 South Broad Street, Philadelphia, Pennsylvania 19107).

"IPI consists of planning and conducting with each student a program of studies that is tailored to his learning needs and to his characteristics as a learner."

XVII. TEAM TEACHING

A significant concept in instructional innovation is team teaching. Teachers pool their resources and talents which can provide superior instruction for the greatest number of students.

One of the best examples as far as occupational education is concerned is the Richmond Pretechnical Program. The shop or technology is the catalyst for mathematics, English and science instruction. As far as this writer is aware, it is the best example of team teaching in occupational education.

Team teaching can also involve, and often does, differential staffing, and modular scheduling. There is a wide area for experimentation in the team approach in occupational education.

XVIII. VIDEO TAPE EQUIPMENT

The video tape recorder is being used by the teaching profession in many ways. One of the first uses of it

was as an aid in micro-teaching. Video tape equipment is available as portable equipment or as a part of the total closed-circuit television system that may or may not exist in a school.

Video tape recorders can be used to good advantage by occupational instructors. Some of the uses suggested are:

a) Self-assessment of lesson presentations.
b) Tapes taken in industry or in the field of modern industrial procedures or processes.
c) Close-ups of difficult demonstration lessons.
d) Tapes can be viewed and repeated in large or small groups or by a single student.
e) Repeating demonstrations is not necessary once the master tape has been recorded.
f) If a teacher is aware he will not be in school, he could prepare a video tape, in advance, for his class.
g) Self-assessment of student performance.

Teachers need help and advice in the operation and use of video tape equipment. Likewise, some need encouragement in the use of the equipment.

XIX. SINGLE CONCEPT FILMS

Single concept films focus their attention "on individual atomized segments of subject matter." (Anderson, Educational Screen and Audio Visual Guide, "Rebirth of Single Concept Films," February 1966). Such films can free the teacher from the tedious task of repeating demonstrations and permit him to add a creative dimension to his learning.

Single concept films are best for individual or small group instruction and leave much to be desired for large group instruction.

Single concept films are usually three or four minutes in length and are contained in a plastic cartridge which slides conveniently into a special projector. The films are available on a commercial basis or can be teacher-made if so desired.

XX. INDIVIDUALIZED INSTRUCTION

Much of the hardware available to educators is so designed to be of value to individualize instruction. (CAI, IPI, single concept films, etc.)

Individualization relates not only to what the teacher does, but should be perceivable in pupil activities as well. Due to the skill orientation of occupational education, most of the instruction is by its very nature, individual. When individual instruction is related to behavioral objectives stated in terms easily understood by students, a good working relationship between instructor and student should exist.

In an individualized instruction system, pupil behavior should be characterized by the following:

a) The pupils are active participants in learning activities.
b) The pupil evaluates his own growth and development.
c) The pupils pursue objectives which they themselves have established.

XXI. ES-70 (EDUCATIONAL SYSTEM FOR THE SEVENTIES)

According to Bushnell (1968) in an article in the May issue of the Journal of Industrial Arts Education, one of the major goals of the ES-70 program will be the appropriate integration of the occupational and non-occupational parts of the curriculum. He states "We are quite certain that defining educational objectives in operational and measurable terms will lead to the development of an instructional program in which some academic and vocational experiences will be integrated."

The teacher in the ES-70 program will have to be familiar with the methods and media of educational technology such as computer-mediated instruction. He will have to learn how to manage all the instructional resources which will become available to him.

XXII. KENOSHA TECHNICAL INSTITUTE

The Kenosha Technical Institute, Kenosha, Wisconsin has one of the best designed facilities that this writer has seen. A few of the most interesting features of this modern facility follow:

SLIDES: #1 Entrance. Modern, well designed.
2 Lounge. Modern, nicely furnished.
3 Divided classrooms, flexible planning.
4 Library. Modern, carpeting, individual study areas.
5 Individual study areas. TV and audio assists.
6 Corner teaching, efficiency.
7 Teaching wall.
8 Computer instruction.
9 CCTV. Studio and broadcast.
10 Agricultural. Flower arrangement sales.

Kenosha Technical Institute should be a must on the agenda of anyone planning a secondary or post-secondary program in occupational education. They are now moving into a pilot training program with a fleet of 25 aircraft and some five full-time flight instructors.

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STUDENT CENTERED CURRICULUM DEVELOPMENT IN VOCATIONAL-TECHNICAL EDUCATION

by

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Rutgers University
The State University of New Jersey

Paper Presented at
Vocational - Technical Workshop
MacDonald College
McGill University
Montreal, Quebec
Canada

February 7, 1970

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The theme of this presentation represents an attempt to suggest a number of items that may be worthy of your consideration as you attempt to formulate an approach to curriculum development suitable to the Quebec environment. If schools exist for children, then the curriculum development effort must be student centered. It appears to me, as a result of my review of materials on your educational system, that the stated objectives are consistent with a student centered curriculum.

What follows is a series of considerations that may be of help to you in your curriculum development effort. Their order is not in any sequence.

I. Curriculum Development

The job of curriculum development is a tremendous task that will never be completed. It requires a well-planned system of coordinated efforts. Technology is always improving and each new advancement seems to occur much sooner than the previous one. Curriculum development and improvement is an on-going necessity of a program that will meet the test of modern technology. If you commit yourself to a really good program, the curriculum development effort must be an on-going effort of administrators, supervisors and teachers.

II. Teacher Involvement

Teachers must be involved in planning for curriculum development to the maximum extent possible. Vocational-technical curriculum development must involve teachers at every stage.

Curriculum decisions made by so-called experts and passed along to teachers have seldom found their way into classroom action. The only curriculum a teacher is likely to take seriously is one he has helped plan.

For all too long, we have let textbooks, in many cases, guide our curriculum development efforts. You must design the curriculum to meet your local needs and then obtain proper reference materials to assist in the teaching-learning process.

Administrators who are concerned with curriculum development must provide suitable advice and assistance to those teachers who are developing curricular materials. Teachers must be provided with ample time or additional compensation for their involvement in the curriculum development effort.

III. Basic Educational Decisions

Vocational-technical curriculum planners, like others, must start with basic educational decisions which lead to sound educational policies. These decisions must take into account at least four major determinants: (1) the nature and needs of our society; (2) the nature and needs of the learner; (3) the nature of the learning process; and (4) the nature and role of the teacher.

IV. Educational Objectives

You must decide on your stated educational objectives before starting anything else. If your vocational-technical education program is designed to prepare a student for entry level employment in the specialization of his choice, then this would be stated as an objective. If your program is to take on a broad base or "cluster" approach, then the objective would be stated differently.

Since the only valid evaluation of a program can be on how well it met its stated objectives, I urge you to use care in stating the educational objectives. At this point, I would like to review a number of different approaches.

V. The Cluster Concept

"Cluster concept" is a descriptive term applied to a form of vocational education directed toward the preparation of individuals for entrance into a spectrum of occupations. The

occupations selected for a "spectrum" or "cluster" are those found to require the same proficiencies in a number of areas, namely measurement, communications, mathematics, science skill and general information. (Dr. Maley, American Vocational Journal, October 1967.)

The Maley concept suggests a 2-year sequence in grade 11 and 12, with no more than 2 hours per day. This is to help the student remain in the main stream of education.

Maley has developed and field tested in three occupational clusters: (1) construction; (2) electro-mechanical; and (3) metal-forming and fabrication.

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VII. Technology for Children Project

Any program of occupational education should involve a career ladder approach from the elementary school through the post-high institute or community college.

The Ford Foundation's Technology for Children Project is operational in New Jersey and functions in the elementary schools. It is anticipated that the out-growth of the project will provide parameters for both the training of the elementary school teacher in the content of the subject as well as the preparation of resource persons to work with her.

It is an attempt to make children aware of, at an early age, the relevance of technology in our modern society.

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IX. Richmond Plan

The Richmond Pretechnical Program is now at work in 19 high schools in the San Francisco Bay area. At the core of the plan is an attempt to end the artificial fragmentation of subject matter that typifies the usual school curriculum. Instead of separating lessons under such unreal labels as physics, math, English, and shop, school work tries to reflect the real world of interrelated knowledge.

The shop work was used as the catalyst to create an interest in the other subjects. It seems to be one way to make education more relevant to boys and girls in our schools.

X. All School Program

To be the most effective, the vocational-technical education curriculum should be an integral part of the total school program. The polyvalent system offers you the unique advantage to attempt such an interrelated system, much like the Richmond Plan. You and your students can stay in the "mainstream" of things in the comprehensive system.

Realistic preparation for the world of work must be accepted as a basic responsibility of public education.

XI. Individualized Instruction

Individualization relates not only to what the teacher does, but should be perceivable in pupil activities as well. Due

to the skill orientation of occupational education, most of the instruction is by its very nature, individual. When individual instruction is related to behavioral objectives stated in terms easily understood by students, a good working relationship between instructor and student should exist.

In an individualized instruction system, pupil behavior should be characterized by the following:

a) The pupils are active participants in learning activities.
b) The pupil evaluates his own growth and development.
c) The pupils pursue objectives which they themselves have established.

XII. Self-Pacing

In your curriculum development effort, I encourage you to create a "zero-reject" "self-pacing" program. A system geared to success should be one of your goals. Such a "self-pacing" program would allow for individual differences of students and allow each student to progress at his/her own rate.

XIII. Behavioral Objectives

Mager and Beach (1967) in Developing Vocational Instruction stress the importance of behavioral objectives in, and for, occupational education. They write in a clear form and relate much of the material suggested by Tyler and Gagne.

I feel we should encourage our curriculum coordinators and teachers to state objectives in behavioral terms. This procedure should be encouraged in constructing courses of study, term plans and daily lesson plans.

Learning means a change in performance and what better way to evaluate learning than to evaluate student performance on behavioral objectives. The criteria for objectives follows:

a) Statement about students.
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student(s) at the end of the course, unit, practice session.

c) Statement of criteria or condition whereby objectives will be met. The student should know when the criteria has been met.

d) Specify: How large or small amount of behavior should be included in an objective?

XV. Occupational Analysis

Development of vocational-technical curriculum must begin with an analysis of the employment requirements and demands in order to determine some priority among specializations.

XVI. Advisory Committees

The curriculum for today's world of work usually requires an interdisciplinary approach involving teachers of related basic subjects, researchers, and specialists from the field of work. A team approach is often necessary in curriculum development. In most instances, representatives of trade or professional groups should be involved from the beginning, and the content should always be validated by advisory groups.

XVII. Evaluation

Right from the very beginning, be concerned about how your program will be evaluated. Your program will or should be evaluated in terms of the stated objectives. For this reason, use care in writing the objectives so that the program can honestly be evaluated in terms of its stated objectives.

At this point, I would like to leave you with a number of questions to consider in your small group sessions.

1. What are the stated objectives of your technical-vocational education program?

2. How will you attempt to involve industrial and trades people in your curriculum development effort?

3. How will you attempt to involve the teachers (both voca-

tional and academic) in your curriculum development effort?

4. How will you attempt to integrate the technical-vocational curriculum with the academic program in your polyvalent system?

5. What about performance objectives in your curriculum development effort? What skills must an automotive mechanic or carpenter be able to master to be successful on the job?

6. Do you buy the "self-pacing" or individual pacing concept? If so, how will you use it in your curriculum development efforts?

"OCCUPATIONAL CURRICULUM DEVELOPMENT"

A Practical Approach

by

Albert J. Pautler

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Presentation at

Delaware Vocational-Technical Education Conference

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Goodlad (1969) stated, "If the most frequently discussed and recommended educational practices of the Education Decade were already implemented, the following would seem reasonable.

FIRST, teaching would be characterized by efforts to determine where the student is at the outset of instruction, to diagnose his attainments and problems and to base subsequent instruction on the results of the diagnosis.

SECOND, learning would be directed toward "learning how to learn," toward self-sustaining inquiry rather than the memorization and regurgitation of facts.

THIRD, this inquiry would carry the student out of confining classrooms and into direct observation of physical and human phenomena.

FOURTH, classrooms would be characterized by a wide variety of learning materials - records, tapes, models, programmed materials, film strips, pamphlets, and television - and would not be dominated by textbooks.

FIFTH, attention to, and concern for, the individual and individual differences would show through clearly in assignments, class discussions, use of materials, group practices, and evaluation.

SIXTH, teachers would understand and use such learning principles as reinforcement, motivation, and transfer of training.

SEVENTH, visitors would see vigorous, often heated, small and large group discussions, with the teacher in the background, rather than forefront.

EIGHTH, one would find rather flexible school environments - marked by little attention to grade levels - and extensive use of team teaching activities involving groups of teachers, older pupils, parents and other persons in the teaching-learning process. And, certainly, it would be reasonable to expect to find innovative ways of dealing with special educational problems such as those presented by environmentally handicapped children." (p. 60)

The stated eight points have been used to more or less, set the stage for meaningful curriculum development in occupational education. The term "occupational education" will be used and defined as education geared to the preparation of

youth and adults for meaningful employment in the world of work. Special emphasis will be placed on vocational and technical education at the less than college level. The major concern is for programs which are designed for preparing students for entry level positions in industry.

CURRICULUM

It would seem appropriate to define the meaning of curriculum. Each and every author of a text or book dealing with curriculum seems to arrive at a different definition of the meaning of curriculum. A review of some of the most common definitions seems appropriate and they follow:

Saylor and Alexander (1967) offer the following definition:

> "Curriculum encompasses all learning opportunities provided by the school. Thus, we think of "the curriculum" and "the program" of the school as synonymous. In another sense, the curriculum of an individual pupil includes the learning opportunities he actually selects and experiences; this is the "curriculum had." Although all curriculum planners aim to provide a "curriculum planned" which would be of optimum value to learners, they generally provide a much greater range of opportunities than any one individual pupil would select and experience. It is this total planned program and the fit of its individual parts to each other and to individual pupils with which we are primarily concerned."

Doll (1967) defines curriculum as:

> "The commonly accepted definition of the curriculum has changed from content of courses of study and list of subjects and courses <u>to</u> all the experiences which are offered to learners under the auspices or direction of the school. These experiences may occur in school buses, cafeterias, and corridors as well as in classrooms and auditoriums."

Anderson (1965) defines it in his book as:

> "The curriculum is defined in terms of the quality of pupil experiences in the school environment. The curriculum includes not only classroom experiences, but also the extra-class activities: the planned school services such as the library and health services, the field trips into the community, the school assemblies and the entire

school community as used for learning experiences. All of these are deliberately planned by the school to serve social purposes."

Inlow (1966) states the following in regard to the curriculum:

" . . . curriculum will carry the connotation of the planned composite effort of any school to guide pupil learning toward predetermined learning outcomes."

Many more definitions of curriculum could be listed. For operational purposes, this paper will use the Inlow (1966) definition which is, "Curriculum will carry the connotation of the planned composite effort of any school to guide pupil learning toward predetermined learning outcomes." It is, therefore, essential that the faculty of any school have established objectives stating the predetermined learning outcomes desired for their students.

EDUCATIONAL OBJECTIVES

The importance of educational objectives for the school, the program and the individual courses should be of high priority to the faculty, administration, students and parents. In occupational education, the objectives should also be of interest to the local industrial community. In fact, members of the local industrial community should be asked to serve on the various advisory committees charged with arriving at suitable educational objectives for the various programs and courses. A school, program and course can only be evaluated in terms of what were its stated objectives. Any other method of evaluation is criminal.

It is not the intent of this paper to list objectives for various schools, programs or courses as that is the responsibility of the schools.

As I do view it, the occupational education program should be guided in writing educational objectives by both educational considerations and the pressures, needs and skills required by a modern industrial society. Figure 1 which follows should help to explain the previous statement.

EDUCATIONAL CONSIDERATIONS

The objectives of occupational preparation programs should be considered and stated based upon the general education objectives and the demands and needs of the world of work.

FACTORS INFLUENCING OCCUPATIONAL EDUCATION

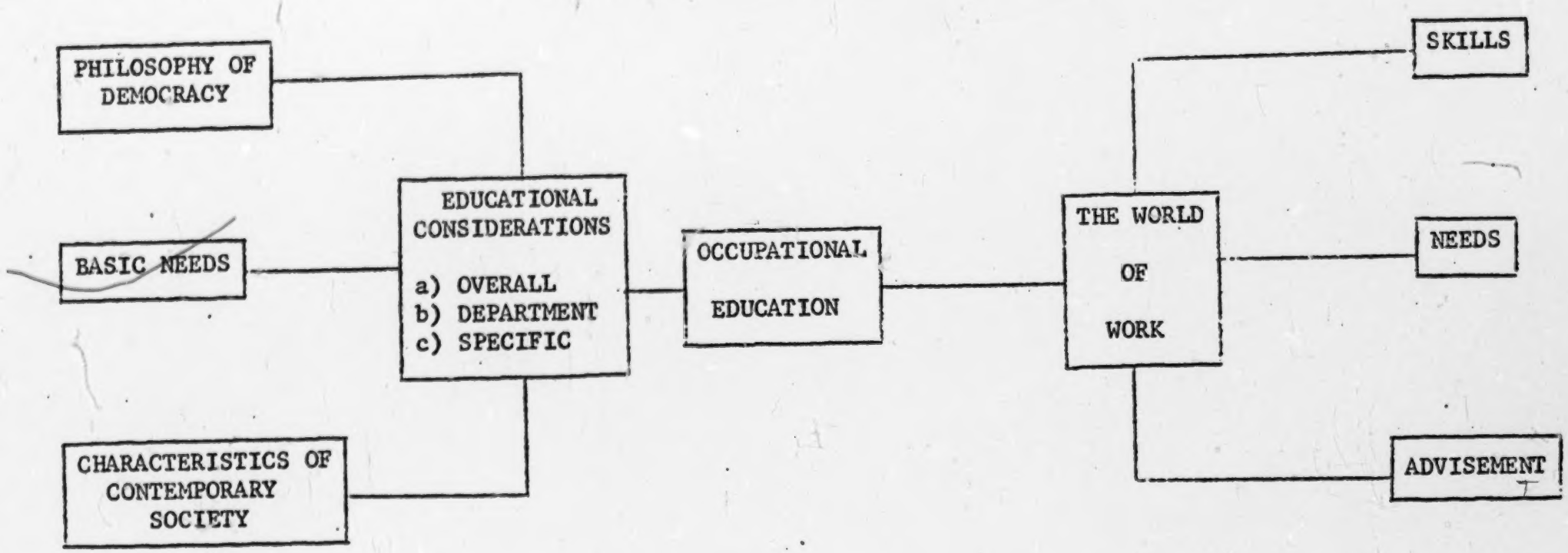

FIGURE 1: Factors Influencing Occupational Education

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The educational considerations are listed in three categories: (a) overall, (b) department and (c) specific. Before a discussion of these three categories can begin, it will first be necessary to discuss the three influencing factors as shown in Figure 1. These factors are: (a) A Philosophy of Democracy, (b) Basic Needs and (c) Characteristics of Contemporary Society.

A Philosophy of Democracy

Each and every American has an equal right to as much education as he is capable of handling. All should be entitled to this education without regard to race, color or creed.

Although most will agree that all should have equal rights to quality and diversified educational programs this in practice is just not possible for many reasons. The problem of large city school systems to attract highly qualified and skilled teachers is but one example. Another would be the inability of a small school district to provide the wide range of academic and occupational programs for its student body. Many other items of concern could be mentioned which influence the right to equal education of all students.

Since our major concern is occupational education, let's focus for a moment on the problems of providing quality and equal occupational education programs. The local school officials must be convinced of the need to offer occupational programs of equal quality to its academic program. The range of courses available should be sufficient to meet the needs of those students who can best profit from occupational preparation courses. The school district, no matter what its size, must be advised of its role to provide occupational education programs as best it can. It is obvious that some districts will provide quality programs while others will not make any efforts.

It should be obvious that although we say in a democracy that all students should receive an equal education this is not the case. At the local level, the community influences the school program and should demand a quality program which meets the needs of all the students. Equal attention should be given the occupational preparation program as that received by the college preparatory program.

Basic Needs

Human beings attempt to satisfy the three essential needs of providing food, clothing and shelter for themselves and their family. The ability for providing these basic needs is contingent upon the ability of the person to earn money to obtain the necessary food, clothing and shelter. These needs must be satisfied before we can worry about education.

Society and the educational system has the responsibility of providing each individual with the opportunity necessary to gain suitable employment in the work world. It does not matter on what level the individual receives this training, but it should be available to him. It should be available for in-school youth, and out-of-school youth and adults. It appears to this writer that before we can solve many of our current problems, we must be able to educate or train all people to earn a living.

Occupational education will help the individual gain security, status and a belonginess in his society. If each individual is given the opportunity for occupational and academic education, his ability to participate more fully in society should be met.

The point is that occupational education is one of the most essential items in helping an individual fulfill his basic needs. In the development of an occupational preparation program, the concern of the individual student should be a major consideration. Allow each student the opportunity to fulfill his basic needs by providing as much general and occupational education as he can handle.

Characteristics of Contemporary Society

Occupational program planners must give considerable attention to the present and future trends in society. National as well as local considerations must be considered in program planning. Some of the major items of consideration follow:

Urbanization
Mobility of the population
Racial integration
Automation
Rapid change
Specialization
Mechanization

The above list of considerations which occupational program planners should consider in program development is by no means complete. The items should be considered and investigated in detail to determine the application at the local planning level. Obviously, the main concern is with the types of programs (specializations) which should be offered to best prepare the students for the world of work. The many influencing factors of contemporary society must be considered by those planning new occupational preparation programs.

Figure 1 indicated that the educational objectives of concern to occupational education are influenced by the following: Philosophy of Democracy, Basic Needs, Characteristics of Contemp-

orary Society. The more explicit considerations will now be discussed in greater detail.

The more explicit educational objectives of immediate importance to occupational program planners may be divided into three major areas. The areas are: (a) Overall, (b) Department and (c) Specific.

Overall Objectives

Occupational program planners should be concerned with general educational objectives as they apply to total educational programs as well as the importance to department level and specific considerations. It is suggested that such program planners be aware of the following: Developmental Tasks of Adolescence; Ten Imperative Needs of Youth of Secondary School Age; The Seven Cardinal Principles of Education and The Purposes of Education in American Democracy. The occupational program planner should be aware of the listed needs and tasks and consider them for efficient program planning.

Havighurst (1953) suggests the Developmental Tasks of Adolescence in his book Human Development and Education.

DEVELOPMENTAL TASKS OF ADOLESCENCE

Accepting one's physique and accepting a masculine or feminine role.

Achieving new relations with age-mates of both sexes.

Achieving emotional independence of parents and other adults.

Achieving assurance of economic independence.

Selecting and preparing for an occupation.

Developing intellectual skills and concepts necessary for civic competence.

Desiring and achieving socially responsible behavior.

Preparing for marriage and family life.

Building conscious values (esthetic, religious, ethical) in harmony with an adequate scientific world picture. (p. 338)

The Educational Policies Commission (1944) lists the Ten Imperative Needs of Youth.

THE TEN IMPERATIVE NEEDS OF YOUTH

1. All youth need to develop salable skills and those understandings and attitudes that make the worker an intelligent and productive participant in economic life. To this end, most youth need supervised work experience as well as an education in the skills and knowledges of their occupations.

2. All youth need to develop and maintain good health and physical fitness.

3. All youth need to understand the significance of the family for the individual and society and the conditions conducive to successful family living.

4. All youth need to understand the rights and duties of the citizen of a democratic society and to be diligent and competent in the performance of their obligations as members of the community and citizens of the state and nation.

5. All youth need to know how to purchase and use goods and services intelligently, understanding both the values received by the consumer and the economic consequences of their acts.

6. All youth need to understand the methods of science, the influence of science on human life, and the main scientific facts concerning the nature of the world and of man.

7. All youth need opportunities to develop their capabilities to appreciate beauty in literature, art and nature.

8. All youth need to be able to use their leisure time well and to budget it wisely, balancing activities that yield satisfactions to the individual with those that are socially useful.

9. All youth need to develop respect for other persons, to grow in their insight into ethical values and principles, and to be able

to live and work cooperatively with others.

10. All youth need to grow in ability to think rationally, to express their thoughts clearly, and to read and listen with understanding. (pp. 225-226)

The Commission on the Reorganization of Secondary Education (1918) suggested what it called The Seven Cardinal Principles of Education.

THE SEVEN CARDINAL PRINCIPLES OF EDUCATION

1. Health
2. Command of Fundamental Processes
3. Worthy Home Membership
4. Vocation
5. Citizenship
6. Worthy Use of Leisure
7. Ethical Character

The Educational Policies Commission (1938) suggested the Purposes of Education in American Democracy.

THE PURPOSES OF EDUCATION IN AMERICAN DEMOCRACY

1. The Objectives of Self-Realization
2. The Objectives of Human Relations
3. The Objectives of Civic Responsibility
4. The Objectives of Economic Efficiency

After consideration of the foregoing, school and department level objectives should be written based on a consideration of the local community and the needs of the students.

Department Objectives

The department level objectives should be stated educational objectives appropriate to all occupational preparation programs. They should be based on firm educational theory and practical in nature. The writing of objectives is best if all

staff members, within the department, are involved in setting down the occupational preparation objectives.

At this point, it must be indicated that some consideration be given to evaluate the success or failure of the department in achieving its stated objectives. A program should be evaluated only in terms of what were its stated objectives.

Based upon the overall educational objectives discussed earlier, the following department level objectives are suggested to the occupational program planner.

Preparing the Learner for an Occupation

This has been and is the main objective of vocational education. It is suggested that the written statement at the local level should place limitations on this objective. In other words, is the learner prepared for a specific occupation, or a range or cluster of occupations? What would be considered related occupations and how are they to be determined? Remember that evaluation is based on the stated objectives. Most vocational educators are familiar with follow-up studies of past vocational graduates. The follow-up study after graduation is used to obtain a percentage of the number of graduates who enter their field of specialization, or a closely related field. Little mention is made to indicate how related occupations are determined for follow-up purposes. The point is that if an automotive mechanics graduate is employed as a parts counterman, is he working in his specialization?

Assurance of Economic Independence

This item is directly related to preparing for an occupation. The concern, however, is to make sure that the learner is adequately prepared to take his place in the work force and gain economic independence.

Occupational program planners must constantly follow-up past graduates and determine if they have suitable earning power. The program planners and teachers must be aware of industrial change and technology and keep up to date. Is there a need and a demand for the students who complete an occupational program or are they outdated and insufficiently prepared at graduation? This is a difficult item to evaluate but should be of major concern to all educators.

Satisfaction of Human Needs

Since a great majority of the life space of every individual is spent in some form of an occupation, satisfaction is necessary. Every attempt should be made in occupational programs to help the learner find satisfaction in his work. En-

courage the learner to do the best he possibly is able to do and develop as much skill as possible. Personal satisfaction is important and the attitude of the teacher is perhaps the best way of helping the student gain it. It is very difficult to evaluate in any objective way.

To this writer these three stated items are most important in occupational preparation. They should be written in simple terms and by the members of the department to be the most meaningful to all.

Specific Objectives

At this point, the overall and department objectives which have been discussed would be applied to the actual specialization. The specific objectives of a particular course in machine shop would be spelled out in detail with consideration given to the overall and department level objectives. The specific objectives would be those which would be found in the course of study dealing with the specialization of concern. These objectives would, and should, be based on the general objectives of education as well as the specific objectives of occupational education.

The influences of the present and future world of work would be of major concern. Stated objectives in terms of goals to be achieved are essential, since final evaluation is based upon the success of the learner to achieve the stated specific objectives. It would be at this point that the teacher or a group of teachers would spell out specific behavioral objectives for the machine shop course or any course.

At this point, the objectives of the school, program and courses would be written and agreed upon by those involved in the decision making process. Remember, final evaluation should be based upon the stated objectives.

THE FIELD STUDY

The occupational offerings (electronics, machine design, etc.) should be decided upon as a result of a field study. The field study is a survey of the local, state or national situation to determine what specializations should be offered in a certain school or county. The development of a field study is a topic within itself and will not be elaborated upon in this paper. Advisory committees made up of members of the local industrial community should play an active role in the planning, operation and evaluation of the field study.

At this point, the field study has been conducted and educational objectives written and agreed upon for the school, program and courses.

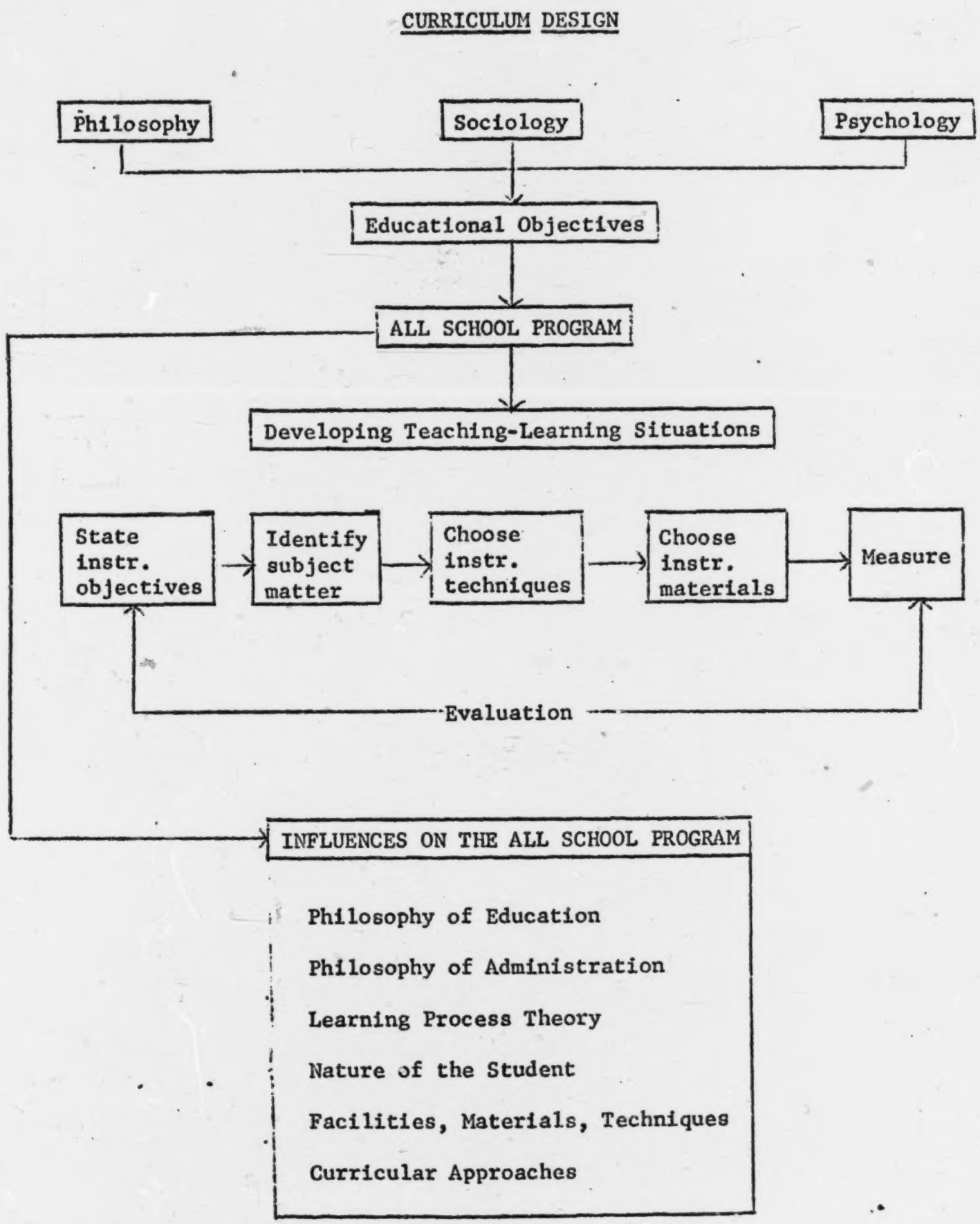

FIGURE 2: Curriculum Design

Figure 2 is a curriculum design which indicates some of the influences on the all school program. In addition, the influence of the educational objectives on the all school program are effected by philosophy, sociology and psychology. All of these influences should be considered in the development of the teaching-learning situation. Figure 3 is especially related to occupational preparation programs. Enough has already been said about educational considerations and the pressure of the world of work. Our concern will now shift to the development of the teaching-learning situation.

THE PROGRAM

After the design and structure of the program are decided upon, the real curriculum development effort begins. Program refers to the program in automotive mechanics or electronics, as two examples. A program may be one, two or more years in length and made up of smaller packages known as courses. These courses may be designed for a 10 week, 20 week or 40 week period of instructional time or more or less as the situation warrants. The decision as to the organizational structure and the variety of programs (specializations) to be offered is a local one. After the organizational structure and programs are decided upon, the real curriculum development effort begins.

THE COURSE OF STUDY

According to Schaefer (1969), "Much is being said these days about 'behavioral' goal setting. But the hard facts are clear and precise objectives of day-by-day teaching have all too often been lacking." Assuming that clear, well written objectives stated in behavioral terms have been decided upon by the school staff, it now becomes time to develop the various courses of study essential to implement the stated school and program objectives.

Mager and Beach (1967) in their book, Developing Vocational Instruction, outlines the steps of the preparation phase which are designed to insure that all the information and practice necessary to perform the job are included in the course. (See Figure 4.) Their book should be of value to anyone interested in occupational instruction based on behavioral objectives.

Two other approaches to course construction are worthy of consideration. Tuckman (1968) described a technique called structural analysis which represents an attempt to analyze terminal performance objectives for a unit of subject matter into a sequence of subordinate or prerequisite competencies which must be satisfactorily mastered if successful terminal performance is to occur. Competencies are arranged in the hierarchy by level, going from complex to simple.

CONCEPTUAL FRAMEWORK

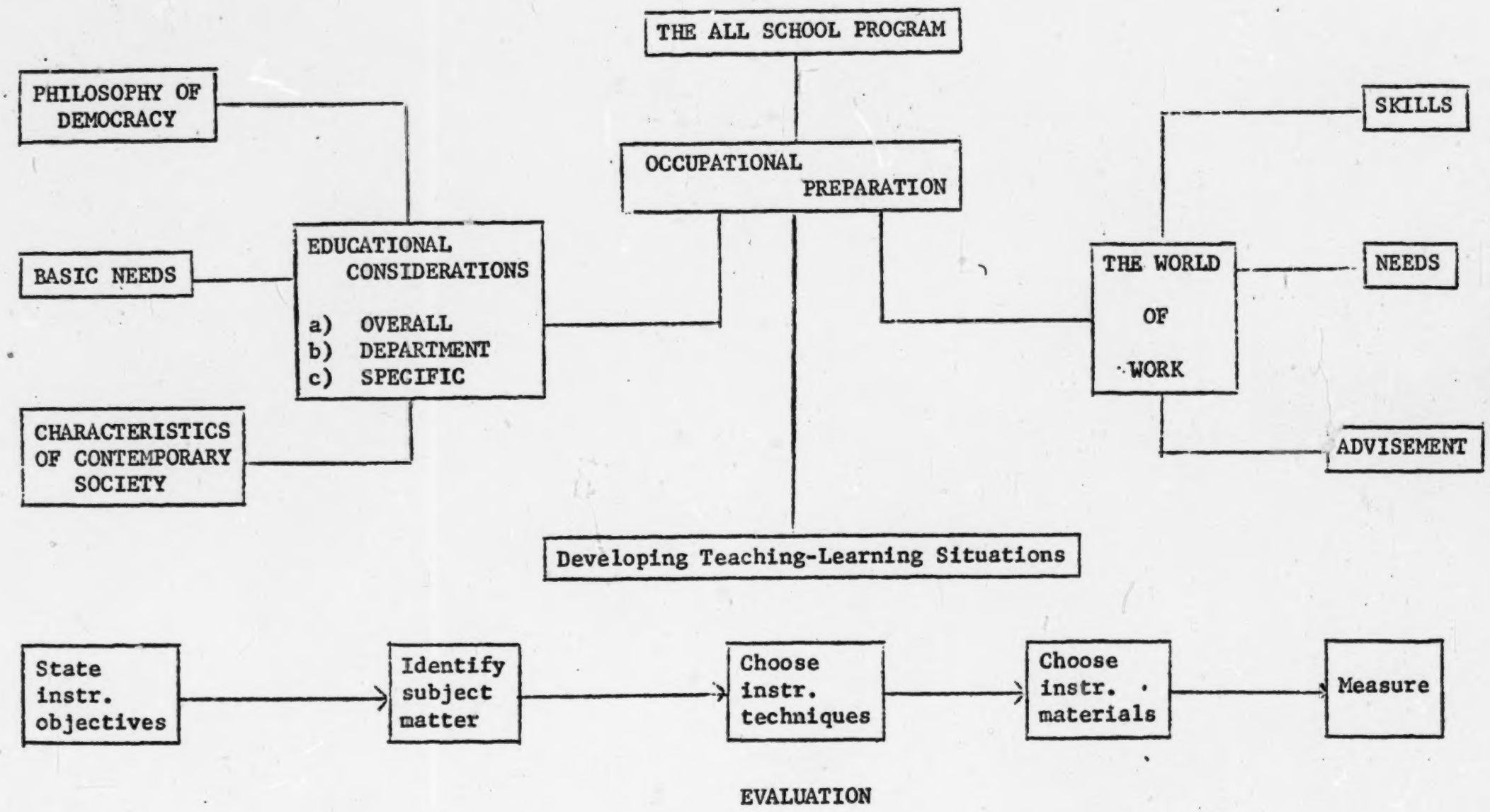

FIGURE 3: Conceptual Framework

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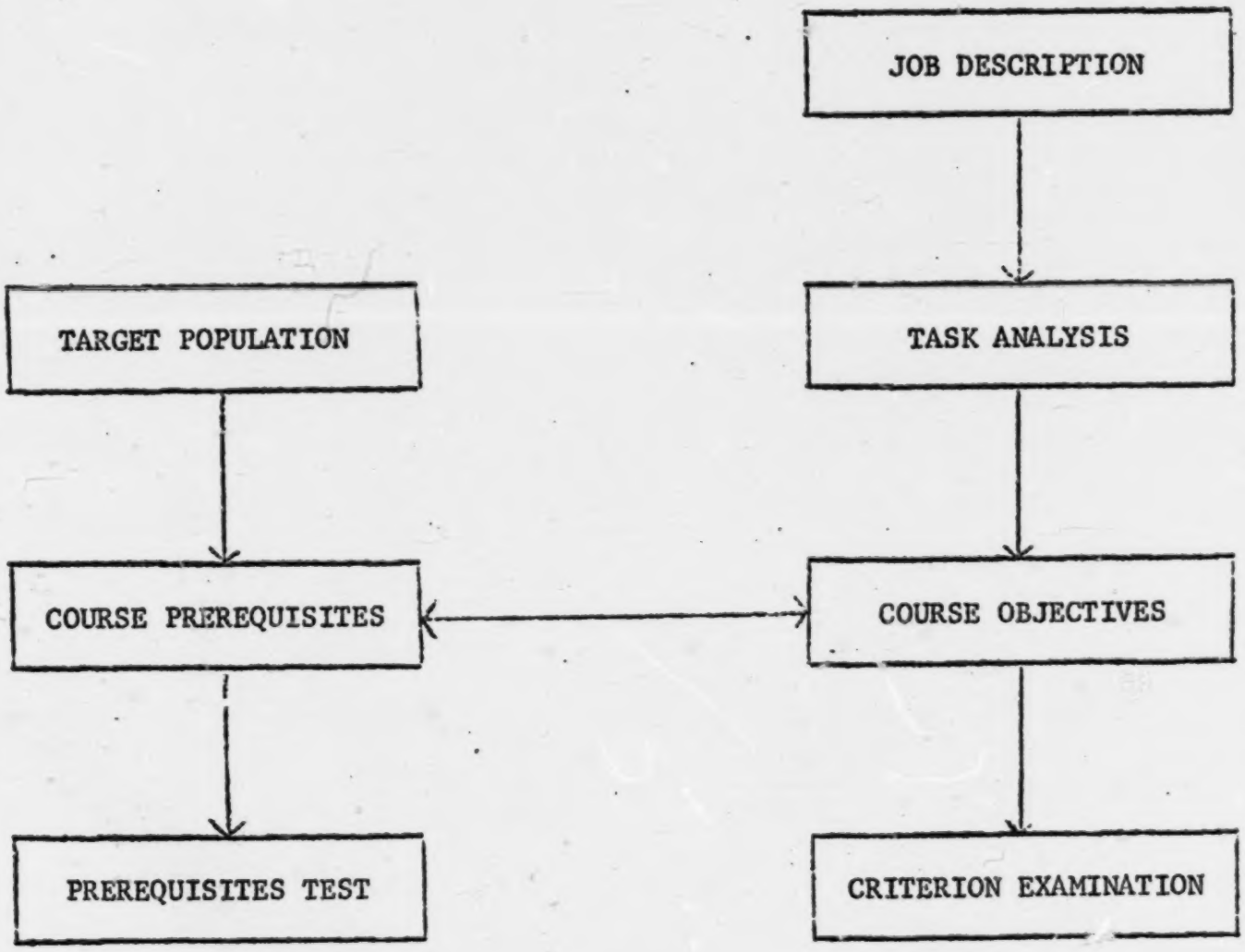
THE STEPS IN COURSE PREPARATION



Taken from "Developing Vocational Instruction" by Robert Mager and Kenneth Beach, Fearon Publishers, Palo Alto, California.

FIGURE 4: Steps in Course Preparation

Wimer (1968) suggests occupational analysis be used as a basis for curriculum development. He states that, "Rather than a state or national imposed curriculum, there should be an agreed upon analysis with terminal objectives and that the methods of accomplishing these objectives should be determined by each school." In Wimer's statement, the importance is with analysis in behavioral terms, implementation is the responsibility of the school.

Those responsible for course construction should seek expert advice before attempting to develop a course of study based on behavioral objectives. If the shop teacher must develop his course of study and is interested in doing it based on behavioral objectives, he should be offered expert advice and assistance. It is not a process one can master from a text book alone.

SUMMARY

An attempt has been made to suggest a practical approach to occupational curriculum development. Curriculum was defined and high priority assigned to the writing of educational objectives. If program evaluation is to occur, then the program should be evaluated in terms of its stated objectives. Thus, the need for well stated educational objectives.

Course construction should be based on behavioral objectives which are well written and clearly understood by the student. If shop teachers are responsible for course of study development, they should be supplied with expert assistance and not let on their own, usually limited background, as far as course construction is concerned.

If you and I are to stand accountable to the students, parents and employers, every effort should be made to provide the best program as is possible for the students.

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